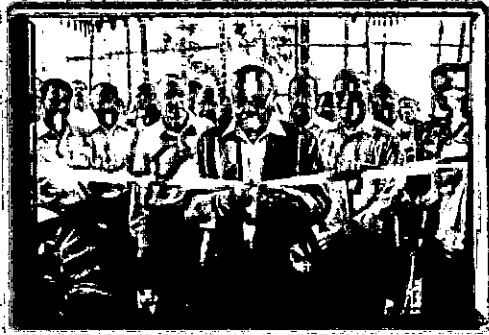




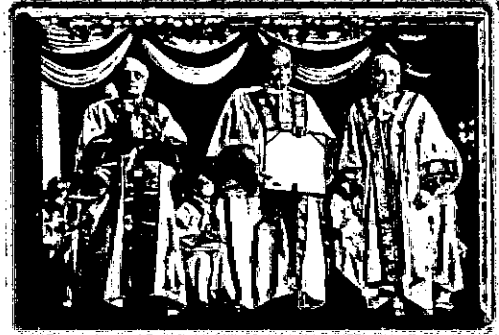
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2009-10*



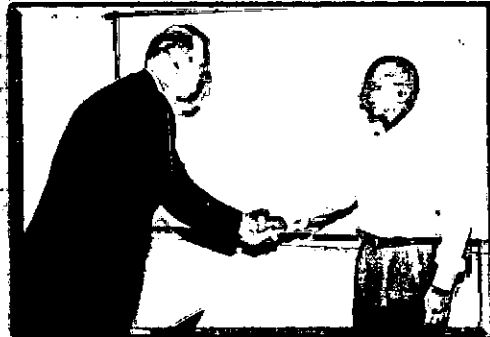
INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI - 600 036



Golden Jubilee Sports Complex Inauguration - 31 July 2009

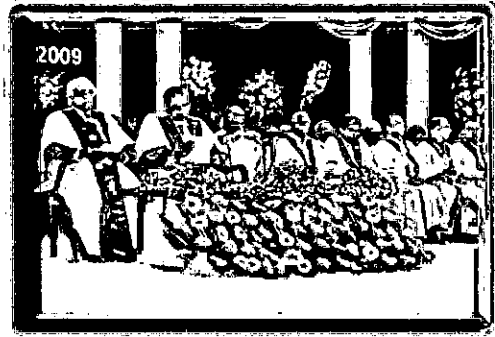


46th Convocation



Prof. Dr. W. Henk M. Zijm
University of Twente, Netherland

Prof. M.S. Ananth
Director JIIT Madras



46th Convocation



Presentation of Distinguished Alumni Awards - Director



MEDCHEM 2009



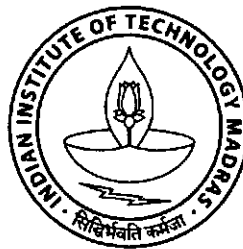
46th Convocation



Guest Address

Dr. Anil Kakodkar
Chairman Atomic Energy Commission

Annual Report 2009-10



**INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI**

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Indian Institute of Technology Madras
Chennai- 600 036

Secretary

Shri A Thirunavukkarasu
Registrar
Indian Institute of Technology Madras

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1. DIRECTOR'S REPORT

The Indian Institute of Technology Madras (IITM) was established in 1959 and declared an institute of national importance by an Act of Parliament in 1961. Its primary objective was to promote higher technical education, research and consultancy. The institute now has 16 Departments and 1 Research Centre and the campus covers an area of 256 hectares of forest land and houses a community of about 13000 people.



The institute offers several course-based undergraduate and post-graduate programmes as well as research-based masters and doctoral programmes, specially designed user-oriented M.Tech. and continuing education programmes. The Preparatory Course programme for

weaker section students offers intensive coaching to eligible candidates to prepare them for entry into IITM on successful completion of this one-year programme. 23 ST and 4 PD candidates have been admitted to this course in 2009.

The Institute also undertakes a large number of research and consultancy projects sponsored by a wide spectrum of funding agencies, including Government and Industry. IITM has active linkages with leading academic and research organizations in Australia, France, Germany, Korea, Japan, Singapore, UK and USA. This Report provides a summary of our activities, achievements and accomplishments during the year 2009-10.

1. THE FORTY-SIXTH CONVOCATION

At this Convocation, a total of 1439 degrees are being awarded: 162 Ph.D., 121 M.S., 354 M.Tech., 62 M.B.A., 83 M.Sc., 172 Dual Degree (B.Tech. & M.Tech.) and 313 B.Tech. These degrees cover a wide range of disciplines and specializations offered by the eleven Engineering departments, three Science departments, the department of Management Studies and the department of Humanities and Social Sciences. Among the graduands are : 30 QIP candidates (teachers from other colleges), 21 sponsored candidates and 37 UoP candidates, 158 ladies, comprising 37 Ph.D., 21 M.S., 42 M.Tech., 11 M.Sc., 9 MBA, 12 Dual Degree and 26 B.Tech. students.

2. COURSE-BASED PROGRAMMES

IITM offers UG, Dual Degree and PG programmes in Aerospace Engineering (AE), Biotechnology (BT), Chemical Engineering (CH), Civil Engineering (CE), Computer Science & Engineering (CS), Electrical Engineering (EE), Engineering Design (ED), Mechanical Engineering (ME), Metallurgical & Materials Engineering (MM), Ocean Engineering (OE) and Physics (PH) departments, an integrated Masters programme in Humanities and Social Sciences (HS) and PG programmes in Applied Mechanics (AM), Chemistry (CY), Humanities & Social Sciences (HS), Management Studies (MS), Mathematics (MA) and Physics (PH) departments. User Oriented M.Tech. programmes are currently offered in CE, ME and OE

Three new interdisciplinary M.Tech. programmes in Catalysis Technology, Nuclear Engineering, Petroleum Engineering and 5-year Dual Degree (BS & MS) have been introduced from August 2009. B.Tech. Honours will be introduced from this year.

First year students are introduced to the use of power operated hand tools in the Fitting shop and Carpentry shop and regular workshop training is given to I Year student of all branches. In Welding shop students are given hands on training in plasma arc cutting and regular workshop training is given to I year B.Tech.

PG Diploma Programme for Executives for Visionary Leadership in Manufacturing (PGPEX-VLM) was launched from the academic year 2007-08 under the aegis of National Manufacturing Competitiveness Council (NMCC) and the Ministry of Human Resource Development of Govt with the support of industry, for enhancing the competitiveness of the Indian manufacturing sector. The

programme was jointly conducted by the Indian Institute of Management, Calcutta, Indian Institute of Technology, Kanpur and IIT Madras. As per the system of rotation among three participating institutes, I am happy to announce that the third batch of the 30 VLFM Diploma students are present at this Convocation to receive their diplomas.

3. ACADEMIC RESEARCH

IITM continues to be active in research and during the year under review, 162 Ph.D theses and 121 Master's theses have been completed. Our faculty and research scholars have published 909 research papers in refereed International 832 and National 77 Journals and have presented 651 research papers in International 511 and National 140 Conferences. At the risk of over simplification, I will attempt to give a flavour of the results obtained.

3.1 Ph.D. Work

Applied Mechanics

Jayabal & Sivakumar developed micromechanically motivated domain switching models for nonlinear behavior of ferroelectric ceramics and implemented them using polygonal finite elements to simulate the realistic behavior of ferroelectrics better.

Malathi & Ramasubba Reddy explored the effect of Sodium ion channel in establishing ventricular arrhythmia using computational models of cardiac ventricular cell from cellular level to tissue level.

Pandian, Megha Singh & Kumaravel carried out multilayer imaging and characterization of tissues by Laser Reflectometry and Monte Carlo Simulation for normal tissues and diseased ones.

Biotechnology

Bijesh kumar Biswal & Rama Shanker Verma depicted the various transporting systems for Methotrexate and folic acid uptake in cancer cells, for use in the evaluation and design of the treatment strategy for diseases like cancer and rheumatoid arthritis.

Prithish Sarkar & Suraishkumar established quantitatively the central role of reactive species in mediating various stress effects (pH, temperature, etc.) in bacteria.

Santosh Kumar Sahu, Sathyanarayana Gummadi & Gopalakrishna demonstrated and characterized for the first time biogenic membrane flippase activity in plants using spinach as a model system. They studied the metal ion binding properties of Human phospholipid scramblase 1 (hPLSCR1) and the calcium and magnesium binding for calcium binding peptides motifs of hPLSCR1 and its homologs hPLSCR2, hPLSCR3 and hPLSCR4.

Sirisha Potala & Rama Shanker Verma successfully developed an approach for targeted therapy of cancer using diphtheria toxin mediated fusion toxins, including construction, characterization and efficacy evaluation of different such toxins targeted to several malignancies

Titu & Anju Chadha expanded the substrate repertoire of *Candida parapsilosis* ATCC 7330 to include allylic alcohols and heteroaryl beta hydroxy esters. They showed that this versatile biocatalyst when encapsulated in alginate and used in a column reactor can carry out the biotransformations efficiently.

Trishul Artham & Mukesh Doble studied soil and marine organisms mediated biodegradation of polycarbonate polymer several fungi, isolated from soil, were able to degrade the polymer without releasing bisphenol-A, an endocrine disordering chemical.

Chemical Engineering

Cherlo Sivakumar & Pushpavanam analysed experimentally and numerically mixing and reactions in single phase and liquid-liquid immiscible systems. They identified different flow-regimes and demonstrated applications to fast and slow reactions. They thereby determined conditions under which micro-reactors exhibit an improved performance over classical reactors.

Prasanna Venkatesh & Ramanathan analyzed various slurries that can be used for chemical mechanical planarization of copper interconnects, a process used in semiconductor chip fabrication and proposed the mechanism of copper dissolution in the slurries based on electrochemical investigations.

Rameshaiah & Panda correlated MHL, MHGU, and MEDL with the extracellular, cell bound, periplasmic, and intracellular chitinase of *Trichoderma harzianum*.

Selvanathan & Arun Tangirala developed methods for diagnosis of poor loop performance in control loops using frequency-domain measures. In particular, they developed a method for estimating delays in multivariable systems, diagnosing the cause of oscillations due to multiple sources and pin-pointing the specific parameter of a model in model predictive systems.

Selvaraju & Pushpavanam developed a holistic approach which combines different techniques like factor analysis, positive matrix factorisation and chemical mass balance to carry out source apportionment of air quality. They proposed and demonstrated a technique to reconcile differences stemming from receptor modeling and dispersion modeling.

Srinivasan, Murthy & Swaminathan studied the colour removal from wastewater from pulp & paper, textile and leather processing industries using a fungus, *Trametes versicolor* and optimised the process conditions.

Subramanian & Kannan analysed the effects of UV light intensity, catalyst loading and controlled periodic illumination on the performance and scaleup of a novel rotating photocatalytic reactor applied to the degradation of phenol

Sujoy Samanta & Tanmay Basak carried out finite element simulations on microwave heating of oil-water emulsions and investigated the heating rate vs thermal runaway for various geometries of emulsion in presence of ceramic or metallic supports.

Chemistry

Arun Luiz, Murthy & Sudheendra Rao studied the syntheses and characterization of phenylbis(amino)phosphine ligands and their coordination behavior towards copper(I) halides, CuX ($X = Cl, Br, I$) and metal hexacarbonyls, $M(CO)_6$, [$M = Cr, Mo, W$]. They characterized eleven new and novel mono- and di-nuclear complexes by single crystal X-ray structure and combined spectroscopic methods.

Atul Kumar & Mangal Sunder provided a new way of understanding quantum entanglement through many body statistical correlations and presented procedures for determining maximal entanglement. They proposed new multi-qubit states and several schemes for quantum teleportation and quantum dense coding using these states.

Biji & Archita Patnaik designed one pot synthesis of interfacial Janus clusters that showed single electron charging phenomenon, the electrochemical equivalent of coulomb blockade for solid state devices.

Chandravathanam, Varadarajan & Viswanathan developed a variety of technologies for surface functionalization of carbon supports that can lead to smaller particle size of the active Pt metal sites for Pt based electrodes for direct methanol fuel cells.

George Densingh Xavier & Sanjay Kumar carried out extensive high level quantum mechanical ab initio bound state structural and dynamics calculations to unravel and understand the dynamical intricacies of energy transfer dynamics in nonadiabtic collisions of proton with CO and O₂ molecules. They rationalize for the first time the highly refined quantum state-selected experimental data available at moderate collision energies (0-30 eV).

Himansu Sekhar Sahoo & Dillip Kumar Chand studied the dynamic properties of new and novel self-assembled coordination cage molecules using NMR spectrometer. The self-assemblies were obtained by combining pyridine appended poly-dentate ligands with selected palladium(II) components and characterized by NMR, MS and XRD methods.

Indra Neel Pulidindi & Varadarajan developed carbon materials with enhanced surface area of the order of 1000 m² g⁻¹ from different plant sources for energy applications, especially for fuel cells and for environmental applications like removal of mercury from waste water and other pollutants.

Karthikeyan & Sankararaman reported triazole based organo catalysts for asymmetric Michael reaction in excellent yields and enantioselectivities. They also reported synthesis of triazole based N-heterocyclic carbenes and their palladium complexes and catalytic activities of the palladium complexes in Suzuki reaction.

Krishnendu Biswas & Varadaraju explored a number of ternary and quaternary oxide systems for high temperature thermoelectric power conversion application. They discovered compounds showing reasonable figure of merit values.

Magesh & Varadarajan developed a new catalyst, Cd_2SnO_4 , and found it to be suitable for the removal of organic pollutants present in water just by utilising the sunlight.

Nithiya found spatially resolved NMR to be useful in designing cost-effective membranes for fuel cell application and thus showed that poly(vinyl alcohol)-poly(styrene sulphonic acid) membrane exhibits higher water uptake and release characteristics in comparison to the commercial Nafion membrane.

Pardha Saradhi Maram & Varadaraju studied a number of new inorganic luminescent materials for solid state lighting applications. In particular they found a silicate compound doped with europium to be a potential phosphor for LED's to produce white light.

Ritesh Nandy & Sankararaman designed and synthesized molecular hinges bearing pyrene and triphenylene chromophores and used them for the study of pi-pi interactions among the pyrene and triphenylene based fluorophores. They calculated the relevant thermodynamic parameters using NMR and fluorescence as experimental techniques.

Samanwita Pai & Chandrakumar reported the development of fast one-dimensional approaches to characterize chemical exchange in solution state (NMR) and in solid state (NMR and NQR). This approach permits the clear delineation of the exchange time window in two-dimensional experiments, solves the significant problem of off-resonance excitation issues in NQR and helps generate sideband alternation for rapid quantification of chemical exchange in solid state Magic Angle Spinning NMR.

Senthil Kumar & Baskaran developed new synthetic methods based on chemo- and regioselective cleavage of benzylidene acetal towards the synthesis of functionalized chiral intermediates. They exploited these intermediates in the stereo- and enantioselective syntheses of biologically active and pharmaceutically important molecules.

Vimalan & Chandrakumar explored rotating frame coherence transfer to enhance efficiencies of the basic operations of quantum computing: initialization, logic gate operation and readout, enhanced efficiency of multiple quantum filtered experiments for Na-23 applications to 'biological systems' and volume localized spectroscopy to measure fuel cell membrane permeability to methanol.

Civil Engineering

Arun, Nageswara Rao & Sivakumar developed a stochastic meshfree method for elasto-plastic damage analysis assuming an initial random damage. The method involves four subtasks: prediction of the mean and covariance properties of stochastic responses, imposition of essential boundary conditions and the material discontinuity treatment in meshfree methods, studying the effect of random initial damage field and growth on the statistics of structural system responses and investigating numerically the effects of damage on interface stresses and strains of problems with material discontinuities.

Badari Narayanan & Satish Kumar investigated experimentally a scheme of jacketing reinforced concrete beams in buildings for earthquake forces. Their tests and analytical results show that the scheme is suitable at least under slow cyclic loads and provided detailing guidelines for implementing the scheme.

Chandrasekaran, Boominathan & Dodagoudar developed p-multipliers and p-y curves for accurate prediction of lateral deflection and bending moment of pile foundations in clay subjected to static, cyclic and dynamic loads.

Ganavaram Kalyan Kumar & Dodagoudar carried out a comprehensive probabilistic seismic hazard analysis for an historical site in Kanchipuram to evaluate ground motion needed in seismic safety assessment of historical constructions. They also carried out ground response analysis to obtain the surface ground motion by conducting extensive field experiments and numerical simulations.

Harikrishna, Devdas Menon & Lakshmanan carried out wind tunnel and numerical studies to evaluate the wind induced interference effects on two square buildings in tandem arrangement. They proposed theoretical formulations and numerical methods to estimate the design wind loads on such buildings and to find their response, taking into account the interference effects under various parametric conditions.

Jinesh Babu, Mohan & Srinivasan developed least-cost design algorithms with the effective use of system heuristics, efficient algorithms for the quantification of partial nodal outflows and corresponding pressure-head values of pressure-deficient networks and carried out reliability analysis considering different hydraulic failure conditions.

Milinda Mahajan & Appa Rao carried out nonlinear FE modelling and experimental investigations to propose design models for joint shear strength and effective width of exterior joints.

Pandurangan & Appa Rao studied the effect of fusion bonded epoxy coating (FBEC), bar diameter and rib geometry on the bond strength of concrete to calculate transfer length and crack spacing in reinforced concrete.

Rahima Shabeen & Alagusundaramoorthy studied the load-deflection behaviour of glass fiber fabric stiffened composite plates with cutouts and with reinforced cutouts.

Rajan, Murali Krishna & Karthik Srinivasan investigated the influence of crude source, processing method and blend proportions on the rheological properties and chemical composition of blended bitumen under different aging conditions. They developed quantitative relationship between chemical composition and rheological property of blended bitumen.

Rajesh & Nageswara Rao developed a coupled EFGM–FFEM technique for analyzing fracture mechanics problems involving the following five subtasks: prediction of the mode–I and mode–II SIFs and T-stress for a crack in a homogeneous, isotropic, and two dimensional linear–elastic structure subjected to mixed–mode (modes I and II) loading conditions; prediction of the mode–I and mode–II SIFs and T-stress for cracks in anisotropic homogeneous, and two dimensional linear–elastic structures subjected to mixed-mode (modes I and II) loading conditions, and determining the vertical displacements under various loading conditions in an elastic half–space for unbounded domain problems.

Senthilkumar & Koshy Varghese investigated the applicability of design structure matrix for managing the design process in construction. They found that a matrix specifying inter-relationship between drawings facilitated the information exchange between design and construction.

Shriniwas Shrikant Arkatkar & Thamizharasan studied vehicular interaction on up grades of intercity roads and quantification of the relative impact of the different types of vehicles on traffic flow, in terms of Passenger Car Units (PCU), to ultimately aid accurate estimation of highway capacity under wide range of roadway and traffic conditions.

Soundara & Robinson investigated experimentally the behaviour of piles in expansive soils and developed a hyperbolic model to evaluate the uplift pressure distribution along the shaft of piles in such soils. The results were validated using a newly designed pile-swell apparatus.

Uma Maheswari & Boominathan developed seismic microzonation maps for Chennai city and showed that the soil conditions pose a potential threat to the low rise buildings (less than 6 storeys) during an earthquake.

Vijayalaksmi, Mohan & Srinivasan estimated accurately watershed runoff hydrograph using the available rainfall data alone and instantaneous unit hydrograph as a transfer function thus avoiding knowledge of the duration of rainfall. They also explored different soft computing methodologies including conceptual and black box models to quantify the return flow generated from an irrigation system.

Computer Science

Anil Kumar Sao, Yegnanarayana & Chandra Sekhar proposed four representations of an image to capture the edge information of the image and examined their utility in face recognition under variations of pose and illumination.

Antony Franklin & Siva Ram Murthy theoretically analyzed the transport capacity of multi-channel multi-radio wireless mesh networks and proposed efficient traffic adaptive channel assignment algorithms for improving the capacity of these networks. They also showed the importance of considering partially overlapped channels in such networks.

Dyana & Sukhendu Das proposed an efficient system for Content-based video retrieval based on shape and motion trajectory features of a video object. They developed a novel motion trajectory representation using multi-channel spectral features derived using Gabor filters and a novel Multi-Spectro-Temporal Curvature Scale Space representation as a unified spatio-temporal descriptor of video objects.

Ranbir Singh, Hema Murthy & Gonsalves addressed three important aspects of Web Search Engines, namely, rate of web page updates, clustering of web collections and real time implicit feedback to improve retrieval effectiveness using a number of novel ideas from Information Theory. Further, the work processes the user intent (by processing the pages visited for the specific queries) to increase the accuracy of retrieval.

Selvaradjou & Siva Ram Murthy proposed a new heterogeneous architecture for wireless sensor and actor networks for energy efficient healing of the network partitions. They also proposed solutions for real-time and reliable data delivery for effective actor-to-actor coordination.

Electrical Engineering

Jaibir Sharma, Nagendra Krishnapura & Amitava DasGupta developed and demonstrated a novel process for the fabrication of RF MEMS switches with pull-in voltage less than 10 V. The characterized devices showed excellent performance in the V-band (50 GHz – 75 GHz).

Jayadeva & Amitava DasGupta developed analytical models of drain current of short n-channel MOSFETs, which do not require any iteration or additional model parameter while incorporating quantum mechanical effects. The models showed excellent agreement with experimental data.

Kishore Kumar & Jayashankar used ultrasound elastography for non invasive imaging of tissues in the human body to study the design, fabrication and characterisation of tissue mimicking phantoms for normal and a wide variety of pathological conditions using a chemical gel.

Koteswara Rao & Mahesh Kumar studied control strategies for load compensation using DSTATCOM in power distribution systems.

Kushal Kumar Shah & Harishankar Ramachandran developed detailed time-dependent solutions for the particle distribution of a plasma confined by RF fields and showed that these solutions, when averaged in time, were in agreement with results in the literature.

Lakshminarayanan & Giridhar theoretically analyzed the robustness of the H-infinity estimator and compared it with the popular H2 estimator (Kalman Filter), and showed that the choice of one over the other depends on the nature of uncertainty in the statistics used in building these estimators.

Madhu Mohan & Jagadeesh Kumar developed signal conditioning circuits for single element as well as differential type resistive sensors. They tackled problems like the use of a Wheatstone bridge with a single element sensor and the linearisation of a thermistor and developed, analyzed and prototyped circuits using modified versions of the conventional dual slope integrating type and sigma delta type analog to digital converters.

Manoj Kumar Maharana & Shanthi Swarup developed a graph theoretic approach for identification of generators and selection of corrective strategies for generator rescheduling and/or load shedding in power systems.

Pradeep Kumar & Anil Prabhakar demonstrated a frequency coded quantum key distribution that enabled exchange of a secure key between two parties over a fibre optic channel. Security was derived from the single particle nature of a photon, which ensured that any stolen or lost bit was not included in the key generation.

Renny Fernandez, Anju Chadha & Enakshi Bhattacharya developed the protocol for immobilization of enzymes on semiconductor surface and demonstrated detection levels down to microMolar levels from resonance frequency measurement on cantilever beams immersed in triglyceride solution. The work was based on enzymatic estimation of triglycerides and urea using a polysilicon microcantilever.

Sasitharan & Mahesh Kumar studied the topologies, analysis and design of Series Compensators in Power Distribution System.

Humanities & Social Sciences

Ajit Ratnakar Joshi & Debashis Acharya argued that the increasing openness of the Indian economy had not only created a favourable climate for lower inflation, but had also exposed the economy to foreign commodity price risk. They developed an inflation model with explicit inclusion of a newly constructed commodity price index that performs better than other competing models.

Chitra Grace & Muraleedharan assessed the public health issues related to agricultural pesticide use among the farming community in Thanjavur District. They showed that the risk perceptions and pesticide usage behavior among farmers were not adequate and suggested that a comprehensive policy to address this should include encouraging IPM, implementation of various activities to reduce risk due to pesticide exposure as well as reduce dependence on pesticides.

Lenin & Sreekumar deal with the concept of dharma with particular emphasis on its social and political dimensions. They examined the post-Vedic texts of *Manusmriti* and *Arthashastra* and argue that, the interpretation of dharma in these texts fail to do justice to the more comprehensive ethical outlook represented in the orthodox Hindu Philosophical tradition in general and the Upanishads in particular.

Rajesh & Muraleedharan studied the reproduction of classical Tamil literature during colonial period (1800-1920) at a time when print technology was proliferating in Tamil society. They also documented the reception of classics at the intersection of colonial modernisation and social change.

Sumitha & Malathy examined the trends in the size and structure of employment in Kerala. They analysed the underlying determinants of married women's labour supply and choice of type of work focusing on the effect of wages and women's bargaining power.

Vaishnavi & Umakant Dash analyzed the determinants of the health care seeking behaviour and associated costs and found that those who belonged to lower socio-economic status were less likely to seek health care when they fell sick, that the private health care expenditure was highly catastrophic to the households and that the outpatient more than inpatient expenditure was impoverishing the households.

Management Studies

Arti Kalro & Rahul Marathe studied the effectiveness of comparative advertisements through various statistical experiments to highlight the role played by moderating variables. They concluded that, when the comparative advertisements are coupled with the right comparison strategy and information processing mode, it augments the effectiveness of the advertising message.

Begum Sayeda, Rajendran & Prakash Sai identified the critical dimensions of Total Quality Management in the Indian Engineering Educational Institutions from the management, faculty, student and alumni perspectives and studied the relationship between the TQM dimensions and the measures of performance germane to institutional effectiveness.

Hyeong Deug Kim & Kamalanabhan evaluated the motivational factors among Indian employees in Indian companies, Indian employees in Korean companies and Korean employees in Korean companies and examined how cultural variations affect the factors of employee motivation.

Madhuri Malhotra, Arunkumar & Thenmozhi studied Stock Price Reaction, Liquidity and Volatility Changes around Bonus and Rights Issue Announcement. They noted that the stock price reaction is different across sectors and while liquidity decreased after bonus and rights issue announcement, stock price volatility increased after bonus and rights issue announcement. They also observed that pre-market condition and type of industry influences stock returns for bonus issue announcement, while pre-market condition and issue size has significant impact on abnormal returns for rights issue announcement.

Resmi Ann Thomas, Kamalanabhan & Malathy Duraisamy attempted to find out how Impression Management is a precursor to entrepreneurial success. They studied other variables like personality, social competence and entrepreneurial orientation to find out how this leads to entrepreneurial success.

Satish, Arun Kumar & Vijayaraghavan investigated patterns of pre-purchase external information search behaviour, model information search behaviour on the Internet and returns to search in ordered and unordered environments.

Srirangacharyulu & Srinivasan developed optimal and heuristic algorithms to minimize completion time variance and squared deviation of completion times about a common due date in single and parallel machine scheduling problems.

Srithika & Sanghamitra Bhattacharyya studied the role of structure, content, and intensity and diffusion of training in enhancing organizational learning and thereby the value progress of outsourcing organizations. They also explored the moderating roles of organizational culture and knowledge management systems in this relationship.

Suresh Srinivasan, Thenmozhi & Vijayaraghavan showed that focused firms outperform unrelated diversified firms because of larger firm size and presence in more attractive industries while large business groups have been deteriorating in profitability, due to positioning in less attractive industries, inability to scale in size and low asset utilization. They showed that unrelated diversification, which was profitable in pre-liberalization era, is no more profitable in the transition and post liberalization period.

Mathematics

Chandrashekar & Vetrivel studied the existence of solutions to a generalization of complementarity problems which include the classical linear programming problems as a special case.

Jajati Sahoo & Arindama Singh studied the use of Lavrentiev regularization and Tikhonov regularization in mathematical learning theory and showed the consistency of the ensuing learning algorithms when these regularization techniques are used on both classification and regression problems.

Karthick & Choudum identified several classes of graphs whose chromatic number can be bounded on both sides by a function of clique number using combinatorial and algorithmic proof techniques.

Lemi Guta & Sundar developed a mathematical model of the Navier-Stokes-Brinkman system for the interaction of a two-dimensional progressive wave train with submerged rectangular porous breakwater.

Maddu Shankar, Sundar & Krishnan Balasubramanian investigated the extrapolation boundary conditions for LBM using asymptotic analysis, and presented a few numerical examples and benchmark experiments to show the improvement in accuracy of LBM.

Manoj Kumar Yadav & Srinivasa Rao studied a class of nonlinear partial differential equations called generalized Burgers equations and related equations with emphasis on self-similar solutions, periodic solutions and large time asymptotic solutions.

Rajkumar & Vasantha introduced new classes of codes called circulant RT distance codes and fuzzy RT codes. This proposed new Cayley graph interconnection networks and developed the optimal routing algorithm for these interaction networks.

Ravi Shankar & Nair considered various regularized continuous Newton-type methods for solving ill-posed nonlinear operator equations, and derived order optimal error estimates under certain general source conditions. They lay a rigorous mathematical foundation for certain procedures available in the literature as well as unify many known results so as to be applicable to diverse situations.

Surya Prasath & Arindama Singh studied the regularization and PDE based methods to denoise images and the corresponding wellposedness and stability. Starting with denoising of black-and-white images, it deals with colored and multidimensional images including those used in remote sensing.

Venkunaidu Dogga & Radha studied the images of certain function spaces under Hermite and special Hermite semigroups and Bargmann transform defined on the Heisenberg group. They also discussed the construction of Hilbert frames in generalized Fock spaces.

Mechanical Engineering

Anil Kumar Emadabathuni, Srinivas Murthy & Maiya measured and analyzed thermodynamic and thermophysical properties of mischmetal based hydriding alloys. They studied the difference between static and dynamic Pressure Concentration Isotherms (PCIs), effect of flow rate on dynamic PCIs and effect of single and multiple element substitution for Ni in $MmNi_5$, as well as the effects of hydrogen pressure, concentration and bed temperature on effective thermal conductivity.

Atul Daga, Ganesan & Shankar Krishnapillai studied the behavior of coupling coefficients associated with magneto-electro-elastic structures subjected to Mechanical, electrical and magnetic environment using finite elements. The major output is the application of MEE solids as sensors and devices for producing magneto-electric effect.

Biju, Krishnan Balasubramanian & Ganesan developed a theoretical Finite Element Model for analysing a new IITM patent pending phenomena called Tone Burst Eddy Current Thermography that uses induction heating and IR imaging to explore material properties and defects in components. They also developed an inverse method for simultaneously measuring both thermal and electrical conductivity from a single experiment.

Ganesh Raja, Sujatha & Narayanan implemented simultaneous structural optimization and active vibration control of tensegrity structures using genetic algorithms and H_2 and H_∞ control schemes.

Gurudath Nayak & Venkatratnam studied the performance of mixed refrigerant cascade refrigerators with phase separators using different mixtures both analytically and experimentally. They showed performance of refrigerators with and without phase separators can be equally high with optimum mixtures. They also showed that dryout of the phase separator at high heat loads can be detected indirectly from the temperature difference between the streams of a heat exchanger.

Jayavel & Shaligram Tiwari developed a 3-D computational code and studied flow and heat transfer characteristics for flow past circular tubes built-in with a rectangular channel in presence of single and multiple vortex generators and studied the mechanism of interaction of vortices generated by vortex generators.

Jeyaraj, Ganesan and Chandramouli examined the effect of heat on the vibration and sound characteristics of structures and used a new method to compute the sound power radiated based on space averaged mean square vibration velocities. The method is found to significantly reduce computation time for noise prediction of complex structures.

Jothi & Srinivasan analysed the sound emitted from high-speed orifice jets and pipe jets and demonstrated that flow topology and initial conditions could be successfully used for passive control and spectral modification of noise.

Lakshmi Narasimhan & Venkatratnam studied a class of vapour compression refrigerators operating with wide boiling mixtures known as mixed refrigerant cascade refrigerators. They showed that the composition of the mixture in circulation is completely different from that charged and proposed an inverse method for predicting the former from the latter.

Mathan & Siva Prasad investigated the gasket behaviour under bending and dynamic loads using micromechanical modelling and an anisotropic Hill plasticity model.

Mohan, Srinivasa Murthy & Maiya carried out the performance simulation of liquid and gas cooled metal hydride based hydrogen storage devices. They established a general design methodology for the weight minimization of these solid state devices for any capacity and charging rate, taking into account the application specific space constraints.

Prabakar, Sujatha & Narayanan characterized the hysteretic behaviour of magnetorheological fluid dampers by the nonlinear Bouc-Wen model and determined the model parameters experimentally. They investigated the performance of the MR damper used as semi-active suspension devices in vehicle models in improving its ride characteristics subjected to random road excitation.

Sadiq & Shunmugham developed finishing capabilities for a new process of magnetorheological (MR) abrasive honing and modelled and validated them through experiments.

Sandesh & Shankar Krishnapillai investigated various methods of damage identification of substructures, rather than the entire global structure, thus saving computational effort. They presented the application of a novel and superior optimization algorithm which is a hybrid of Genetic and Particle Swarm algorithms.

Solomon & Chandramouli proposed a novel semi-active control strategy of a hydro-gas suspension based on sky-hook strategy from a quarter car model. They showed that the strategy improves the ride comfort of a tracked vehicle considerably when compared to a passive hydro-gas suspension.

Venkaiah & Shunmugham developed for the first time computational geometric techniques to establish limaçon and circular cylinder references for cylindricity assessment.

Metallurgical & Materials Engineering

Basavaraj Patil, Prasanna Kumar & Uday Chakkingal computed the influence of die parameters on strain distributions during Equal Channel Angular Pressing of an aluminum alloy by 3D Finite Element Analysis and optimized them using statistical techniques of ANOM and ANOVA. They developed die design procedures to achieve minimum strain inhomogeneity in the component.

Imteyaz Ahmad & Bhattacharya studied the design, development and fabrication of a chemical vapour synthesis system for the production of high quality, ultra-fine pure and boron-modified nanocrystalline titania powders through the pyrolysis/decomposition of tetra titanium isopropoxide under systematically varying process conditions. They characterized the as-synthesised powders using several different techniques. They correlated the results with the experimental conditions and used them to validate a numerical model.

Mruthyunjaya Sharma & Pathak showed that *peak aging treatment is suitable for obtaining the highest strength structure using Aluminium alloy AA 2219 e.g. for liquid tank of space launch vehicles while natural aging is preferable for fatigue resistant structures.*

Priya, Prasada Rao & Subramanya Sarma studied systematically the microstructure, mechanical properties and corrosion behaviour of similar and dissimilar Al alloy friction stir weldments. They optimized the process parameters for obtaining defect free weldments and correlated the properties to the microstructure.

Ocean Engineering

Dhinesh, Anantha Subramanian & Murali established a virtual towing tank to determine hull-propeller interaction effects utilizing multiple sub-domains, rigid mesh motions with RANSE solvers.

Manasa Ranjan Behera, Sundar & Murali developed an unstructured explicit finite element method for solution of shallow water equations to simulate tide and tsunami. They identified a suitable grid

size for discretisation of the near shore region. They simulated the great Indian ocean Tsunami and computed the run-up height and arrival time at salient shoreline locations. They showed that the coupled tide-tsunami investigation was more suitable for accurate computation of run-up heights.

Ponmalar, Ganesh Babu & Ravindra Gettu experimentally and analytically investigated the behaviour of glass fiber reinforced polymer wraps on typical concrete structural members.

Sheeja Janardhanan & Krishnankutty numerically estimated hydrodynamic derivatives of a surface ship in maneuvering and accomplished numerically the conventional maneuvering experiments carried out in towing tanks, such as straight line and planar motion mechanism tests using RANSE based CFD method.

Suresh & Sundar studied the near shore sediment dynamics pattern of Tamil Nadu coast using field data satellite imageries, numerical models and estimated the sediment transport.

Physics

Kamala Bharathi & Markandeyulu investigated multifunctional nature of rare earth doped Ni ferrites. They showed that the materials, upon doping, become ferroelectric, while retaining ferromagnetism and observed strong magnetoelectric effects in the doped materials.

Meenakshisundaram & Arul Lakshminarayan developed almost exact ansatz for multifractal eigenstates of a quantum chaotic model using the Thue-Morse sequence as well as new transforms combining Hadamard and Fourier as a novel way of studying quantum chaotic states.

Sunil Kumar & Deshmukh analysed photon/electron impact ionization/fragmentation of atoms/molecules using quantum theory of many-electron correlated systems. Their work includes some of the first experimental studies of its kind carried out at the Indus-1 synchrotron

3.2 M.S. Work

Applied mechanics

Sudhakar & Vengadesan developed a numerical method to understand the flight force production in insect aerodynamics. They employed the insect flaps in inclined stroke and immersed boundary method to capture the complex motion.

Vijaya Rama Reddy Gudla & Baburaj investigated convection due to unstable density gradient across a horizontal permeable membrane. They found a new regime of convection where the flux scaled as the square of the driving concentration difference across the membrane, when advection balanced diffusion inside the membrane. They derived an expression for the mean concentration profile for the case when advection dominated the membrane; this profile matched the experimental measurements.

Biotechnology

Jagannath & Ramachandran used metabolic flux analysis to study the effect of different metabolic process on the molecular weight of the hyaluronic acid synthesis by *Streptococcus zooepidemicus*. They showed by analysis of experimental results that improving precursor levels, particularly UDP-N-acetylglucosamine and thereby strengthening the HA flux plays a direct role in improving molecular weight of hyaluronic acid.

Kamal Kishore Joshi & Anju Chadha studied the purification of the carbonyl reductase enzyme of *Candida parapsilosis* ATCC 7330 which is involved in deracemisation reactions. They optimised the methods starting with breaking the yeast cells to release the intracellular enzyme and established assays to determine its activity and chromatographic separation to get the pure enzyme.

Karthik & Sanjib Senapati proposed a structural model for the catalytic cycle of HIV-1 Protease by a newly devised computational technique that successfully captures a multitude of functionally-relevant conformations of the enzyme.

Ramesh Chandra Pandey & Mahalingam developed molecular models for viral protein R (Vpr) which encodes multiple functional domains and regulates HIV replication in non-dividing target cells by modulation of host cell cycle arrest, suggesting that the central region is critical for various functions of Vpr during virus replication.

Santosh & Manoj characterized biochemically a putative carbohydrate esterase from *Thermotoga maritime* and showed that the enzyme is a thermophilic multifunctional esterase specific to hydrolysis of esters of xylose and cephalosporin derivatives.

Vednath & Srinivasa Chakravarthy studied the effect of ambiguity involved in a simple visuomotor task like copying a pair of intersecting lines. They modeled the copying task using nonlinear oscillators and supported using data collected from human subjects.

Chemical Engineering

Rajdeep Singh Rathore & Swaminathan evaluated the performance of an immobilized rotating tube photoreactor for the photocatalytic degradation of 4 - chlorophenol

Sreenath karivetti & Pushpavanam developed simplified models to screen different system and determine optimum conditions when reaction and separation can be done in a combined manner.

Vikram Seshadri & Niket investigated methods to improve ignition behavior of gaseous fuels from cold-start conditions in catalytic micro-reactors and proposed such micro-reactors as efficient devices for portable power generation with lower emissions.

Civil Engineering

Deepak Krishnan & Amlan Sengupta investigated the strength and behaviour of beams prestressed with unbonded tendons and developed a refined procedure to predict the strength and behaviour needed in Indian practice.

Kanagaraj & Ashwin Mahalingam focused on the design of energy efficient buildings and proposed a new framework that will allow designers to optimize building design by simultaneously taking into consideration economic factors, environmental concerns and user preferences.

Krishna Kumar & Boominathan developed a two phase pseudo coupled endochronic constitutive law to predict liquefaction of sand which is a major seismic hazard.

Rakesh Gopinath, Ravindra Gettu and Manu Santhanam studied the effectiveness of glycol based admixtures in reducing the shrinkage of cementitious mortars under different environmental conditions

Computer Science

Ashok Kumar & Janakiram proposed a technique for extraction of software architecture from source code and built a tool based on the technique. They used the tool to extract the higher level software architecture of a linux kernel and to redesign the linux kernel into an object oriented linux kernel.

Barun Kumar Parichha & Timothy Gonsalves designed a software mechanism for remote USB access in Linux, implemented it for a variety of peripherals and evaluated the performance.

Guduru Suresh & Timothy Gonsalves designed a virtual tuner network for efficient use of cable TV infrastructure for streaming video, implemented it in the CATIUS product from Midas Communications and evaluated the performance.

Jayarajan Dinakaran & Ravindran proposed a new lexical chain based feature representation for text documents which results in much lower dimensions than the traditional bag-of-words representation. They showed through experiments on clustering and classification that the new representation is more accurate and faster for these tasks.

Jyothi & Janakiram proposed a novel security mechanism for peer-peer systems. The security mechanism helps honest peers detect sybils in the peer-peer systems where sybils can compromise the system by raising their reputation by performing fake transactions among themselves.

Nikhil Ranjan, Gonsalves & Hema Murthy explored the use of Generalised Autoregressive Conditional Heteroskedasticity Models for modeling TCP based Denial of Service Attacks. They observed that the algorithm works well even for low-rate DOS attacks and the detection delay is of the order of a few seconds.

Raghunandan & Deepak Khemani explored textual case based reasoning (TCBR) systems investigating various methods of defining case base complexity to characterize CBR systems. They presented new approaches to visualizing case bases that can be useful in maintenance of CBR systems.

Rakesh Kumar Thatha & Raghavan described a One-Time Password(OTP) Authentication System for stand-alone, remote and web-based systems. Unlike the Hardware OTP solutions, the proposed system doesn't require any extra hardware and at the same time gives complete protection form all known attacks.

Saamaja Vupputuri & Siva Ram Murthy proposed two approaches for reliable delivery of event/aggregate event packets to sink node(s) in a wireless sensor network, consisting of multiple static sink nodes/mobile data collectors, while maximizing the lifetime of the network.

Srinibas Swain & Narayanaswamy studied the combinatorial and algorithm issues of the Dominating Set problem and came up with heuristics approaches and lower bounds on the Cardinality of the Minimum Dominating Set.

Suneetha, Sukhendu Das & Janakiram introduced the concept of object oriented wrappers for linux kernel and its implementation. They showed how the object oriented wrapper can be used for developing outside moudules such as device drivers in C++ and how the linux kernel can be hardened by introduction of biometric security policies using the proposed object oriented wrapper framework.

Suranjana Samanta, Sukhendhu Das & Koshy Varghese proposed two (unsupervised and supervised) feature ranking and selection methods, which adaptively select the optimal number of features in the dataset. They also proposed a modified Fisher's criterion using the concept of subclass modeling, to solve the problem of classification where the Fisher's criteria fails to provide a measure of class separability.

Electrical Engineering

Abishek Goda & Nitin Chandrachoodan presented a technique for accelerating logic simulation using highly parallel architectures available on graphics processors. The work has applications to design and verification of large integrated circuits.

Anil Kumar Chorppath & Sri Krishna Bashyam designed mechanisms for the allocation of a divisible resource to strategic users in a convex optimization framework. The results will be useful in resource allocation problems where efficient allocation depends on information privately held by strategic users.

Aravind Pothana & Krishna Vasudevan explored parallel operation of ac/dc converter modules. Load sharing was done through a nonlinear controller which aims to operate the total system with minimum number of converters in operation and each converter operating at maximum possible loading to maximise efficiency of the system.

Bharath Kumar & Balaji Srinivas investigated the performance of distributed temperature sensing system based on Raman scattering in optical fibers. They constructed a comprehensive model for the system and validated the same through experimental data.

Binu & Jayashankar suggested experimental methods for characterizing the noise performance of image acquisition systems (that generally employs a Charge Coupled Device) for the purpose and establishing the system resolution.

Harsha Vardhana, Kalyan Kumar & Mahesh Kumar studied Robust Controller Design for DSTATCOM in Power Distribution Systems.

Jitendra Kumar, Ramalingam & Srinivasa Chakravarthy dealt with designing an optimal ensemble classifier system using genetic algorithms for online handwritten character recognition of Indian scripts. They posed the problem as an optimization problem wherein the individual classifier performance is maximized, and inter-classifier correlation is minimized.

Manish Kumar Jaiswal & Nitin Chandrachoodan developed a hardware architecture to accelerate an important component of many scientific computations. They showed that the architecture ensures an efficient balance of memory and hardware, and scales well to larger systems.

Maruthi & Arun Mahindrakar developed a controller-design methodology for a class of underactuated mechanical systems that are affected by parametric uncertainties and external factors by employing a novel strategy that combines time-scaling and Lyapunov redesign. They applied the control methodology to the two-wheeled mobile inverted pendulum and the ball-beam system.

Mukundan Madhavan & Andrew developed simple, non-linear coding ideas that provide provably secure authentication in cheap devices such as RFID tags.

Prem Kumar Nonia & Manivasakan proposed, analyzed and validated through simulations a feedback system for adaptive bandwidth provisioning (which uses PGPS scheduler incorporating time varying service weights) to achieve end-to-end QoS. They also proposed and studied a clock recovery method for TDM over IP (TDMoIP).

Rupesh Navalakhe, Nandita Das Gupta & Bijoy Krishna Das designed, fabricated and characterized single mode straight and bent rib waveguides on Silicon-on-Insulator platform. They demonstrated a novel asymmetrically etched bend waveguide which has a much more compact structure but waveguide loss similar to the conventional symmetrically-etched waveguide.

Vijay Kumar & Aravind proposed a method for super-resolving face images based on a 2D observation model. The method is less computationally intensive than the methods that use 1D models (for the same output image quality).

Vikas Narang & Nitin Chandrachoodan presented a new approach to calibrate the impedance of output pads in high speed integrated circuits, to allow the system to adapt to actual load conditions rather than a pre-defined ideal condition. The work has applications to all modern system-on-chip designs working with moderate to high speed I/Os.

Engineering Design

Dilip & Nilesh Vasa focused on design of a diesel particulate matter incineration system using an induction heating technique in the context of particulate emission control from diesel engines.

Karthikeyan & Shankar Ram developed an electropneumatic brake system for commercial vehicles (such as trucks and buses) and showed that the system's time lag was smaller than that of the existing air brake system used in these vehicles. This will improve the safety of these vehicles by decreasing the stopping distance during braking. They also developed an experimentally corroborated mathematical model for this system.

Sundarraman & Nilesh Vasa studied a high-pressure fuel-injection pump with a cam follower system using modeling and experiments. They proposed an offset-based cam follower system and investigated the same for such applications.

Vinid Nair, Krishnakumar & Kumaraswamy designed and optimized various important physical dimensions (rotor-stator gap, blade thickness etc.) of an axial (continuous) flow blood pump using numerical simulations. They also simulated a rotor diaphragm pump (pulsatile flow) incorporating both the fluid and solid models and the fluid structure interaction effects. They made a quantitative comparison of the flow dynamics through both pumps.

Management Studies

Ashwin & Rahul Marathe described a mathematical model for scheduling production of multiple products in a large time bucket when significant set-up times are incurred. They present a Mixed Integer Non-Linear Programming model to split the set-up times in two consecutive time buckets and show that their model is more efficient than the best model available in the literature.

Balakrishnan & Rahul Marathe presented a mathematical model for supplier selection and lot sizing problem under dynamic demand condition. They presented a two-stage approach where the strategic supplier selection problem and tactical order scheduling problem are linked using feedback constraints.

Batreddy Murali Mohan & Arun Kumar tested the existence of cointegrating vector indicating long run relationship between a set of emerging markets and developed markets. They also tested the short run relationships using a vector error correction model and wavelet analysis

Deepthi & Rahul Marathe modeled a supply contract between a single supplier and single retailer where the contract is signed over a finite time period and where a spot market is present to trade the non-storable commodity. They modeled the impact of capacity expansion lead-times on the contract and suggested policies to help both the supplier and the retailer.

Deepthy, Prakash Sai & Manivannan established the techno-commercial viability of setting-up Biomedical Technical Consortium that enables effective collaboration between the key stakeholders of the Indian medical equipment industry.

Gomathirajan, Kamakoti & Thillairajan focused on optimizing the Linux - network and I/O management modules to enhance performance of Network-Attached Storage service using multi-core based systems.

Hemamalini & Madhumathi compared corporate governance practices of banks across countries and emphasized the need for uniform governance regulations. They found that Governance practices of banks in India on the basis of financial discipline, transparency, independence, responsibility and accountability, fairness and social awareness had a significant influence on their managerial and economic performance.

Ketty Vijay Parthasarathy & Madhumathi examined, through a case study analysis, the application of real option valuation of commercial and residential development projects in Chennai. They showed that expected rate of returns from real estate projects using real option analysis resulted in project implementation or delay decisions for real estate developers.

Rajeswari, Rajendran & Arshinder Kaur presented two new approaches for rationing in a two-stage divergent supply chain operating over a finite time horizon with the objective of minimizing the total supply chain costs consisting of installation holding and shortage costs. They proposed mathematical models and meta-heuristics to determine the allocation quantities and base-stock levels.

Sree Rekha & Kamalanabhan identified the factors, which affects employee turnover intension in ITES/BPO industry. They found that the intra-organizational and extra-organizational factors in the turnover model play a significant role in employee turnover.

Vipul Jain & Arun Kumar focused on testing the long run effect of FDI inflows and FDI outflows on the level of domestic investment in 22 major emerging market economies of Asian, Latin American another regions. They also investigated the crowd - in or crowd-out effect on domestic investment and assessed the role of banking stability and economic freedom of the host country in FDI inflows.

Mechanical Engineering

Abhilash & Krishnakannan modelled and simulated the state of cure in a tyre.

Ajay, Srinivas Murthy & Maiya studied individual and coupled metal hydride reactors for refrigerators, heat pumps and heat transformers. They investigated a two triad, six-bed combined device to give continuous outputs, both cooling and heat transformation at improved performance level. They found that the COP, SCP and SAP depend not only on the reactor design but also on time of the processes; refrigeration/transformation, regeneration and total.

Annamaraju Suresh Babu & Siva Prasad worked on the temperature rise and deceleration rate from the contact pressure for railway block brakes.

Bijoy & Shamit Bakshi proposed a new injector concept for Gasoline Direct Injection (GDI) engine that promises a easy transition between mixing modes of a GDI engine.

Chandrashekar & Krishnan Balasubramanian developed a detail understanding of the behaviour of a new IITM Patent Pending phenomena called Higher Order Modes Cluster (HOMC) during the propagation of ultrasonic guided waves in plates and pipes. This technique has application in the nondestructive testing for corrosion and cracking damage in hidden regions in components such as pipelines, storage tanks, etc.

Guganesan, Govardhan & Kumaraswamy studied the design optimization of turbopumps using Genetic Algorithm and found good agreement with the results of a VIKAS engine designed by ISRO for second stage of PSLV & GSLV launch vehicles and A1 stage engine designed by NASA.

Harikrishnan, Maiya & Shaligram Tiwari conducted numerical and experimental studies on falling film R134a-DMAC horizontal tube absorber to investigate the heat and mass transfer behavior at different operating conditions and to validate the numerical model against their own experimental data.

Hormis Vadakkumcherry & Raju Sethuraman proposed an error estimator for Element Free Galerkin Method based on nodal coefficient vector of basis functions, which are used to construct the trial function. They carried out a h-type adaptive refinement procedure based on the proposed error estimator and illustrated its performance using numerical examples.

Janardhan Vistapalli & Samuel developed a cost effective high precision spindle for carrying out Wire Electro Discharge Turning process. They investigated the effect of various process parameters like pulse off time, spark gap, servo feed, rotational speed and flushing pressure on material removal rate, surface roughness and roundness error using pulse train data analysis.

Jitendra Satyanarayana & Krishnan Balasubramanian explored the application of the Nonlinear Ultrasonic Measurements to characterise creep damage in metals. They developed a new low amplitude measurement technique and demonstrated its utility in measuring early creep damage.

Mohamed Muneer, Raghu Prakash & Krishnan Balasubramanian studied the thermo-mechanical behaviour of glass fibre composite material when subjected to monotonic tensile loading and demonstrated that the elasto-plasto-thermal behavior of the composites depends on the fiber orientation.

Nanda Kishore & Siva Prasad computed the failure modes and failure loads for multipin joints in unidirectional glass fibre/epoxy composite laminates using FEM and validated the results using experimental data.

Shintre Parag Damodhar, Raghavan & Babu investigated of burning rates of renewable bio-fuels such as ethanol and bio-diesel and their blends with fossil fuels such as gasoline and diesel experimentally and proposed useful correlations for burning rate under convective environment conditions.

Ravindra, Sujatha and Chandramouli proposed design guidelines for multiple pulley-belt span systems. They showed that the coupling of longitudinal and bending effects significantly influences both equilibrium deflections and dynamic motions.

Metallurgical & Materials Engineering

Devinder Yadav & Ranjit Bauri used friction stir processing (FSP) to refine the grain size of aluminium and develop nickel particle reinforced aluminium matrix composite (Al-Ni composite). They showed using a microstructural study that a continuous type dynamic recrystallization mechanism operates during FSP and Nickel reinforcement leads to significant improvement in the strength while retaining most of the ductility.

Logavenkatesh, Prathap Haridoss & Seshadri studied electroless Ni-P and Ni-W-P deposits from a bath containing two complexing agents. They employed two complexing agents and assessed the ability of their ratio to give a much enhanced deposition.

Satendra Kumar, Ganesh Sundara Raman & Seshadri investigated two surface treatments, namely thermal oxidation and anodizing treatment, on Ti as well as Ti-6Al-4V to assess their corrosion and fretting corrosion behaviour in simulated body fluid. They observed that both improved corrosion resistance (compared to the untreated surface) while the inability of the oxide layer to withstand fretting action limits their applicability as implant materials.

Ocean Engineering

Anand & Sundar experimentally studied hydrodynamic characteristics of the curved front seawalls exposed to the action of regular, random and cnoidal waves. The results on the recurved seawalls yielded favorable results towards the reduction in the crest elevation.

Baireddy Krishna & Krishnankutty determined experimentally and numerically the trim and sinkage of a high speed mono hull vessel and catamaran vessel, when it operates in restricted waterways. This study also includes the effect of demi-hull spacing on the trim and sinkage of a catamaran vessel

Muthuchelvi@Thangam & Nallayarasu investigated experimentally and numerically the hydrodynamic behaviour of circular and non-circular Spar structures under regular waves. They studied the effect of different hull shapes and the effect of mooring line on the RAO.

Rajesh & Bhattacharya proposed a fuzzy autopilot algorithm for nonlinear maneuvering and studied its performance exhaustively with examples. The autopilot works with two error measures that are inputs, error in heading angle and the offset error from the desired path, and has the command rudder angle as the output. They implemented input variable fuzzification, fuzzy associative memory rules and output set defuzzification schemes using Mamdani min-inference method.

Ram Prasad & Bhattacharyya used an industrial case study of an offshore gas field complex located in Indian west coast consisting of five offshore jacket platforms and an onshore terminal in order to bring out the methods of application of diverse qualitative and quantitative risk assessment and integrity management methodologies. Based on wide consultation with professionals in the industry as well as quantitative methods using industry standard risk evaluation software recommendations have been suggested to reduce the risk to the offshore pipeline system to acceptable limits for a comprehensive range of scenarios of hazardous events.

Swetha, Murali & Sundar modeled dispersive waves using Boussinesq equations which are based shallow water equations. They investigated the hydrodynamic characteristics over the different sloping walls due to the action of different types of waves and found serrated walls to be superior to dented walls in reducing the reflection when compared to the plane sloping wall.

Virag Mishra, Bhattacharyya & Idichandy presented a computational fluid dynamics approach to the calculation of longitudinal and transverse added mass coefficient of axisymmetric underwater bodies using linear and nonlinear turbulence models. The method involves CFD simulations of accelerated as well as uniform flows past axisymmetric bodies based on RANS equations and makes use of the results of these simulations to obtain the inertia force acting on a body as function of time. The translational added mass was obtained from this inertia force history and the methodology validated for some benchmark cases.

4. ACADEMIC DISTINCTIONS SECURED BY OUR FACULTY MEMBERS AND STUDENTS

Several academic distinctions, honours and awards, fellowships of professional societies, memberships on editorial boards of journals have been bestowed on our faculty, staff and students in recognition of their academic achievements during the current year. Our faculty have written books, monographs and earned patents for their inventions. Some of these are listed below:

Awards

- | | |
|-----------------------------|--|
| Dr. S. R. Chakravarthy (AE) | <ul style="list-style-type: none">• DALMIA-HEMSI Award, High Energy Materials Research Laboratory, Pune |
| Dr. A. P. Baburaj (AM) | <ul style="list-style-type: none">• DRDO Academic Excellence Award 2008• Shiksha Rattan Puraskar, India International Friendship Society |
| Dr. Tanmay Basak (CH) | <ul style="list-style-type: none">• Nasi Scopus Young Scientist Award 2009, Elsevier |
| Dr. Ashok Jhunjhunwala (EE) | <ul style="list-style-type: none">• Honorary Doctorate, University of Maine, Orono, USA |
| Dr. Shanthi Pavan (EE) | <ul style="list-style-type: none">• Young Faculty Recognition Award, IITM• Technomenter Award, India Semiconductor Association |
| Dr. G. Saravana Kumar (ED) | <ul style="list-style-type: none">• Young Engineer Award 2009, Institute of Engineers |
| Dr. C. Rajendran (MS) | <ul style="list-style-type: none">• Research Excellence Award, Anna University |
| Dr. A. Thillai Rajan (MS) | <ul style="list-style-type: none">• Outstanding Young Management Teacher Award, Association of Indian Management Scholars International• Dewang Mehta Business School Award for Best Faculty in Financial Management 2009, Dewang Mehta Trust |
| Dr. V. Ganesan (ME) | <ul style="list-style-type: none">• P K Das Memorial Best Faculty Award, Nehru Educational and Charitable Trust, Coimbatore |
| Dr. N. V. Ravi Kumar (MM) | <ul style="list-style-type: none">• Young Engineers Award 2010, Institution of Engineers (India) |
| Dr. Sumantra Mandal (MM) | <ul style="list-style-type: none">• 2009 Young Metallurgist of the Year Award |
| Dr. Rajiv Sharma (OE) | <ul style="list-style-type: none">• Best Academician, Pentagram Research Centre Pvt. Ltd., Hyderabad |

Fellowships

- | | |
|---------------------------|---|
| Dr. R. I. Sujith (AE) | <ul style="list-style-type: none">• Hans Fischer Senior Fellowship, Institute of Advanced Study, Technische Universität München |
| Dr. Archita Patnaik (CY) | <ul style="list-style-type: none">• Fulbright Nehru Senior Research Fellowship, USA |
| Dr. Appa Rao (CE) | <ul style="list-style-type: none">• Alexander Von Humboldt Fellowship |
| Dr. Shanthi Pavan (EE) | <ul style="list-style-type: none">• Swamajayanthi Fellowship, DST |
| Dr. Nilesh J. Vasa (ED) | <ul style="list-style-type: none">• JASSO Follow-up Research Fellowship, Kyushu University, Japan |
| Dr. Aysha Iqbal (HS) | <ul style="list-style-type: none">• Canadian Faculty Enrichment Fellowship, Shastri Indo-Canadian Institute |
| Dr. C. Rajendran (MS) | <ul style="list-style-type: none">• Alexander Von Humboldt Fellowship |
| Dr. M. Thenmozhi (MS) | <ul style="list-style-type: none">• Erasmus Mundus Award, European Commission |
| Dr. A. Thillai Rajan (MS) | <ul style="list-style-type: none">• Fulbright Nehru Fellowship, Harvard University, USA |
| Dr. S. Ponnusamy (MA) | <ul style="list-style-type: none">• TWAS-UNESCO Associateship, Hanoi Institute of Mathematics Hanoi, Vietnam |

- Dr. R. Usha (MA)
 - Royal Society India – US Science Network Scheme Fellowship, Royal Society, UK
- Dr. A. Seshadri Sekhar (ME)
 - Alexander Von Humboldt Fellowship
- Dr. K. Prasada Rao (MM)
 - Honorary Fellow, Indian Welding Society
- Dr. V. Subramanya Sarma (MM)
 - Indo US Science and Technology Forum Research Fellowship
- Dr. P. Shanmugam (OE)
 - Inod-US Science and Technology Forum Research Fellowship

Membership of the Editorial Boards

- Dr. K. B. Ramachandran (BT)
 - Member, Editorial Board, Bioresource Technology, Elsevier
- Dr. Rama S. Verma (BT)
 - Associate Editor, Bioinformation
- Dr. Shankar Narasimhan (CH)
 - Editor, International Journal on Advances in Engineering Sciences and Applied Mathematics, Springer
- Dr. Dilip Kumar Chand (CY)
 - Member, Open Catalysis Journal
- Dr. D. Loganathan (CY)
 - Member, Open Glycoscience
- Dr. K. P. Sudeer (CE)
 - Associate Editor, ASCE Journal of Hydrologic Engineering
- Dr. Krishna Moorthy Sivalingam (CS)
 - Member, Editorial Board, ACM Wireless Networks Journal
 - Member, Editorial Board, Elsevier Optical Switching and Networking Journal
 - Member, Editorial Board, InderScience International Journal of Security and Networks
 - Member, Editorial Board, Journal on Ad Hoc and Sensor Wireless Networks
- Dr. B. Srikrishna (EE)
 - Member, Editorial Board, IEEE Transactions on Wireless Communications
- Dr. Shanthi Pavan (EE)
 - IEEE Transactions on Circuits and Systems
- Dr. T. S. Sampath Kumar (MM)
 - Member, Editorial Board Journal of Chinese Clinical Medicine
- Dr. Rajiv Sharma (OE)
 - Assistant Editor, International Journal of CAD/CAM
- Dr. V. Sundar (OE)
 - Member, Editorial Board, Indian Society of Hydraulics Journal
- Dr. Harish Chandra (LIB)
 - Member, Editorial Board, IIST Journal of Library and Information Sciences, Intellectual Society for Socio-Techno Welfare

Books

- Dr. Sayan Gupta (AM)
Dr. C. S. Manohar
 - Stochastic Dynamic Stiffness Matrix Method : Vibration Analysis of Structures Built up of Curved and Straight Beams, Lambert Academic Publishing
- Dr. C. Siva Ram Murthy (CS)
Dr. T. Venkatesh, IIT Guwahati
 - An Analytical Approach to Optical Burst Switched Networks, Springer, USA
- Dr. Anjan Chakravorty (EE)
Michael Schroter
 - Compact Hierarchical Bipolar Transistor Modelling with HICUM, World Scientific
- Dr. Aysha Viswamohan (HS)
Dr. Shreesh Chaudhary (HS)
 - English for Nurses, Tata McGraw Hill
 - English for the World – IELTS Writing and Speaking Modules, Macmillan
- Dr. G. Srinivasan (MS)
 - Quantitative Models in Operations and Supply Chain Management, Prentice Hall

- | | |
|-------------------------------|--|
| Dr. S. Ponnusamy (MA) | • Foundations of Mathematical Analysis, Springer |
| Dr. R. Rama (MA) | • Introduction to formal languages, Automata Theory and Computation, Pearson Education |
| Dr. Kamala Krithivasan | • Large Time Asymptotics for Solutions of Nonlinear Partial Differential Equations, Springer |
| Dr. Ch. Srinivasa Rao (MA) | • An Introduction to Families, Deformations and Moduli, Universitatsdrucke Gottingen |
| P. L. Sachdev | • Internal Combustion Engines, Tata McGraw Hill |
| Dr. T. K. Venkata Balaji (MA) | • Fundamentals of Heat and Mass Transfer, Narosa Publishing House Ltd. |
| Dr. V. Ganesan (ME) | • Mechanical Engineering Design (in SI Units), Tata McGraw Hill |
| Dr. Sarit Kumar Das (ME) | • Rocket Propulsion, MacMillan |
| Dr. M. S. Shunmugam (ME) | • Vibration and Acoustics : Measurement and Signal Analysis, Tata McGraw-Hill |
| Dr. N. Sivaprasad | • Heat Transfer, Ane Books Pvt. Ltd. |
| Dr. S. Krishnamurthy | • Weldability of Metallic Materials, Springer |
| Dr. K. Ramamurthi (ME) | • Seismic design aids for nonlinear analysis of reinforced concrete structures, CRC Press |
| Dr. C. Sujatha (ME) | • Glossary of technical terms in Ocean Engineering in Tamil, NCBH |
| Dr. S. P. Venkatesan (ME) | |
| Dr. G. D. Janaki Ram (MM) | |
| Dr. S. Chandrasekaran (OE) | |
| Dr. SP. Subramanian (OE) | |

Best Paper / Thesis / Research Awards

- | | |
|---------------------------------|---|
| K. Hemalatha (AM) | • Best Paper Award, International Conference on Recent Trends in Information, Technology & Computing, 2010 |
| A. K. Jayanthi (AM) | • Best Paper Award, International Conference on Optics & Photonics, 2009 |
| V. M. Bindu (CE) | • Best Paper Award, Indian Society of Remote Sensing |
| Dr. Balaji Narasimhan | • Best Dissertation Award, Transportation Science and Logistics Society, San Diego |
| Dr. Gitakrishnan Ramadurai (CE) | • Best Paper Award, MIRC ASA |
| E. Rajasekar (CE) | • Bihar PWD Medal, Indian Road Congress |
| Dr. A. Ramachandraiah | • Bronze Medal, International Olympiad in Informatics |
| Srinivas S. Arkatkar (CE) | • Best Paper Award, Indian Geotechnical Society |
| Dr. V. Thamizh Arasan | • Darlington Award for Best Paper, IEEE Circuits and Systems Society |
| Prashant Vasudeven (CE) | • Best Paper Award, ASME 3rd International Conference on Energy Sustainability, 2009 |
| Dr. K. Purnandam (CE) | • Best Paper Award, 16th National Conference on Communication |
| Dr. K. Rajagopal | • The Marine Engineering Division Prize, Institution of Engineers for paper coauthored by R. Sharma and O P Sha |
| Dr. Shanthi Pavan (EE) | • Best Paper Award, International Conference on Systemics, Cybernetics and Informatics, Pentagram Research Centre (P) Limited |
| G. Mohan (ME) | • The Marine Engineering Division Prize for Research Paper, The Institution of Engineers (India), India |
| Dr. M. P. Maiya | • Best Paper Award, National Symposium for Materials Research Scholars, IIT Madras |
| Dr. S. Srinivasa Murthy | |
| M. R. Srikanth (CS) | |
| Dr. S. K. Bhattacharya (OE) | |
| Dr. Rajiv Sharma (OE) | |
| OP Sha | |
| Dr. Rajiv Sharma (OE) | |
| Muniswami naidu (PH) | |
| Dr. A. Subrahmanyam | |

- Mr. Bijoy M.D. (ME)
 - Dr. Shamit Bakshi
 - Dr. A. Ramesh
 - Mr. Ravikumar R. Gowda (CY)
 - Dr. Debashis Chakraborty
- A Device for direct injection of gasoline into a combustion system
 - A method of synthesis of polymers and copolymers

Patents Filed

- Dr. T. S. Sampath Kumar (MT)
 - Dr. S. Ramaprabhu (PH)
 - Dr. R. Gnanamoorthy (ME)
- A composition containing nanophase calcium deficient hydroxyapatite with MG, SR and SI synthesized from egg shell by microwave processing
 - Carbon Nanotubes and their synthesis
 - A Method and apparatus for carrying out oil jet peening

Patents Granted

- Dr. Prem B Bisht (PH)
 - Dr. G K Suraishkumar (BT)
 - Dr. S. Kumaraswamy (ME)
 - Dr. T Pradeep (CY)
 - Dr. S Sankararaman (CY)
 - Dr. T S Sampath Kumar (MT)
 - Dr. V Jayashankar (EE)
- A method of detecting the change in concentration of an organic dye in a sample
 - A bioreactor for plant shootculture
 - An axial flow impeller with twistless or single curvature shape vanes or blades, particularly, though not exclusively for axial flow turbomachines
 - Manufacture of single walled carbon nanotubes providing visible emission for imaging of nanostructures
 - An improved single stage procedure for the synthesis of cross-linked polyallylamine hydrochloride
 - Boron Carbide Powder and A Method of Manufacture thereof
 - A combined capacitive and electromagnetic voltage transformer

5. INDUSTRIAL CONSULTANCY AND SPONSORED RESEARCH

Industrial consultancy not only provides technological solutions towards industrial development, but also brings a sense of relevance to the teaching-learning processes. Sponsored research is an important part of IITM's activities. Since 1973, we have maintained a steady and sustained growth in our interaction with industry and other agencies, both in terms of the number and value of sponsored research and consultancy projects. The number of active sponsored projects during the year is 165 for a total value of 953 million including 32 international projects for a value of 156 million and 4 Industry projects for 4 million. Of these were 20 large projects of value exceeding 10 million each, some of which are listed here:

- NPTEL Phase II funded by MHRD for 96 crores
- Centres of Excellence in the areas of Urban transport and Decentralised Waste Water Management and PPP funded by the Ministry of Urban Development for 8.4 and 3.8 crores respectively.
- Studies on hydrogen storage in carbon materials funded by the Ministry of Non-Renewable Energy Sources for 5.82 crores
- Advanced Traveler Information System for Indian cities funded by the Centre for Development of Advance Computing, Trivandrum for 3.85 crores

The number of active consultancy projects during the year is 557, for a total value of 303 million including 61 Research Based Industrial Consultancy projects for 111 million. 23 faculty members have been retained as consultants in various industries at a cost of 5 million. Industrial consultancy not only provides technological solutions towards industrial development, but also brings a sense of relevance to the teaching-learning processes. 324 faculty members are currently involved in sponsored research and consultancy projects.

The ISRO-IITM Space Technology Cell renewed 16 projects and sanctioned 6 new projects during this year. Under the IGCAR-IITM Cell, 6 new projects have been initiated and 8 projects were continued. Joint monitoring and regular technical review of projects have made the cell concept a success and model for other agencies sponsoring R & D.

The Industrial Associateship Scheme fostering close interaction with industry has 236 members this year. Two Technology Appreciation programmes were conducted during the year for the benefit of the Industrial Associate Members.

We have signed 25 Memoranda of Understanding during the year under review with industries such as Ericsson AB, Sweden; Tata Chemicals Ltd., Mumbai; Nissan Motor Co. Ltd., Japan; Renault Nissan Technology & Business Centre India Pvt. Ltd.; Tata Steel Limited; Carl Zeiss, Germany.

Nine new Innovative Student Projects have been taken up during 2009-10 for 14.55 lakhs

The Centre publishes Quarterly Reports of the activities of the Institute in an attractive format under the banner of *IIT Madras News*, in addition to the release of regular newsletters. A CD has been prepared highlighting the several facilities and activities of the Institute.

RESEARCH PARK

One of the key milestones last year has been the commencement of operations of IIT Madras Research Park, which is India's first University driven research park. Thirty four companies have signed up with the Research Park, out of which seventeen have already started functioning from their new facility. The 85-room transit accommodation from Ginger of the Tata group is ready for occupation and the Research Park is quickly becoming a sought after networking location with several events being hosted there. The companies are from a diverse set of sectors like engineering and design, energy and fuel, embedded devices, financial services, IT, telecom, shipping, power, automotive sector and social enterprise. A whole array of research areas have been identified by various companies and these include power storage, transmission and management, alternative sources of energy, efficient hydrogen generation technology for fuel cell systems, sensor based networks, semantic web, text mining, green services, cloud computing, web and virtual reality based applications and technologies in the authentication and transactional security space. In the telecom domain, joint research is planned to develop 'greenfield architectures', integrating sensors and mobile applications for health care and energy management, etc. Incubation has also received a significant impetus, with several faculty members getting actively associated with some interesting start-ups.

6. CONTINUING EDUCATION

The Centre for Continuing Education (CCE) has been very active in promoting activities for the benefit of working professionals in industries and faculty members of other technical institutions. During the year, our faculty members organized several courses / training programmes: 13 under the Quality Improvement Programme and 61 under Continuing Education which benefited about 2000 participants. The CCE generated a revenue of 127.06 Lakhs.

Under the Book Writing Scheme, 51 books have been published by our faculty. Additionally, under the Golden Jubilee Book Writing Scheme, 23 text books, including one e-book have been published of which 11 have been published in the year under review.

The Educational Technology Cell established provides faculty expertise and resources of IIT Madras to students of educational institutions and to industrial and R&D organizations across the country through two digital TV studios of broadcast quality. The web studio equipped with state of the art equipment available in a class room atmosphere assists the faculty in the creation of electronic course contents, lectures etc. All NPTEL video and web courses by faculty are recorded and edited here. NPTEL and a few other departmental conference websites are also created here.

Extramural lectures, special lecture, events and other recordings of importance have been periodically web hosted through CCE website. Exclusive video production for CD Cell funded by AICTE has been produced and a few are in planning stages of production.

7. OUR CONTRIBUTIONS TO THE NATIONAL S&T EDUCATIONAL SYSTEM

IITM plays a lead role in providing guidance and assistance to the other engineering institutions in the country. Deputation to the academic programmes of the institute viz., M.Tech & Ph.D facilitates career development of the faculty of AICTE approved technical institutions in the country. Under Quality Improvement Programme (QIP), 464 faculty from other institutions have obtained their Ph.D degrees and 546 faculty from other institutions have obtained their M.Tech degrees from IITM since its inception. Currently we have a total of 76 QIP Scholars – 66 Ph.D & 10 M.Tech which includes 13 women in Ph.D and 5 in M.Tech in the Institute.

Phase I of the National Program on Technology enhanced Learning (NPTEL) funded by MHRD, was a pioneering joint initiative of 7 IITs and IISc, coordinated by IITM, for developing 120 video based courses and 129 web based courses. Both the web and video course contents are freely available through our website at <http://nptel.iitm.ac.in> and through the YouTube at <http://www.youtube.com/iit>. For the benefit of students and faculty, web and video-based courses are being distributed to Government and Private Engineering institutions & Polytechnics and video-based courses are being distributed to individuals for a nominal fee. The video courses are currently telecast through the Eklavya channel made available by MHRD exclusively for this purpose.

Under NPTEL phase II, preparations are underway for the creation of 900 additional under graduate level and 100 additional post graduate level web and video courses in all major branches of engineering, physical sciences, humanities, social sciences and management with possible online certification programs.

IITM's Summer Fellowship Scheme, initiated a few years ago, provides opportunities for summer training to top-ranking engineering and science students all over the country; 173 students participated in the programme this year.

8. INTERNATIONAL COLLABORATION

IITM has been interacting with several international organizations for collaborative research, exchange of faculty and students, etc. During the year, we have signed MoUs with international universities in Australia, Canada, Czech Republic, France, Germany, Ireland, Israel, Japan, Korea, Netherlands, Singapore Spain, Taiwan and UK. So far IITM has signed 160 MoUs with international universities. We have also signed 10 MoUs with international companies and research laboratories for collaborative R & D.

During the summer, as many as 132 faculty members from the Institute visited universities and research laboratories abroad for collaborative research, participation in conferences, visiting assignments, lectures, consultancy, etc.

Over the past few years, the Institute has created several opportunities for international student exchange. The Indo-German Agreement between the seven IITs and seven Technical Universities in Germany continues to promote such an exchange and we have deputed 7 M.Tech. and 1 M.S. scholar to undertake their project / thesis work in these German Universities last year. We have also received 14 students from Germany to undertake their projects in our research laboratories. Under the DAAD sponsored IITM-Bremen Student Exchange programme, 3 MA students will visit the University of Bremen for a semester. Under the MoU with EPFL, 4 students from EPFL did their course work in IITM. Under the student exchange programme, 8 B.Tech/ DD students visited NTU and NUS. This year as many as 36 foreign casual students from various countries have visited us for course / project work.

9. HUMAN RESOURCES TRAINING

Systematic efforts are made to train our technical and administrative staff to help them upgrade and acquire new knowledge, skills and professional orientation through a variety of learning experiences. During 2009-2010, 54 in-house training programmes (Hospital 16, Security 13, Engg. Unit 6, Admin. 10 and Gen. HRD 9) were conducted for the benefit of faculty, staff, students and members of our campus community. In addition 19 external training programmes (Hospital 2, Engg. Unit 12, and

A three-day Faculty Development Programme was organized by the Centre for Continuing Education during 07-09 December 2009 for 32 young faculty of the Institute. Three educational technology experts from the Centre for Teaching Excellence, Texas A & M University, USA were the resource persons. The participating faculty were trained in the state-of-the-art teaching methodologies, outcome process, minute-papers, student assessment methods, cooperative and interactive learning methods, joint student projects, student group sittings and other teaching techniques which enhance the effectiveness of teaching-learning process. Though CCE plans to conduct similar programmes in the future, an in-house core group of "trainers" from among the present participants will be identified for establishing a Teaching-Learning Unit in the Institute.

10. OUR QUALITY INITIATIVES

We are setting up Review Committees for the various departments of our Institute, on the lines of the best practices obtaining at leading institutions world-wide. Over the last few years, eight Departments (AE, AM, CH, CY, CE, CS, HS, & ME) have been reviewed and the Review Committees have provided us with valuable inputs.

The next Strategic Plan, Vision 2020, will be launched by October 2010. International Organization for Standardisation (ISO) is a world-wide federation that certifies the operation and existence of a Quality Management System, and ISO 9001:2000 is an international standard for quality systems. IIT Madras was awarded ISO-9001:2000 certification for academic and support processes (QSM-I: Academic Section, Central Library, Central Workshop, Computer Center and Industrial Consultancy & Sponsored Research, and User-Oriented Programmes) since 1999 and for administrative support processes (QSM-II: Administration, Central Electronic Centre, Engineering Unit, Finance & Accounts, Security Section, and Stores & Purchase) since 2001. In the year 2010, all the academic and support units of IIT Madras have been certified as per the new ISO standard ISO 9001:2008. The certificate is valid until August 2011 for QSM-I and January 2011 for QSM-II. In addition to ISO 9001:2008 certification, the Central Electronic Centre is NABL-accredited for its Testing and Calibration Laboratories since 2004.

11. INFRASTRUCTURE DEVELOPMENT & BIODIVERSITY MANAGEMENT

Keeping in view the massive expansion work required to cater to the recent GoI mandate to increase the students-strength, a professional architectural consultant, M/s. Stup Consultants, has been appointed to prepare a detailed Master Plan of the campus earmarking areas for development in the hostel zone, academic zone and residential zone. The Master Plan will also include the infrastructure necessary, such as, road networking, bicycle tracks, water supply, drainage and sewage yards, electrical lines, etc. to meet the future requirements. The master plan is expected to be ready by August, 2010 and some of the new structures proposed in the plan will be taken up by end of 2010.

The campus has undertaken extensive construction works that includes increased accommodation (1000 boys and 150 girls) in the existing hostels. A new sports complex with two squash courts, a synthetic table tennis room and a meditation hall has been constructed. In the residential zone, 96 C2 type quarters for faculty have been completed and 60 G type quarters for research scholars is nearing completion. The tennis courts have been revamped with synthetic flooring and basket ball courts with improved flooring.

The following constructions will be undertaken soon. A new auditorium with 1000 seats and related infrastructure, new hostel buildings for 800 boys and 540 girls, additional 1000 seats in the existing mega mess (Himalaya), modifying the Open Air Theatre with wider entrances and better flooring, new residential blocks to accommodate new faculty and staff, a new shopping centre and a new community hall. A new academic complex has been planned by replacing old dilapidated or less utilized buildings in the academic zone. The first block with about 1,50,000 sq.ft. space has been designed as a still plus 6 floor structure and will be constructed soon to accommodate additional faculty, class rooms and laboratory requirements of various departments.

In the academic zone, face-lifting of the 4 old academic buildings, viz., Building Science Block, Electrical Science Block, Humanities Science Block and Mechanical Science Block, is in progress. The newly constructed Engineering Design Building has added one more floor to accommodate more faculty and class rooms. The capacity of Kendriya Vidhyalaya has been enhanced by providing a new primary section. Similar expansion for Vana Vani is under construction.

All the new buildings on the Campus will have the features of Green Buildings. The planning and construction ensures the compliance of all the requirements of Green Building and energy efficiency. Architects have been informed to provide maximum natural ventilation, energy efficient building materials such as Aerocon blocks, fly ash bricks, reflective paint on the roof, glass window for natural light, etc.

Though above features do increase the construction cost, the same has been adopted with a view to reduce the energy consumption. Instead of conventional lights, energy efficient lights such as LED lights, T5 lights have been adopted in offices, corridors, auditorium, street lights, etc.

Solar Water Heating System has been installed in Taramani Guest House, Institute Hospital and it is planned to install the same in more buildings. Smoke Detection Devices have been installed in some buildings, such as, Administration Building, IC&SR building, Engineering Design Building and the same is extended to other buildings. The Fire Fighting System in the Campus is being improved. The Central Library building, Students Activities Centre and Administration building have been provided with new fire fighting system and similar arrangement is planned for the other buildings.

The extensive construction activities initiated on the campus are being carried out with very little increase in the footprint area within covered enclosures to minimize disturbance to the wildlife on campus. A report on Biodiversity in our campus prepared three years ago by experts guides us in our efforts to maintain our ecosystem. The blackbuck is amongst the most sensitive animals on our campus. We have fortunately been able to more than arrest the decline in its number, and have actually seen an increase from 13 to 22 in the last four years. We are cautiously clearing some of the areas invaded by prosopis juliflora to create open grass and shrub-land suitable for blackbuck, as well as corridors for their movement. We have brought out two pocket guides of flora & fauna on the campus through the efforts of Care Earth.

The Computer Centre has upgraded the hardware / software used, and internet bandwidth to 90 Mbps, so as to provide better internet / intranet services. HPC clusters established a year ago adequately meet all computational requirements. The Computer Centre is currently assisting in the workflow initiatives for different administrative sections of the Institute.

The Sophisticated Analytical Instrument Facility (SAIF) provides state-of-the-art instrumentation for analysis in various areas like spectrometry, crystallography, imaging, magnetometry, thermal analysis etc. to academic and industrial users across the country for reasonable charges

The Institute hospital is a primary health centre that caters to the basic medical needs of the Institute community. A digital X-ray unit with doppler ultrasound facility is a recent addition to the already available investigatory support in radiology and clinical pathology.

The Central library is well equipped with all modern facilities and rich information resources in the forms of CD-ROMs, e-journals, e-books, e-standards, e-patents, on line access to journals apart from printed information materials.

12. STUDENT CO-CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

The academic year 2009-10 has been remarkable one for the students sector. The co- and extra-curricular activities continued with great enthusiasm and eminent personalities from all walks of life addressed our students in different forums. Several new initiatives were launched for the welfare of the students.

Extra Mural Lecture series

The Extra Mural Lectures Series (EML) continued to be highly regarded popular event in the IIT Madras calendar. These lectures are meant to broaden the students intellectual performance on world issues. They also instill in them the passion to tackle issues effectively with a genuine commitment to social change. This academic year the EML Team of IIT M under the patronage of the Dean (Students) brought 12 speakers of national and international repute. From Former Reserve Bank of India Governor Dr.Y.V.Reddy to Chairman of the third largest Automakers in the world Mr.Carlos Ghosn, EML team had a range of speakers from diverse fields. Some of the prominent ones include Dr Kiran Bedi, Former IPS, Mr Boman Irani (popular Bollywood theatre personality). Topics ranging from "Energy from fusion and combating nuclear terrorism" to "Grim realities and dark consequences of human trafficking in India" have created a wave of social awareness among the campus community. Dr.Sunitha Krishnan, one of our Extra Mural Lecturers, enthused our students to name Prajwala, the NGO run by her, as one of the beneficiaries of the Saarang Choreo Nite Fund.

Sustainability network

One of the important initiatives of the academic year was the formation of the Sustainability Network by our students with the support of our alumni with the aim of working towards development and deployment of solutions for making our campus sustainable.

A student study of the electricity consumption pattern in the campus showed that hostels and departments account for 17% and 40% of the total electricity consumption in the campus regularly. Hostels with high consumption levels were identified. A structure for an inter-hostel energy savings competition was arrived at after consulting with Technical Affairs Secretaries of various hostels. A project team has been formed with the view of developing technological solutions for sustainable energy consumption. The team will make use of infrastructure provided in Centre for Innovation.

SHAASTRA

Shaastra 2009 was successfully conducted in the month of October and was awarded ISO 9001: 2008 certification for its planning, inception and execution. Extensive financial optimization for the smooth and self-sufficient running of Shaastra 2009 bears testimony to the organisational skills of the 1000 strong Shaastra Team.

The highlight of Shaastra was the Aerofest with over 3000 people attending the air-show and Shaastra Car, a combo vehicle for bike and car, made from scratch in 4 days.

A three day International Symposium on Sustainable Development was hosted, with three tracks : Energy, Finance and Urbanization. The Symposium had participation from all around the world. They were guided by field-specific mentors and world-renowned experts from organizations such as the World Bank and TERI amongst others.

Shaastra aimed to promote cycling as an alternative means of transportation, and encouraged people to use cycles between the Institute's Main Gate and the Gajendra Circle rather than the bus during the festival. Also efforts were made to extensively reuse paper during the festival.

Centre for Innovation

This year, the Centre for Innovation (CFI) was marked by many successful student projects. CFI provided Mr. Carlos Ghosn a special welcome by flying one of its Aerial vehicles with a greetings banner.

Last year (2009), a team from IIT Madras participated in the Aerial Robotics Competition organized by DRDO and secured second position among all the colleges that participated throughout India. This year (2010) a team of four students from IIT Madras were selected for stage II of the Student Robot Competition: Autonomous Ground Vehicle for Low Intensity Conflict being organized by DRDO. IIT Madras has entered stage II of the competition by securing a place among the top 14 colleges out of the 240 participant colleges. The team is well underway to building a robust, practical solution to the problem set by DRDO.

IIT Madras was invited to participate in the ACMEE Industrial exhibition held in Chennai Trade Centre from July 16th to 21st. CFI has displayed some of its previous and ongoing projects for which it was awarded best student stall award.

This time, a team from CFI will participate in the International Aerial robotics competition to be held in Puerto Rico. This team of eight people working for one and a half year in the field of Aerial robotics has done considerable work in this niche area.

Spirit of Engineering (SoE) Projects

As in earlier years, we had many innovative student projects. An important change in the composition of project teams as compared to the previous years is the visible increase of the number of senior students involved. The following are some of the projects undertaken this year

- Accident Prevention System to provide premature solutions for reducing some of the most common accidents.

- Robofish, an underwater vehicle which mimics the structure and locomotion of a fish.
- CNC foam cutter with a CAD diagram as input and a cut piece as output.
- Rep rap, the replicating rapid prototyping machine which can create CAD models in plastic.
- BEAM snake, a bio-mimetic snake robot which uses shape memory alloys for locomotion.
- Human hand hoping to make a fully developed human arm which can be used for variety of purposes.

Apart from this, the Robotics club and Aero Club of CFI have conducted summer schools for students who are interested in learning basics of Robotics and Aero-modeling.

SAARANG 2010

The 2010 edition of Saarang was inaugurated by Padma Sree Balamuralikrishna on the 21st of January this year. It was followed by five entertaining professional shows, the highlights being the performance of Shankar Mahadevan and the world music festival featuring bands from across the globe spreading over genres like electric rock, French music and popular rock.

Saarang had its usual roster of events with participation from all over the country. The first was graced by lectures by eminent personalities like Dr. Kamal Hassan, Mr. Gautam Menon and Dr. Arun Shourie. Saarang also collaborated with several NGOs this year as part of an effort to give back something to the society. The funds collected through the ticket sales of Choreo Nite, an inter-collegiate dance competition were distributed to various needy NGOs and organizations. A few cultural clubs were initiated this year to nurture talent among the students.

Sports activities

SportsFest 2009 and GF & KR basketball tournament 2010 were conducted successfully with corporate sponsorship for the first time.

The 45th Inter-IIT sports meet was held at IIT Kanpur from Dec 11th to 18th. While the men contingent finished a disappointing 5th in the overall general championship points tally, the women contingent won the general championship convincingly.

Terry Fox Runs are held all over the world to raise awareness and funds for cancer research. The Sports organising committee of IIT Madras played a central role in the organisation of the first ever Terry fox run held in Chennai in August 2009. A total of 1300 people participated in the run and the whole campaign raised 15 lakhs which was donated to the Tata Memorial Cancer Research Institute in Mumbai.

Hostel Affairs

Pre paid Swipe cards were introduced in messes replacing the coupon system. Efforts are being made to use these cards for other day to day transactions in the campus. A new fruit shop and photocopying facilities were added in the student sector. During September-October 2009, Andhra Pradesh and Karnataka suffered from one of the worst floods in last 100 years. A total of

2.76 lakhs was collected with the help of NSS volunteers and sent to the Chief Minister's Relief Funds of the respective states.

Placements

The placement scenario this year showed definite signs of improvement compared to the recession hit season last year. Over 200 companies recruited on campus with an increase in the average pay package from a little below 6 lakhs p.a last year to 6.9 lakhs p.a. this season. Over 60% of the students were recruited for core companies with Public Sector Enterprises recruiting over 80 students. A start-up weekend was also organized where alumni of the campus who have now become entrepreneurs visited us for recruitment.

Students Affairs Council

The Fifth Estate, the online segment of The Fourth Estate student magazine, was started this year. The Fifth Estate provides the latest on-campus buzz and also a student forum. The number of The Fourth Estate magazine published this year also saw an increase, providing better accessibility to the readers and a greater reach for the contributors of the magazine.

Guidance and Counseling Unit (GCU)

The GCU is a group of faculty and students offering help to students in distress on various issues faced during their stay in campus. Students can freely approach any member of the unit for guidance if they face specific difficulties or hardships. These may relate to academic, emotional or financial problems faced by students. Professional help is arranged for students having deeper problems.

The GCU was very active this year, starting with welcome and orientation for freshers. Informal lectures by Professors at hostel level were organized and it was ensured that there were no undesirable cases related to Junior-Senior interactions.

Reflections

REFLECTIONS, is a forum involving students and faculty, with the main objective of enabling character building and well-being through reflection and self-awareness. During the last year, Reflections conducted several lecture-cum-discussion sessions led by eminent thinkers. An issue of the 'Reflections' magazine, with inspiring articles, was also released in April 2010.

C-TIDES

The cell for technology, innovation, development and entrepreneurship support, commonly known as C-TIDES continues to promote student-led entrepreneurship among our students. An international summit on entrepreneurship is being organised by C-TIDES with around 40 students participating from all over Asia-Pacific and the USA. In addition the cell also supports the Department of Management Studies in running a first-of-its-kind venture fund: MS&ME venture fund, which has been started by the institute with the government's support to fund and incubate worthy companies from the campus. This year will see the fifth edition of Genesis, an international business plan competition that seeks to encourage business ideas which are likely to impact society. The competition has also been acknowledged in a Georgetown University study as one of the top social entrepreneurship based competitions globally.

A simple parameter to gauge the entrepreneurial nature of our students is the number of companies under incubation. The number which has been climbing steadily rose to 8 start-ups last year, with a dozen more just waiting for review. Exciting times lie ahead for student entrepreneurs and IIT Madras pledges to lead the way.

Student Achievements

- IIT Madras became the first IIT to represent India at the International Robocon held in Tokyo in 2009. In the recently concluded Robocon 2010 nationals our student team reached the quarter final stage.
- A team of our students represented the institute in the finals of the University of San Francisco Business plan competition. IIT Madras was placed "runners-up" at the Clean tech track of the competition that featured teams from John Hopkins, Cornell and Carnegie Mellon.
- Our student team participated in the prestigious Nanyang Technological University Model United Nations 2010 held at Singapore between Feb 5th & 7th, 2010. Our team together with student delegates from Turkey, Mexico and Columbia sponsored two of the major resolutions which were passed in the Council.
- Three of our students along with two alumni won the New York City Economic Development Corporation's Next Idea 2009 Contest competing with engineering and business schools from across the globe. Their idea of energy storage in Smart Grids won the first prize of \$20,000 and received an offer to set up their company in New York City.

13. SOCIALLY RELEVANT ACTIVITIES

IITM has initiated activities of social relevance in keeping with its vision of being in dynamic equilibrium with the social environment.

SOCIALLY RELEVANT PROJECTS is an initiative started by IITM back in the year 2003, for exploring ways of helping address, through technology intervention, social problems posed by an NGO or a Governmental Agency or concerned citizens. These projects are undertaken by the faculty members of I.I.T Madras, with assistance from the students and supporting staff.

Some of these projects are supported by alumni. During the year 2009-2010, two projects were successfully completed. One under the aegis of the Ramachandran Jaikumar Project for Rural Technologies for development of water quality test kits and another sponsored by the 1967 batch alumni of IIT Madras on an easy to operate and maintain reactor for biogas generation from non-edible oil-seed cakes. The Class of 1981 of the IIT Madras Alumni has allocated

30 lakhs for Socially Responsible Projects that would leverage the strengths of IIT Madras to improve social conditions in India: eight projects have been taken up and a few completed. The projects involved facilitation of cognitive development in infants with motor impairments; development of adjustable braces for children affected by polio, keyboard to meet the special needs of individuals with cerebral palsy, cableway for post-harvest resource collection, micro-hydro power unit with savonius rotor based water turbine and a desalination unit for water purification through solar energy; a payer targeted approach model for improving the efficiency of healthcare spending by the government and making information accessible to the visually impaired by providing information through voice.

IIT Madras is a centre for the Rural Technology Action Group (RuTAG), a project initiated by our Chairman, BoG as the Principal Scientific Advisor to the Government of India. Started in June 2004, RuTAG is aimed at identifying technology gaps and improving these for the benefit of rural India. In the year under review 8 projects were completed and 17 projects were continued. Some of the significant interventions made are: preparation of database and a web site on rural technologies to bridge information gap on technologies; trial run of coir spinning machines at Alleppey for close to 1 year; manufacture of low bed tractor trailer at Karur; introduction of pinn winding machine in the market in large numbers; Development of 500 W wind mill for Leh and 3 KW micro hydel generator for Uttarakhand; training programme for blind women conducted at Rehabilitation Centre for Blind Women, Trichy ; unused Solar Panels (3.6kW) being put to use fully at Amar Seva Sangam, Tenkasi; streamlining the running of the biogas plant in IIT Madras.

LEMELSON RECOGNITION AND MENTORING PROGRAMME (L-RAMP) is a programme that recognizes and incubates innovations which positively impact the rural poor. It offers innovators comprehensive, one-stop technical and business incubation services (e.g., interest-free loans), to prepare their innovations for the commercial market. L-RAMP provides seed funds, mentoring, recognition and networking to innovators. In 2009, L-RAMP became a complete program within Villgro with a director representing IITM on the Board of Villgro. IITM is collaborating with Villgro to run a course on "Innovation & Social Entrepreneurship" as a minor to 30 students of IITM.

L-RAMP is logically divided into two working groups: Innovation ecosystem and Incubation. The former group will focus on reaching out to innovators and on the medium through which to reach them. The Incubation team will focus on screening and incubating innovations. The innovation ecosystem was vitalized by conducting 57 My Idea programs for capacity building of incubatees and students. The annual Villgro Awards program continues to recognize outstanding innovators.

During 2009-10, 14 projects were incubated. Some of them are: a process innovation that links rural handicraft artisans to urban markets through a remote outsourcing model; an innovative business process outsourcing model, where urban consumers outsource back-end support work to rural centres; rural placement services; an improved energy-saving design of a pulveriser that allows the grinding of oily material like coriander and chillies, as well as cereals; an improved silk yarn reeling machine; a low-cost, prefabricated, modular house made of bamboo; production of bamboo/jute based product for steel industry; advanced weather monitoring station; biomass cooking stove; a low cost, easy-to-use, portable device to check the purity of drinking water; and a low-cost, easy-to-maintain baby warmer. A few innovations have already been taken to the rural market, and three innovations, viz., pin pulverizer, ROPE and Desicrew have started commercialization.

IITM has launched three projects with the participation of the entire campus community with the Ladies Club taking the responsibility for their implementation. The ZERO WASTE ZONE (0WZone) project continues to do yeoman service to the cause of keeping the campus clean. It employs five self-help groups to collect the solid waste on campus on a daily basis and segregate it into organic and non-organic parts. The organic part is returned to the forest areas as manure while the non-organic part is further segregated into various disposable forms of solid waste. The latter is sold every month and the proceeds are distributed as incentive to the self-help groups themselves. The Ladies Club continues to operate "TECH KIDS", the Day Care Centre with trained personnel to cater to the needs of the children of working parents. As of now, about 80 campus children are enrolled in the center. The ATMA CHARITY WING (ACW) of the Ladies Club working with the support of the staff club and the IITM Alumni Charitable Trust conducts a ticketed charity show every year in order to raise funds in support of charitable organizations in the vicinity of Chennai. This annual fund-raiser receives voluntary support from faculty, staff, students and alumni. The chief beneficiaries from last year's fund raiser were Sri Matha Trust, Adyar; Gnana Deepam Special School, Pammal; Avvai Home & Orphanage, Adyar; VHS Diabetes Department, Taramani; Anbu Thondu Nilayam, Chengleput; Tribal Health initiative, Sittilingi, Dharmapuri Dist. and Prajwala, Hyderabad.

14. ALUMNI MATTERS

Our Institute has so far awarded over 33200 degrees, ranging from Ph.D. to B.Tech. The quality of education and training that our alumni had received as students of our Institute enabled them to graduate into professionally satisfying and successful careers, and they have distinguished themselves professionally. Many of them occupy top positions in India and abroad in Industry, Government and Academic. Since 1997, we are honouring selected alumni for their distinguished contribution to society, through Distinguished Alumnus Awards. The names of the awardees for this year (2010), announced on Republic Day 2010 are:

- Prof. V. Ramamurthy, Chair Professor, Department of Chemistry, University of Miami, USA [1968/M.Sc./CY]
- Prof. Subbarayan Pasupathy, Department of Electrical & Computer Engineering, University of Toronto, Ontario, Canada [1966/MT/EE]
- Prof. Suresh V. Garimella, R. Eugene and Susie E. Goodson Distinguished Professor, School of Mechanical Engineering, Purdue University [1985/BT/ME]
- Dr. P. Chellapandi, Outstanding Scientist and Director, Nuclear Engineering, IGCAR, Kalpakkam [1983/MT/AM & 1995/Ph.D./AM]
- Dr. Lalit Chordia, Founder President & CEO, Thar Technologies Inc., Pittsburgh, PA, USA [1980/BT/CH]
- Dr. P. Anandan, Managing Director, Microsoft Research India, Bangalore [1977/BT/EE]
- Shri R. Sri Kumar, Former Director General of Police, Kamataka, Bangalore [1970/BT/EE]

The alumni of all IITs have come together and formed PANIIT as an umbrella organization. PANIIT aims to provide networking opportunities for members of the IIT system and proactively contribute to nation building; in addition, it aims to enhance the engagement of alumni with governance of IITs. The annual PANIIT Conference held in India and the US during alternating years was held at Chicago, USA between October 9 and 11, 2009.

Alumni have been continuing to support the Institute through various initiatives including the students travel grant program, Divashri Algal Biofuel Project, Hostel Infrastructure, socially relevant projects and the cyclotron project. For alumni to further contribute to the growth of the Institute, the Golden Jubilee Alumni Fund drive was launched with a target of

100 crores. The Ruby reunion of the '69 batch, Silver reunion of the '84 batch and Pearl reunion of the '79 batch were held this year. The first annual Alumni Day was held on December 26, 2009 with about 700 alumni attending along with their families.

15. ACKNOWLEDGMENTS

For all the achievements and accomplishments enumerated in this report, several people and agencies are responsible - our faculty, students and staff; agencies and industries sponsoring R&D and consultancy projects; professionals from other organizations who have assisted our Institute in several of our endeavours; and our alumni. The Institute is grateful to the Ministry of Human Resource Development, Government of India, for its continued and sustained encouragement and support. Indeed creating such Centres of Excellence in Higher Education such as IITM is inconceivable without such enlightened support. I wish to thank Dr. R. Chidambaram, our visionary Chairman for his valuable guidance and encouragement throughout the year. We look forward to reaching new heights of achievement in all our endeavours with the continued and able guidance of our Board of Governors.



INDIAN INSTITUTE OF TECHNOLOGY MADRAS

MAJOR ACHIEVEMENTS

Annual Report 2009-10 and Developmental Activities till 31st August 2010

Following are some of the major achievements:

1. Courses:

The Institute offers Ph.D. programme in all the 16 departments, M.S. programme in 12 departments, M.Tech programme in 28 streams/ specialisations, M.Sc. programme in 3 branches, B.Tech programme in 10 branches, Dual degree (B.Tech and M.Tech) programme in 20 streams, Dual Degree (BS & MS) in Physics, M.B.A. programme and M.A. Integrated programme in 3 streams besides a preparatory course for SC/ST students during the year.

2. User Oriented Programme:

User oriented M.Tech programmes are currently offered in the Department of Civil Engineering, Mechanical Engineering & Ocean Engineering.

3. New Programmes Started:

Three new interdisciplinary M.Tech. programmes in Catalysis Technology, Nuclear Engineering, Petroleum Engineering and 5-year Dual Degree (BS & MS) have been introduced from August 2009. B.Tech. and Dual Degree (B.Tech & M.Tech) Honours introduced from this year.

4. Preparatory Course for SC/ST:

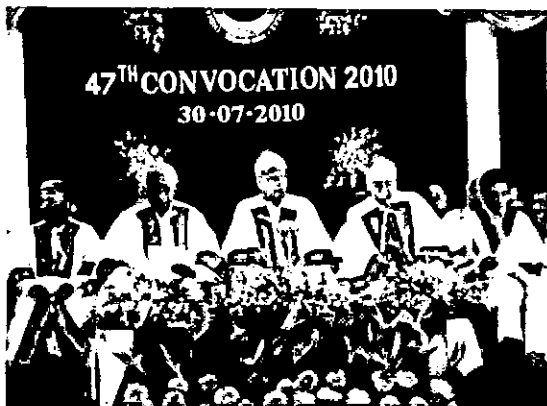
The Preparatory Course programme for weaker section students offers intensive coaching to eligible candidates to prepare them for entry into IITM on successful completion of this one-year programme. Accordingly, 24 ST & 2 PD candidates have been admitted in B.Tech & Dual Degree in 2010. At present, 1 ST and 5 PD candidates have been admitted in the Preparatory Course 2010.

5. Convocation:

The Details of programme-wise degrees awarded:

Ph.D – 3306 (173) : MS – 2440 (99) : M.Tech – 11403 (365) : M.Sc – 2551 (85) : MBA – 412 (63) : Dual Degree (B.Tech & M.Tech) – 910 (186) : B.Tech – 13262 (275) PGDMEM – 59(30).

Convocation 2010



So far 35518 degrees were awarded out of which 1462 degrees were awarded during 47th Convocation held on 30th July 2010.

() indicates of the degrees awarded in the present convocation.

6. Admission & Students on Roll:

1873 students (Inclusive of 155 Ph.D and 129 MS Scholars) have joined in various programmes in July 2010. As on 31-8-2010, 6234 students on roll [Foreign Nationals: 6, Women Students: 978 and QIP (Teachers from other Engineering Colleges): 96].

7. Research and Development:

IITM continues to be active in research during the year, 173 Ph.D thesis and 99 MS thesis were completed. Our faculty and research scholars have published 1012 research papers, (791) in refereed international journals and (221) in national journals and have presented 617 research papers, (415) in international conferences and (202) national conferences.

8. Patents:

2 patents have been filed in the year 2009-10 and 3 patents were granted.

9. Industrial Consultancy and Sponsored Research:

The number of active consultancy projects during the year 2009-10 was 557 for a total value of ₹ 303 million. The number of faculty members involved in consultancy projects is 152 and while 23 have been retained as consultants in various Industries. 165 sponsored projects for a total value to ₹ 953 millions were taken up by the Institute during 2009 -10. The ISRO-IITM Space Technology Cell renewed 16 projects and sanctioned 6 new projects. The Industrial Associateship Scheme fostering close interaction with 236 Industry members. During the period April to July 2010, 179 Consultancy Assignments and 37 Sponsored Projects were taken up with a total value of ₹ 1298.03 lakhs and ₹ 2236.46 lakhs respectively.

10. Centre for Continuing Education:

The Centre for Continuing Education (CCE) has been very active in promoting activities for the benefit of working professionals in industries and faculty members of other technical institutions. During the year, our faculty members organized several courses/training programmes: 13 under the Quality improvement programme and 61 under Continuing Education which benefited 2000 participants. The CCE generated revenue of ₹ 127.06 lakhs through its activities.

11. Quality Improvement Programme:

IITM plays a lead role in providing guidance and assistance to the other engineering intuitions in the country. Currently there are a total of 96 QIP scholars – 73 Ph.D & 23 M.Tech which includes 17 women in Ph.D and 10 in M.Tech in the Institute.

12. National Programme on Technology Enhanced Learning (NPTEL):

Phase I of the National Program on Technology Enhanced Learning (NPTEL), funded by MHRD, was a pioneering joint initiative of 7 IITs and IISc Bangalore in developing 120 video based courses and 129 web based courses. IIT Madras is the coordinating institute for this project. Both the web and video course contents are freely available to everyone through our website at: <http://nptel.iit.ac.in> and through the YouTube at: <http://www.youtube.com/iit>. For the benefit of students and faculty, web and video-based courses are being distributed to Government and Private Engineering Institutions & polytechnics and video - based courses are being distributed to Individuals for a nominal fee. The video courses are currently telecast through the Eklavya channel made available by MHRD exclusively for this purpose.

Under NPTEL phases II and III, preparations are underway for the creation of over 900 additional under graduate level and over 100 additional post graduate level web and video courses in all major branches of engineering, physical sciences, humanities, social sciences and management with possible online certification programs.

13. Golden Jubilee Book Writing:

Under the Book Writing Scheme, 51 books have been published by our faculty. Additionally, under the Golden Jubilee Book Writing Scheme, 23 text books, including one e-book have been published of which 11 have been published during the year.

Sports Complex

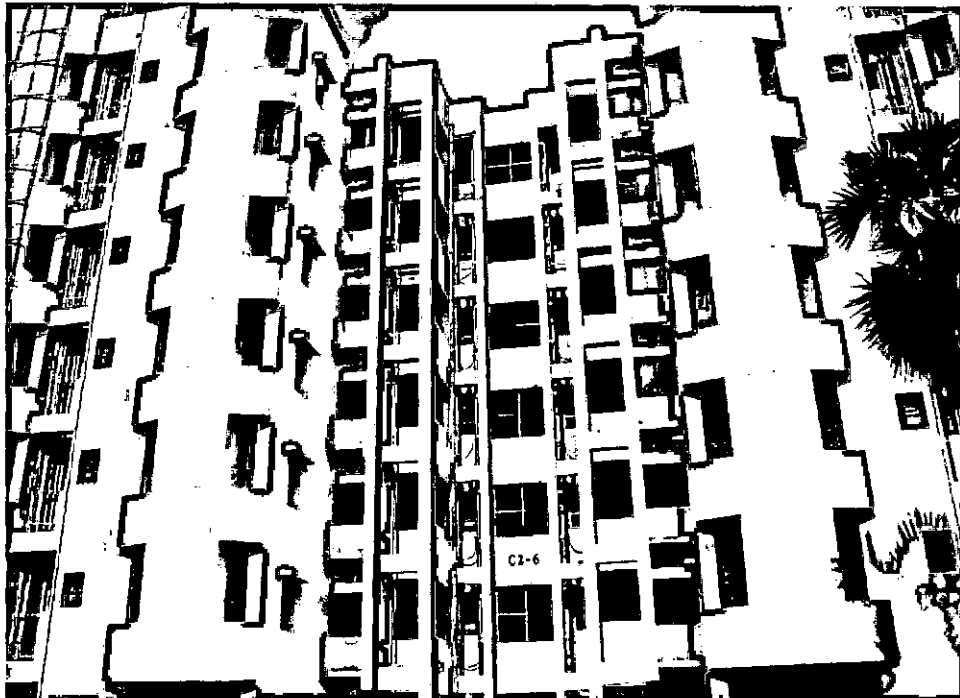
A new sports complex with facilities for indoor sports near the existing play fields is constructed to pave the way for the campus community to get access to various sports facilities in one place. The facilities created in the sports complex includes Table Tennis and weight lifting facilities at ground floor, Fitness centre for gents and ladies separately at first floor, Squash court, space for Chess and Caroms at



third floor and space for yoga and meditation at fourth floor. The total build up area of the building is 2400 sq.m and the total expenditure incurred for the work is Rs. 550 lakhs. The building has modern facilities like automated toilet fittings, fire fighting provisions and lift etc. Special care has been taken to make the building physically challenged friendly. The building is made energy efficient by large windows to get more natural lighting and ventilations.

New C2 type Quarters

The new C2 type quarters located opposite to Staff Club has four towers with 24 quarters in each and provides aesthetical appearance. A storm water drain running across the site is pitched with dry stone as a special feature with pipe culvert cross over. The structure is designed as an earthquake resistance building, considering seismic Zone-II. Each block is seven storied with a stilt floor of parking capacity of 24 four wheeler and four common area for two wheeler parking. All habitable spaces are provided with openings admitting natural light and cross ventilation.



2. ADMINISTRATION

2.1 General:

Indian Institute of Technology, Madras is an autonomous statutory Organisation functioning within the "Institutes of Technologies Act 1961, "as amended by "The Institute of Technology (Amendment Act, 1963)". The seven Institutes of Technology (others being at Mumbai, Kanpur, Kharagpur, Delhi, Guwahati and Roorkee) are administrated centrally by the Councils of IITs, an apex body established by the Government of India to co-ordinate the activities of these Institutes. The Minister for Human Resource Development, Government of India is the Chairperson of the Council. Each Institute of Technology has a Board of Governors responsible for the overall administration and control.

The Senate decides the academic policies of the Institute. It approves and controls curricula, courses, examinations and declaration of results. It appoints various Committees to look into specific academic matters arising from time to time. The teaching, training and research activities of various departments at the Institute are constantly under review to improve both facilities and standards. The Director of the Institute is the Chairman of the Senate. Members of the Senate are listed in the Appendix. Financial advice to the Institute is given by the Finance Committee. The Buildings and Works Committee advises the Institute on matters relating to buildings and works activities.

The compositions of the above Committees and Boards together with a list of other officers are also given in the Appendix.

2.2 Staff Position:

As on 31.03.2010, 428 Faculty, 35 visiting Faculty, 57 Group A Staff, 8 Scientific Staff, 1 Design Staff, 292 Technical Staff, 413 Administrative Staff and 2 Group D Staff were in position totaling 1236. During the period under report 61 faculty/staff members comprising 1 Professor, 3 Associate Professors, 2 Assistant Professors, 4 Visiting Assistant Professors and 51 other staff were appointed. 36 staff members were retired from their services. 5 Faculty/staff members were expired. 44 Faculty/Staff members were on long leave. The details of the above are given below:-

2.2.1 Faculty / Staff appointed from 01.04.2009 to 31.03.2010:

List of faculty members appointed during the period April 2009 to March 2010:

Sl.No.	Name	Designation	Dept./Section	Date of Joining
1.	Dr.sabitha Sarkar	Assistant Professor	MME	01-04-2009
2.	Dr.Sankara J.Subramanian	Asso.Professor	Engg.Dep.	25-05-2009
3.	Dr. S.Chandrasekaran	Asso.Professor	Ocean Engg.	24-08-2009
4.	Dr.S.Ramakrishnan	Asso.Professor	Applied Mech.	18-02-2010
5.	Dr.T.Renganathan	Assistant Professor	Chem.Engg.	20-01-2010
6.	Mr.Mahendra N.Jadhav	Dy.Lib.	Central Lib.	29-04-2009
7.	Dr.Saraswathi Deiveegam	JMO-redesignated as Med.Officer	Inst.Hospital	09-02-2010
8.	K.T.Naheem	Jr.Tech(Lib)	Central Lib.	01-10-2009
9.	Ms.V.Rekha	Jr.Technician	Mech.Engg.	15-02-2010
10.	Ms.A.Vimal Antony	Jr.Technician	Mech.Engg.	15-02-2010
11.	Ms.B.Manikandan	Jr.Technician	CWS	15-02-2010
12.	Mr.R.Jaya ganesh	Jr.Technician	Computer Science & Engg.	15-02-2010
13.	Mr.P.Dhanan Chezhiyan	Jr.Technician	Mech.Engg.	15-02-2010
14.	Mr.V.Varun	Jr.Technician	Physics	15-02-2010
15.	Mrs.M.Vasanthamalar	Jr.Technician	Physics	15-02-2010
16.	Ms.A.Soundramenna	Jr.Technician	Mech.Engg.	15-02-2010
17.	Mr.M.Irudayaraj	Jr.Technician	CSE	16-02-2010
18.	Mr.B.Ashok Kumar	Jr.Technician	Engg. Design	16-02-2010
19.	Mr.P.Suresh	Jr.Technician	Civil Engg.	17-02-2010
20.	Mr.K.Prem Anand	Jr.Technician	Mech. Engg.	17-02-2010
21.	Ms.P. Kavitha	Jr.Technician	Bio Tech.	17-02-2010
22.	Mr.K.sudhakar	Jr.Technician	Engg.Design	17-02-2010
23.	Mr.P.M..Sriram Bhaskar	Jr.Technician	Mech.Engg.	17-02-2010
24.	Mr.R.Govindasamy	Jr.Technician	Mech.Engg.	17-02-2010
25.	Mr.B.Biju Kumar	Jr.Technician	Aerospace	17-02-2010

26.	Mr.S.Venkatesan	Jr.Technician	Mechanical	17-02-2010
27.	Mr.L.Kannan	Jr.Technician	Applied Mech.	17-02-2010
28.	Mr.D.Jayavel	Jr.Technician	Elect.Engg.	17-02-2010
29.	Mr.R.Dhanasekaran	Jr.Technician	CWS	18-02-2010
30.	Mr.A.Sathish	Jr.Technician	Physics	19-02-2010
31.	Mr.V.Basakar	Jr.Technician	Applied Mech.	19-02-2010
32.	Mr.M.Veeraraghavan	Jr.Technician	Mechanical Engg.	22-02-2010
33.	Mr. R. Damodaran	Jr.Technician	CWS	24-02-2010
34.	Mr.Kosuri Pawana Sudheer Kumar	Jr.Technician	CWS	24-02-2010
35.	Mr.T.Suresh	Jr.Technician	Mech.Engg.	24-02-2010
36.	Mr.A.Sagaya Rajesh	Jr.Technician	Mech.Engg.	24-02-2010
37.	Mr.D.Selvakumaran	Jr.Technician	Mech.Engg.	24-02-2010
38.	Mr.A.Satheesh Kumar	Jr.Technician(X Ray)	Instt.Hospital	18-02-2010
39.	Ms.M.Usha	JT(XRAY)	Inst.Hospital	11-02-2010
40.	Mr.C.K.Gopalakrishnan	Junior Technician	Met & mat.Engg.	03-03-2010
41.	Mr.S.Socratees	Junior Technician	Engg.Design	05-03-2010
42.	Mr.S.Praveen	Junior Technician	Central Workshop	15-03-2010
43.	Mr.D.Govindaraj	Junior Technician	Mech.Engg.	15-03-2010
44.	Mr.P.Arun	Junior Technician	Central Workshop	22-03-2010
45.	Mr.S.Sudhakar	Junior Technician	Engg.Design	24-03-2010
46.	Mr.A.Kumaravel	Junior Technician(XRAY)	Institute Hospital	26-02-2010
47.	Dr.P.Kavitha	Med.Officer	Institute Hospital	26-02-2010
48.	Mrs.M.Gracy	Nurse	Inst.Hospital	17-02-2010
49.	Ms.A.Velanganni Sutha	Nurse	Institute Hospital	01-03-2010
50.	Ms.P.Saraswathi	Nurse	Institute Hospital	01-03-2010
51.	Dr.Srinivasan Umesh	Professor	Elect.Engg.	24-07-2009
52.	Mr.S.Muthumari	Sr.LIB.IrF.Assist.	Central LIB.	20-08-2009
53.	Mr.K.Saravanan	Sr.Lib.Irf.Asst.	Central Lib.	03-09-2009
54.	Mr.M.Muthu	Sr.Lib.Irf.Assist.	Central LIB.	14-08-2009
55.	B.Murugan	Sr.Tech(Lib)	Central Lib.	01-10-2009
56.	Mr.P.Rajkumar	Sr.Technician (Lib)	Central Lib.	31-08-2009
57.	Mr.P.R.Hari Krishna	Tech.Officer	Elect.Engg.	26-03-2010
58.	Dr.Arun Menon	V.Asst.Prof.	Civil Engg.	16-02-2010
59.	Dr.Richa Agrawal	V.Asst.Prof.	Mgt.Studies	15-03-2010
60.	Dr.Abhijit Sarkar	V.Asst.Prof.	Mech.Engg.	01-04-2010
61.	Dr.Palaniappan Ramu	Visiting Asst.Prof.	Engg.Design	18-12-2009

List of Staff Members joined during the period from April 2009 to March 2010:

Sl.No	Name	Designation	Dept.	Date of Joining
1.	Dr. S. Subash	Visiting Asst. Prof.	Humanities	23.07.2009
2.	Dr. Piyush Mathur	Visiting Asst. Prof.	Humanities	27.07.2009
3.	Dr. Rashmi Sadana	Visiting Asst. Prof.	Humanities	28.07.2009
4.	Dr. Sujoy Dutta	Visiting Asst. Prof.	Humanities	29.07.2009
5.	Dr. Preeti Aghalayam	Visiting Assoc. Prof.	Chemical	09.07.2009
6.	Dr. Srinivasan Umesh	Professor	Electrical	24.07.2009
7.	Dr. G. Shobana Devi	JMO (on contract)	Hospital	03.08.2009
8.	Dr. Aparna Balachandar	Visiting Asst. Prof.	Humanities	12.08.2009
9.	Dr. Lakshmi Narasimha	Visiting Asst. Prof.	Electrical	12.08.2009
10.	Dr.Ramadurai Gitakrishnan	Visiting Asst. Prof.	Civil	19.08.2009
11.	Dr. M.S. Murali Murugavel	Visiting Asst. Prof.	Engg. Design	19.08.2009
12.	Dr. S. Chandrasekaran	Associate Professor	Ocean	24.08.2009
13.	Dr. Arun Pachai Kannu	Visiting Asst. Prof.	Electrical	24.08.2009

14.	Dr. S. Panneerselvam	Visiting Professor	Aerospace	03.09.2009
15.	Dr. Ashish V. Tendulkar	Visiting Asst. Prof.	Computer Sci.	14.09.2009
16.	Dr. P.R.Shanmuga Priya	JMO (on contract)	Hospital	22.09.2009
17.	Dr. Peter Borowski	Visiting Asst. Professor	Physics	01.10.2009
18.	Dr. Rajiv Sharma	Visiting Asst. Professor	Ocean Engg.	16.11.2009
19.	Dr. Manfred Groll	Visiting Professor	Mechanical Engg.	07.12.2009
20.	Dr. Palaniappan Ramu	Visiting Asst. Professor	Engg. Design	18.12.2009
21.	Dr. Gurram Gopal	Visiting Assoc. Prof.	Management Studies	29.12.2009
22.	Dr. Alberto Coronas	Arcot Ramachandran Chair Professor	Mechanical Engineering	30.12.2009
23.	Dr. Alan Davy	Visiting Asst. Professor	Computer Science & Engg.	01.01.2010
24.	Prof. Vojislav Rad Ojevic	Visiting Professor	Physics	04.01.2010
25.	Dr. T. Renganathan	Asst. Professor	Chemical Engg.	20.01.2010
26.	Dr.Saraswathi Deiveegam	Medical Officer	Institute Hospital	09.02.2010
27.	Dr. Arun Menon	Visiting Asst. Professor	Civil Engineering	16.02.2010
28.	Dr. S. Ramakrishnan	Asso. Professor	Applied Mechanics	18.02.2010
29.	Dr. P. Kavitha	Medical Officer	Institute Hospital	26.02.2010
30.	Dr. Richa Agrawal	Visiting Asst. Professor	Management Studies	15.03.2010
31.	Shri P.V. Harikrishna	Technical Officer Gr.I	Electrical Engg.	26.03.2010
32.	Dr. Abhijit Sarkar	Visiting Asst. Professor	Mechanical Engg.	01.04.2010

Faculty / Staff retired from 01.04.2009 to 31.03.2010:

S.No.	Name	Designation	Dep./sec	D.O.R
1	Rammohan J	D R.(F & A)	Accounts	30.04.2009
2	Rahumathullah O U	Sr. Sec. Insp.	SS	01.05.2009 F N (VR)
3	Ramasamy B	Asst. Regr.	Admn.	31.05.2009
4	Ravindranathan, P.K.	Sr D'man (P)	MT	31.05.2009
5	Ponnuswamy R.	Sr. Attdt.	C.P.S.	31.05.2009
6	Subramani, P.	Sr. Attdt.	EU	31.05.2009
7	Rupavathy T.	Supdt.	CY	30.06.2009
8	Thangavelu, L.	Tech. Supdt.	EE	30.06.2009
9	Velsami G.	Jr. Supdt.	EU	30.06.2009
10	Yohanan Kunju, V.D.	Sr Mechanic	CWS	30.06.2009
11	Messiah Doss, T.	Mech.	Civil	30.06.2009
12	Venkataiah E	Sr. Attdt.	EU	30.06.2009
13	Basava Rao, K.	Sr D'man	ME	31.07.2009
14	Lakhmanan K	Sr. Attdt.	EU	31.07.2009
15	Sargunadoss, P.	Sr Tech Asst	LIB	31.08.2009
16	Ranganathan R.	Supdt.	CE	31.08.2009
17	Seshadri N.K.	Supdt.	DIR	31.08.2009
18	Sivashanmugam S.	Supdt.	Acad	30.09.2009
19	Janakiraman K.S	Sr. Asst.	EE	30.09.2009
20	Srinivasan P.N.	Jr. Supdt.	Acad	30.10.2009
21	Ramanaiah N	Sr. Attdt.	EU	30.10.2009
22	Pushpakantham R.S.	Jr. Supdt.	PH	30.11.2009

23	Rama A.V.	Jr. Supdt.	CEC	30.11.2009
24	Kumari Bai D.	Jr. Supdt.	Acad	30.11.2009
25	Muthiyalial G.	Sr. Attdt.	ME	30.11.2009
26	Amal Raj, P.	Sr Tech Asst	CGBS	31.12.2009
27	Gopalan V.	Condtrr (SG)	T.Cell	31.12.2009
28	Balasubbiah, V.	Sr. Attdt.	EU	31.12.2009
29	Bhaskar Rao V	Lib Infn. Offr	Lib	31.01.2010
30	Durairaj K	Sr.Mech.	RSIC	31.01.2010
31	Elumalai G	Sr. Attdt.	EU	31.01.2010
32	Vijayalakshmi P.	Sr. Attdt.	S & P	31.01.2010
33	Jayachandran, M.	Sr Tech Asst	CTC	28.02.2010
34	Pushpavalli C.	Jr. Asst.	CTC	28.02.2010
35	Margeret J A	Sr. Staff Nurs	Hosp	31.03.2010
36	Jayalakshmi K.	Jr. Attdt.	Admn	31.03.2010

Expired (while in service)

S.No.	Name	Designation	Dept.	Date
1	Jaya A	Attendant	EU	31.05.2009
2	Kulandaivelu M	Sec.Guard Gr.I	SS	31.08.2009
3	Gopalakrishna Achar D.R	Prof.	MT	19.09.2009
4	Jones Selvaraj S	Jr. Tech. Supdt.	EE	09.01.2010
5	Sumathy M R	Sr.Tech. Supdt.	PH	27.02.2010

Faculty/ Officers/ Staff on long leave:

S.No	Name, Designation & Department	From	To	Nature of Leave
1.	Dr. S.S. Gokhale Professor / Aerospace Engg.	19.10.2005	18.10.2010	EOL
2.	Dr. M. Chidambaram Professor / Chemical Engg.	27.10.2005	26.10.2010	EOL
3.	Dr. P.R. Parthasarathy Professor / Mathematics	06.10.2007	30.09.2009	EOL
4.	Dr. M.N. Sudheendra Rao Professor / Chemistry	10.11.2007	11.11.2012	EOL
5.	Dr. Mahalakshmi M. Ravi Medical Officer / Institute Hospital	28.04.2008	27.04.2010	EOL
6.	Dr. A.J. Tamilmani Junior Medical Officer / Institute Hospital	12.06.2008	11.06.2010	EOL
7.	Dr. R. Gnanamoorthy Professor / Mechanical Engg.	27.08.2008	26.08.2013	EOL
8.	Dr. A. Jayakrishnan Professor / Biotechnology	13.12.2008	14.12.2012	EOL
9.	Dr. T. Asokan Assistant Professor / Engineering Design	01.01.2009	30.06.2009	EOL
10.	Sri A. Jayakumar, Senior Technician	28.7.2008	27.7.2010	EOL
11.	V. Perumal, Senior Accounts Officer	01.8.2008	31.7.2010	EOL
12.	Sri R. Balakumar, Senior Assistant	01.8.2008	31.7.2010	EOL
13.	Sri M. Lenin Peusic, Senior Assistant	01.8.2008	31.7.2010	EOL
14.	Dr.V.Babu, Associate Professor/Mechanical Engg.	04.08.2009	31.12.2009	EOL
15.	Dr.S.C. Chaudhary, Professor, Hum. & Soc. Sciences	18.05.2009	31.07.2010	EOL
16.	Dr.S.Mohan, Professor, Civil Engg.	05.05.2009	04.05.2014	EOL
17.	Dr. Debashis Acharya, Assistant Professor, Hum. & Soc. Sciences	30.05.2009	31.07.2010	EOL

S.No	Name, Designation & Department	From	To	Nature of Leave
18.	Dr.T.Asokan,Assistant Professor,Engineering Design	20.07.2009	14.12.2009	EOL
19.	Dr.G.Arun Kumar, Assistant Professor, Management Studies	01.08.2009	02.08.2010	EOL
20.	Dr.S.V.Raghavan, Professor,Com.Sci. & Engineering	21.10.2009	30.06.2011	EOL
21.	Sri V.Veerassamy,Public Health Officer, Engineering Unit	11.12.2009	10.12.2011	EOL
22.	Smt. K. Vijayalakshmi, Jr. Supdt.	28.8.2008	27.8.2010	EOL
23.	Sri K. Raman, Senior Assistant	1.9.2008	31.8.2010	EOL
24.	Dr.Sangamitra Bhattacharya Associate Professor, Management Studies	01.01.2010	31.12.2010	EOL
25.	Dr.T.A.Gonsalves Professor, Com.Sci.Engg	14.01.2010	13.01.2015	EOL
26.	Dr. K. Prasad Rao Professor / Metl. & Matls. Engg.	09.04.2008 09.04.2009 (EL)	08.04.2009 06.08.2009 (EL)	Sabbatical Leave
27.	Dr. S. Srinivasan Professor / Electrical Engg.	30.07.2008 29.05.2009 (EL)	28.05.2009 11.06.2009 (EL)	Sabbatical Leave
28.	Dr. Satyajit Roy Professor / Mathematics	16.06.2008	15.06.2009	Sabbatical Leave
29.	Dr. Ganesh Sundara Raman Associate Professor / Metl. & Matls. Engg.	15.08.2008	17.08.2009	Sabbatical Leave
30.	Dr. G. Venkatarathnam Professor / Mechanical Engg.	01.09.2008	31.08.2009	Sabbatical Leave
31.	Dr.K.Chandraraj Assistant Professor, Biotechnology	08.02.2008 08.12.2008(EL)	07.12.2009 28.02.2009(EL)	Sabbatical Leave
32.	Dr.S.Srinivasan Professor, Electrical Engg.	30.07.2008 29.05.2009(EL)	28.05.2009 11.06.2009(EL)	Sabbatical Leave
33.	Dr.A.Subrahmanyam Professor/Physics	27.09.2008	28.09.2009	Sabbatical Leave
34.	Dr.S.Pushpavanam Professor, Chemical Engg.	01.01.2009	30.06.2009	Sabbatical Leave
35.	Dr. N.S.Narayanaswamy Assistant Professor Computer Sci & Engg.	01.08.2009	02.04.2010	Sabbatical Leave
36.	Dr.Venkatesh Balasubramanian Assistant Professor, Biotechnology	30.05.2009	30.09.2009	Sabbatical Leave
37.	Dr.V..Subramanya sarma Assistant professor Metl. & Matls.Engg.(HPL)	05.08.2009 05.06.2010	04.06.2010 04.08.2010	Sabbatical Leave
38.	Dr.K.N.Satyanarayana Professor/Civil Engg.	18.07.2009	15.12.2009	Sabbatical Leave
39.	Dr.C. Mathiazhagan Assistant Professor, Electrical Engg.	01.08.2009	02.08.2010	Sabbatical Leave
40.	Dr.S.Ramanathan Asst.Professor, Chemical Engg.	04.01.2010	03.07.2010	Sabbatical Leave
41.	Dr.A.Thillai Rajan Asst.Professor, Management Studies	18.01.2010	30.06.2010	Sabbatical Leave
42.	Dr.M.S.Mathews Professor, Civil Engg.	01.01.2010	31.12.2010	Sabbatical Leave
43.	Dr.Mangala Sunder Professor, Chemistry	11.01.2010	31.05.2010	Sabbatical Leave
44.	Dr.Sundargopal Ghosh Asst.Professor, Chemistry	01.05.2010	31.08.2010	Sabbatical Leave

No. of Faculty / Staff members resigned/relieved:

S.No.	Name	Designation	Dept.	Date
1.	Kunwar Singh (Technically resigned)	SLIA	Library	10.03.2010

2.3 Staff Welfare:

2.3.1 Human Resource Development

As part of human resource development activities, the Institute plans and implements programs for providing opportunities to technical and administrative staff to update and upgrade their knowledge and skills in order that they may perform their duties effectively. In addition, the programs are also aimed to enhance the pride and satisfaction they feel in their work. The overall feeling of happiness engendered by these programs also overflows to their home lives and contributes to a sense of well-being for the entire family. These activities also form a part of the training requirements under the ISO dispensation.

The HRD activities were initiated at the Institute in 1997 under the charge of a Professor. In the period of reporting, the total number of in-service training program conducted was 11 and staff members have been nominated for 12 various training programmes organized by other Institutions/Organisations. The impact of the various programs, as seen from the feedback at the end of each program, appears to be advantageous to the Institute as the employees were able to upgrade their knowledge through these programs as the programs were designed on need based.

HRD Programmes conducted:

Various types of Programmes attended by our staff members organized by the other organizations during April 2009 to March 2010

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
1.	Sri G. Selvamani	CSO	Security Section	Safety Management	23.03.2009	Chennai
2.	Dr.Indumathi Manivannan Nambi	Asst. Professor	Civil Engg.			
3.	Sri.L.Venkataraman	Executive Engineer	Engg. Unit			
4.	Sri K.Viswanath	Executive Engineer	Engg. Unit	Safety for Competitive -ness in Manufacturing Industry*	07.08.2009 & 08.08.2009	Chennai
5.	Sri K. Dharmaraj	Asst. Executive Engineer	Engg. Unit			
6.	Sri R.Arumugam	Superintending Engineer	Engg. Unit	Futuristic Buildings	22.08.2009 & 23.08.2009	Chennai
7.	Sri S.Sundara Vinayagam	Asst. Registrar	Admin.	Public Financial Management	07.09.2009 to 11.09.2009	JNU Campus New Delhi
8.	Dr.S.Sabitha Selvam	CMO	Hospital	Hospital Administration with Emphasis on Logistic Management	26.10.2009 to 30.10.2009	Kanpur
9.	Dr.Arshinder Kaur	Asst. Professor	Management Studies	Auditor Training Program	26.10.2009 to 30.10.2009	Chennai
10.	Mr.J.Lazar	Asst. Registrar	Admin.	Official Language Seminar	5.11.2009	Jawahar Navodhaya Vidyalaya Puducherry
11.	Mr.P.G.Ramanathan	Superintendent	Admin.			
12.	Mr.N.Saravanakumar	Hindi Translator	Admin.			
13.	Sri.Mahendra N Jadhav	Deputy Librarian	Central Library	Library and Information Science in Digital Era	21.01.2010 to 24.01.2010	Greater Noida (NCR)U.P
14.	Sri.C.R.Sekar	Asst. Librarian	Central Library			
15.	Sri.N.Ganasekaran	Sr.Libary information Officer	Central Library			

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
16.	Sri.K.Sethu	Library Information Officer	Central Library			
17.	Sri. T.Ramakrishnan	Library Information Officer	Central Library			
18.	Dr.K.Murali	Professor	Ocean Engg.	Supportive Programmes for Reserved Category Students at Technical Institutes	30.01.2010	IISc Bangalore
19.	Sri.P.Natarajan	Asst. Librarian	Central Library	13 th National Convention On Knowledge Library and Information Networking	15-06-2010 to 18-06-2010	BITS-Pilani Goa Campus, Zuarinagar, Goa
20.	Sri.G.Kumar	Library Information Officer	Central Library			
21.	Smt.N.R.Vineetha	Asst.Exe. Engineer	Civil	Workshop on Compatibility issues between cement and water Reducers in Concrete	9.04.2010	IC&SR IIT Madras
22.	Sri. A.Sivakumar	Junior Engineer	Civil			
23.	Sri.P.Gopu	Junior Engineer	Civil			
24.	Sri.D.Rajavel	Junior Engineer	Civil			
25.	Sri.M.Padmanaban	Junior Engineer	Civil			
26.	Sri.Ajay Krishnan	Junior Engineer	Civil			
27.	Sri. R. Arumugam	Superintending Engineer	Engg. Unit	FIDIC CONTRACTS & ARBITRATION	23.4.2010 to 24.4.2010	(IIT Arb) Chennai
28.	Sri.L.Venkataraman	Executive Engineer	Civil			

In service training programme for our staff members related to various activities (Academic, Admin., Accounts, Personal Computer and technical):

**Training calendar for the year 2009
In house training**

Sl. No.	Course Title	Duration	No of persons attended	Section/ Dept.	Target Audience	Organisation
1.	Interpersonal Skills HRD Trg. Programme	April 18.04.2009	13	All departments	Tech. Supdts Jr.Tech. Supdts	Viswesvaraya hall IIT Madras
2.	Athma Gnana Yoga	July 13.07.2009 to 22.07.2009	64	All sections & departments	All employees & Students	HSB 133, IIT Madras
3.	Athma Gnana Yoga	August 24.08.2009 to 02.09.2009	27	All sections & departments	All employees & Students	HSB 133, IIT Madras
4.	Spoken English	September 11.09.2009	26	All sections & departments	Sr. Attendants	Seminar Hall Dept. of Management Studies

5.	Seminar "Corrosion Protection of Steel Rebars in Concrete & Concrete Structures" at IC & SR	September 11.09.2009 to 12.09.2009	2	Engg. Unit	AEEs	IC & SR
6.	Orientation training for Group D Staff members	October 05.10.2009 to 09.10.2009	46	All sections & departments	Attdts, Jr. Attdts, Helpers	IC & SR
7.	Symposium on Good Laboratory Practices & Compliance in Bio-Technology at IC & SR	November 03.11.2009 to 05.11.2009	4	Dept. of Chemistry	Tech. officer Sr. Tech Supdt Tech. Supdt Lab. Technician	IC & SR
8.	Office procedure for Group B & C Staff members	November 05.11.2009 to 07.11.2009	39	All sections & departments	Supdts, Jr. Supdts, Sr. Assts, Jr. Assts	IC & SR
9.	Athma Gnana Yoga	November 03.11.2009 to 11.11.2009	47	All sections & departments	All employees & Students	HSB 133, IIT Madras
10	Office procedure for Group B & C Staff members	December 10.12.2009 to 12.12.2009	57	All sections & departments	Supdts, Jr. Supdts, Sr. Assts, Jr. Assts	Central Library

Training calendar for the year 2009
Outside training

S. No.	Course Title	Duration	No of persons attended	Section/ Dept.	Target Audience	Organisation
1.	Trg. Programme to Central work shop staffs	July 06.07.2009 to 10.07.2009	1	Central work shop	Jr. Technician	Advance trg. Inst. Guindy
2.	Trg. Programme to Central work shop staffs	July 20.07.2009 to 24.07.2009	4	Central work shop	Tech. Supdt, Jr. Tech. Supdts, Jr. Technician	Advance trg. Inst. Guindy
3.	WSRR09 Workshop on Rehabilitation and Retrofitting of Structures	August 28.08.2009 to 30.08.2009	1	Engg. Unit	Superintending Engineer	Dept. of Civil Engg IIT Bombay
4.	A Programme on "Good Construction Practices in Foundation, Masonry & Concrete" at Chennai	October 09.10.2009 to 10.10.2009	2	Engg. Unit	JEs	INSTRUCT, Bangalore
5.	Technical Workshop on Purchase Management in Govt. PSUs, Autonomous Bodies and other Govt. Institutions	October 22.10.2009 to 24.10.2009	3	Admn	Dy. Registrar Supdt. Asst. Registrar I/c	Institute of Socio Economic Research and Action, New Delhi
6.	Trg. Programme to Central workshop staffs	November 16.11.2009 to 27.11.2009	1	Central work shop	Jr. Tech. Supdt.	Advance Training Institute, Guindy.
7.	Seminar "Open source web GIS using UMN Mapserver" at Chennai	December 17.12.2009 to 19.12.2009	2	Engg. Unit	JEs	kCube Consultancy Services Besant Nagar, Chennai

**Training calendar for the year 2010
Outside training**

S.No.	No of persons attended	Course Title	Duration	Section/ Dept.	Target Audience	Organisation
1.	1	Milling Practice(V Block, Helical, Cam milling etc.	From 24.05.2010 2 weeks	HTM Lab	Jr. Technician	The Advanced Training Institute, Guindy

2.3.2 Hindi Coaching

In accordance with the directions of the Government of India, Hindi classes were conducted regularly to both technical and administrative staff members to improve their knowledge in Hindi. In 2009-2010, 28 staff members were attended the Hindi Examination. As on 31.03.2010, 28 staff members were offered this course.

2.3.3 School Fee Concession:

Institute reimbursed fees paid by staff members for their children's education as per Government of India norms. During the period under report 418 staff members were benefited.

2.3.4 Transport Facilities to Children of the Staff:

From 10.02.2008, free transport facilities have been provided for the benefit of all users within the campus.

2.3.5 Advances:

During the period under report a sum of Rs. 29.43 lakhs was sanctioned for the following:-

S.No.	Advance	No. of Employees	Amount Sanctioned in
1.	House Building Advance	02	11,16,670
2.	Car Advance	04	8,70,000
3.	Two Wheeler Advance	14	3,36,000
4.	Personal Computer Advance	07	21,000
5.	Cycle Advance	-	-
6.	Festival Advance	200	6,00,000
	Total	227	29,43,670

2.3.6 Insurance:

GROUP MEDICLAIM INSURANCE SCHEME FOR THE PERIOD FROM 01.02.2009 TO 31.01.2010

Sl.No.	Category	No. of Persons covered	Premium Paid Rs.
1	Employees & Dependants	1207 + 3285	1,30,89,940.00
2	Pensioners & Spouses	765 + 695	
3	Family Pensioners	381	
4	Fire Insurance	0	86,692.00
	Total	2353 + 3980	1,31,76,632.00
Additional Coverage:			
5	Employees & Dependants	341	17,59,006.00
6	Pensioners & Spouses	494	
7	Family Pensioners	69	
	Total Premium paid	904	1,49,35,638.00

GROUP TERM INSURANCE SCHEME FOR THE PERIOD FROM 10.02.2009 TO 09.02.2010

Sl.No.	Group	No. of Employees covered	Sum Insured per employee	Annual Premium/employee	Total Premium Paid	Death Claims made during period
			Rs.in lakhs	Rs.	Rs.	Rs. In lakhs
1	A	455	20	7400	33,67,000.00	20 Lakh
2	B	203	10	3700	7,51,100.00	10 Lakh
3	C	345	7	2590	8,93,550.00	14 Lakh
4	D	59	4	1480	87,320.00	
Total		1062	41	15170	50,98,970.00	44 Lakh

2.3.7 Meetings of the Authorities:

Board of Governors	:	Three Meetings were held on 31.07.2009, 07.11.2009 & 23.12.2009
Finance Committee	:	Three Meetings were held on 17.12.2008, 07.11.2009 & 23.12.2009
Buildings & Works Committee	:	One Meeting was held on 06.07.2009
Senate	:	Five Meetings were held on 11 & 17.03.2009, 17.07.2009, 16.10.2009, 11.12.2009 and 12.03.2010

ISO 9001:2000 in IITM : APRIL 2009 – MARCH 2010

ISO (International Organization for Standardization) is a world-wide federation that certifies the operation and existence of a Quality Management System and ISO 9001:2000 is an international standard for quality systems, ISO 9001:2000 certification is one of the ways of demonstrating the existence and implementation of a Quality Management System. It shows the ability to supply according to quality needs of customers and it provides a basis to follow an internationally accepted standard. ISO 9001:2000 standard focuses on five important aspects. These are Process Approach, Resources Management, Continuous Improvement, Customer Satisfaction and Data Analysis. The Process approach concentrates on responsibility and ownership for the entire process than merely defining responsibility and ownership for the various procedures that constitute the process. IIT Madras was awarded ISO-9000 certification for academic and support processes (QSM I: Academic Section, User Oriented Programmes, Central Workshop, Central Library, Computer Centre and IC&SR) since 1999 and for administrative support processes (QSM II: Central Electronics Centre, Finance & Accounts, Administration, Stores & Purchase, engineering Unit and Security Section) since 2001. The certificate is valid until August 2011 for QSM I and January 2011 for QSM II. In addition to ISO 9001:2000 certification, the Central Electronics Centre is NABL-accredited for its Testing and Calibration Laboratories since 2004.

The following ISO activities have been carried out during April 2009 – March 2010:

I. NABL Activities for the year 2009-2010 (for Central Electronics Centre):

- Management Review Meeting was conducted on 18.08.2009
- Reassessment Audit conducted on 10.12.2009

II. ISO Activities for the year 2009-2010:

Internal Audits:

- QSM – I first audit from 18 to 20.08.2009. Second Audit from 08 to 10.12.2009.
- QSM-II first audit from 23 to 25.09.2009. Second Audit from 15 to 17.12.2009.

Management Review Meetings:

- QSM – I on 25.08.2009
- QSM – II and QSM – II – 27.01.2010

Surveillance Audits (undertaken by M/s. TUV India Limited):

- QSM-I on 31.08.2009
- QSM-II on 15.02.2010

ISO Activities:

- Two training Programs for the Institute staff and internal auditors were conducted on 22.08.2009 and 10.10.2009 (topic : the new ISO 9001:2000 standard).
- Revised ISO manuals were prepared by all the 12 units/sections as per the ISO 9001:2008 standards and the same implemented with effect from January 15, 2010.
- QSM-I units were recertified as per the new ISO 9001:2008 standard in Feb. 2010.

2.3.8 List of faculty members and Officers in the Academic and General Administration:

(i) Academic Administration:

Director	:	Prof. M. S. Ananth
Deputy Director	:	Prof. V.G.Idichandy
Deans:		
Academic Courses	:	Dr.S. Santhakumar
Academic Research	:	Dr. K. Krishnaiah
Administration	:	Dr. M. Singaperumal
Industrial Consultancy & Sponsored Research	:	Dr.Job Kurian
Students	:	Dr.V.G.Idichandy (up to 30.08.2009) Dr.M.Govardhan (from 31.08.2009)
Planning	:	Dr.Bhaskar Ramamurthi

(ii) Heads of Departments:

Aerospace	:	Dr.P.Sriram
Applied Mechanics	:	Dr.K.Ramesh (upto 13.09.2009) Dr.Ramasubba Reddy (from 14.09.2009)
Bio-Technology	:	Dr.K.B.Ramachandran
Chemical Engineering	:	Dr.Shankar Narasimhan (upto 05.10.2009) Dr.S.Pushpavanam (from 21.10.2009)
Chemistry & MSRC	:	Dr.R.Dhamodaran
Civil Engineering	:	Dr.K.Rajagopal
Computer Science & Engineering	:	Dr.Gonsalves (upto 12.01.2010) C.Siva Ram Murthy (from 13.01.2010)
Electrical Engineering	:	Dr.V.Jagdeesh Kumar
Engineering Design	:	Dr.R.Krishna Kumar
Humanities & Social Sciences	:	Dr.V.R.Muraleedharan
Management Studies	:	Dr.C.Rajendran
Mathematics	:	Dr.P.V.Subramanyam
Mechanical Engineering	:	Dr.M.S.Shanmugam (upto 05.10.2009) Dr.S.P.Venkatesan (from 14.10.2009)
Metl. & Matl. Engineering	:	Dr.P.Kesavan Nair
Ocean Engineering	:	Dr.S.Sundaravadivelu (upto 03.09.2009) Dr.S.K.Bhattacharaya (from 09.10.2009)
Physics	:	Dr.P.C.Deshmukh (upto 05.05.2009) Dr.G.Markandeyalu (from 06.05.2009)

(iii) Heads of Research Centre:

Sophisticated Analytical & Instrumentation Facility	:	Dr.S.Pushpavanam (upto 27.10.2009) Dr.G.K.Suraish Kumar (From 28.10.2009)
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(iv) Heads of Special facilities for interaction with other Institutions:

Centre for Industrial Consultancy & Sponsored Research	:	Dr.Job Kurian
Chairman, CCE & Central Photographic Section	:	Dr.Ajit Kumar Kolar
Central Electronics Centre	:	Dr.M.Kumaravel
Computer Centre	:	Dr.B.V.S.S.Prasad

(v) Central Administration:

Director	:	Dr.M.S.Ananth
Registrar	:	Shri. A.Thirunavukkarasu

Deputy Registrars:

Stores and Purchase Section	:	Shri R.Esakkimuthu
Internal Audit	:	Dr.T.Suryakmar
Training & Placement	:	Shri Jayakumar

Assistant Registrars:

Academic	:	Shri G.Ravichandran Shri B.Nagarajan
Administration	:	Shri S.Sundaravinayagam Shri J.Lazar
Finance & Accounts Section	:	Shri D.Ravee Shri.S.Sambasivam
Stores & Purchase Section	:	Shri A.V.Sudarsanam
IC&SR	:	Smt. Prema Chakkarapani
Chief Security Officer	:	Shri G.Selvamani
Secretary to Director	:	Shri N.K.Seshadri (upto 01.09.2009)

(vi) Heads of Central Services, Facilities & Section:

Central Library	:	Dr.Harish Chandra
Chairman, Council of Wardens	:	A Mani
Chief Medical Officer in-charge	:	Dr.Sabita Selvam
Central Gas Supplies Unit & Central Gas Blowing Section	:	
Professor in-charge, Central Workshop	:	N Ramesh Babu
National Service Scheme	:	Dr.Srinivasa Chakravarthy
Advisor, Sports	:	Dr.M.Kamaraj
Advisor, Cultural	:	Dr.S.Sundar
Foreign & Weaker Section Students	:	Dr.R.Gnanamoorthy (upto 02.08.2009) Dr.K.Giridhar (from 03.08.2009)
Vigilance	:	Dr.S.D.Pathak
Placement & Training	:	Dr.B.V.S.S.S.Prasad
Guidance & Counselling Unit	:	Dr.G.Srinivasan
Prof. in-charge (Alumini Affairs)	:	Dr.R.Nagarajan

(vii) Engineering Unit:

Chairman, Engg. Unit	:	Dr.S.R.Gandhi
Co-Chairman, Engg. Unit	:	Dr.K.N.Sathyanarayana
Superintending Engineer	:	Shri. R. Arumugam
Executive Engineers	:	Shri K.Viswanath Shri L.Venkataraman
Assistant Executive Engineers	:	Shri V.Seenivasan Shri.K.Dhammaraj Shri M.Ramachandran Shri.M.Murali Prakash Shri.H.Anandram Smt.N.R.Vineetha Shri.K.Rizwan Ali

3. ACADEMIC PROGRAMMES AND AWARD OF DEGREES

The Institute offers Ph.D. programme in all the 16 departments, M.S. programme in 12 departments, M.Tech programme in 28 streams/specialisations, M.Sc. programme in 3 branches, B.Tech programme in 10 branches, Dual degree (B.Tech and M.Tech) programme in 20 streams, Dual Degree (BS & MS) in Physics, M.B.A. programme and M.A. Integrated programme in 3 streams besides a preparatory course for SC/ST students during the year.

3.1 Admissions 2009-10:

Candidates for admission to B.Tech., Dual Degree and M.Tech. programmes were selected through JEE and based on GATE score respectively. Quite a few candidates were also selected for M.Tech. programme under Sponsored, Q.I.P. and User Oriented programmes through interview and/or written test. Selection for Ph.D. and M.S. programmes was done through test/interview. For M.Sc. branches of Mathematics, Physics, and Chemistry, selection was made through a common test JAM 2009 conducted jointly by seven IITs. For M.B.A. programme selection was made through JMET and interview for M.A. Integrated Programme selection was made through HSEE 2009.

The number of students and scholars admitted to various programmes both in July 2009 and in January 2010 are given in Table:

TABLE 1 – Fresh Admission

Sl. No.	Department	B.Tech	Dual Degree	M.Sc	M.Tech	M.B.A	M.A.	M.S	Ph.D	Total
1.	Aerospace Engg.	30	18	–	23	--	--	11	10	92
2.	Applied Mechanics	--	--	--	14	--	--	11	11	33
3.	Biotechnology	34	14	--	11	--	--	8	22	89
4.	Chemical Engg	61	15	--	33	--	--	8	6	123
5.	Chemistry	--	--	41	0	--	--	0	28	69
6.	Civil Engg.	56	29	--	84	--	--	16	16	202
7.	Comp. Sc. & Engg.	25	22	--	65	--	--	27	34	172
8.	Electrical Engg.	43	56	--	63	--	--	38	19	219
9.	Engg. Design.	--	46	--	--	--	--	10	7	63
10.	Hum. & Soc. Sci.	--	--	--	--	--	39	0	5	44
11.	Management Studies	--	--	--	--	72	--	13	21	106
12.	Mathematics	--	--	41	11	--	--	0	8	60
13.	Mechanical Engg.	63	60	--	91	--	--	34	37	286
14.	Met. & Mat. Engg.	27	11	--	24	--	--	10	15	88
15.	Ocean Engg.	28	14	--	34	--	--	13	12	101
16.	Physics	22	10	39	8	--	--	0	23	103
	Total	389	295	121	461	72	39	199	274	1850

In addition to the above, 27 students (ST:23 & PD:4) joined Preparatory Course.

OBC/SC/ST Students under Fresh Admission:

Sl.No	Programme	OBC	SC	ST
1.	B.Tech	74	59	17
2.	Dual Degree	49	47	12
3.	M.Tech	98	52	21
4.	M.Sc.	19	17	2
5.	M.B.A	17	10	2
6.	M.A.	7	6	3
6.	M.S	70	3	0
7	Ph.D	80	18	1
	Total	414	212	58

Total no. of students admitted during the year includes the following:

Foreign Nationals	01	User-oriented Programme (M.Tech)			37
OBC	414				
Scheduled Castes	212	Q.I.P.	M.Tech	10	27
			Ph.D.	17	
Scheduled Tribes	58	Sponsored	M.Tech.	31	31
Physically Handicapped	12	Project	M.S.	28	46
			Ph.D.	18	
Women Students	329	External Registration	M.S.	20	47
Defence Officers (M.Tech)	44		Ph.D.	27	

3.2 Students/Scholars Enrolment:

The total numbers of students on roll in various programmes of the Institute in the academic year 2009-10 are given below:

TABLE 2 – Students on roll

Sl. No.	Department	B.Tech	Dual Degree	M.Sc.	M.Tech.	M.B.A.	M.A.	M.S.	Ph.D.	Total
1.	Aerospace Engg.	90	56	-	42	-	-	44	44	276
2.	Applied Mechanics	-	56	-	29	-	-	37	50	172
3.	Biotechnology	105	68	-	16	-	-	23	119	331
4.	Chemical Engg.	198	67	-	61	-	-	27	49	402
5.	Chemistry	-	-	73	-	-	-	-	161	234
6.	Civil Engg.	174	95	-	162	-	-	41	119	591
7.	Comp. Sc.& Engg.	104	86	-	116	-	-	90	70	466
8.	Electrical Engg.	178	243	-	115	-	-	97	101	734
9.	Engg. Design	-	160	-	-	-	-	20	19	199
10.	Hum. & Soc. Sc.	-	-	-	-	-	123	-	41	164
11.	Management Studies	-	-	-	-	134	-	38	77	249
12.	Mathematics	-	-	67	19	-	-	-	41	127
13.	Mechanical Engg.	243	252	-	169	-	-	101	192	957
14.	Met. & Mat. Engg	100	46	-	39	-	-	24	69	278
15.	Ocean Engg.	84	31	-	48	-	-	27	37	227
16.	Physics	64	9	66	14	-	-	-	103	256
	Total	1340	1169	206	830	134	123	569	1292	5663

The above total includes the following:

Foreign Nationals	6	QIP	M.Tech	18	103
			Ph.D.	85	
OBC	675	Sponsored	M.Tech	49	50
			M.S.	01	
Scheduled Castes	654	Project	M.S.	74	215
			Ph.D.	141	
Scheduled Tribes	217	External Registration	M.S.	66	231
			Ph.D.	165	
Physically Handicapped	21	Registration Kept Alive	M.S.	26	54
			Ph.D.	28	
Women students	841	Part -Time Programme (Ph.D)	M.S.	02	30
			Ph.D.	28	
Defence Officers (M.Tech)	83	User-oriented Programme (M.Tech)			84

OBC/SC/ST Students on roll:

Sl.No	Programme	OBC	SC	ST
1.	B.Tech	110	246	92
2.	Dual Degree	76	192	70
3.	M.Tech	207	95	41
4.	M.Sc.	33	23	3
5.	M.B.A	18	16	2
6.	M.A.	11	20	6
6.	M.S	80	6	-
7	Ph.D	140	56	3
	Total	675	654	217

The branch/ discipline-wise and year-wise details of students enrolled in B.Tech, Dual Degree and M.Tech programmes are given below:

TABLE 3 - B.Tech students on roll

Sl. No.	Branch	2009	2008	2007	2006	2005 & earlier batch	Total
1.	Aerospace Engineering	27	24	18	17	4	90
2.	Biotechnology	31	24	22	25	3	105
3.	Chemical Engineering	60	52	47	38	1	198
4.	Civil Engineering	54	39	39	36	6	174
5.	Computer Sc. & Engg.	27	25	20	26	6	104
6.	Electrical Engineering	44	40	43	45	6	178
7.	Engineering Physics	21	20	12	10	1	64
8.	Mechanical Engineering	68	63	54	53	5	243
9.	Met. & Mat. Engineering	24	23	23	26	4	100
10.	Naval Architecture	25	22	20	17	0	84
	Total	381	332	298	293	36	1340

TABLE 4 - Dual Degree (B.Tech & M.Tech) students on roll

Sl. No.	Branch	2009	2008	2007	2006	2005	2004 & others	Total
1.	Aerospace Engineering	11(5)	9(5)	9(5)	15	12	0	56(15)
2.	Biotechnology	13	13	12	13	17	0	68
3.	Chemical Engineering	14	13	13	15	12	0	67
4.	Infrastructural Civil Engg.	22(6)	21(6)	18(4)	20	13	1	95(16)
5.	Computer Science & Engg.	23	20	18	13	12	0	86
6.	Micro Elec. & VLSI Design	22	19	15	17	18	3	94
7.	Communication Engg.	22	18	18	19	17	2	96
8.	Power Sys. & Power Electronics	11(3)	11(5)	9(4)	11	10	1	53(12)
9.	Engineering Design	45	41	25	24	25	0	160
10.	Energy Technology	21	16	14	16	14	1	82
11.	Intelligent Manufacturing	20	18	14	17	15	0	84
12.	Product Design	21	16	15	17	15	2	86
13.	Metallurgical & Materials Engg.	11	8	9	9	8	1	46
14.	Naval Arch. & Ocean Engg.	9(5)	6(4)	4(4)	8	4	0	31(13)
15.	Physics (BS & MS)	9	0	0	0	0	0	9
	Total	274(19)	229(20)	193(17)	214	192	11	1113(56)

No. of AM Dual Degree students are given in ()

TABLE 5 - M.Sc students on roll

Sl. No.	Branch	2009	2008 & others	Total
1.	Chemistry	41	32	73
2.	Mathematics	40	27	67
3.	Physics	39	27	66
	Total	120	86	206

TABLE 6 - M.Tech students on roll

Sl. No.	Department \ Discipline \ Batch	2009	2008	Total
1.	Aerospace Engineering	22	20	42
2.	Applied Mechanics:	14	14	28
3.	Biotechnology	10	6	16
4.	Chemical Engineering	26	30	56
	Catalysis Technology	5		5
5.	Civil Engineering:			
	CE 1 - Building Technology	11	7	18
	CE 2 - Environmental Engineering	2	4	6
	CE 3 - Geotechnical Engineering	7	5	12
	CE 4 - Hydraulic & Water Resource Engg.	3	5	8
	CE 5 - Structural Engineering	19	20	39
	CE 6 - Transportation Engineering	11	6	17
	CE 7 - Construction Technology & Mgmt.	30	30	60
6.	CS 1 - Computer Science & Engineering	63	52	115
7.	Electrical Engineering:			
	EE 1 - Communication Systems	27	24	51
	EE 2 - Power Systems and Power Electronics	7	7	14
	EE 3 - Micro Electronics and VLSI Design	15	12	27
	EE-4 - control and Instrumentation System	9	7	16
8.	Mathematics:			
	Industrial Maths & Scientific Computing	10	9	19
9.	Mechanical Engineering:			
	ME 1 - Thermal Engineering	32	29	61
	ME 2 - Design	29	26	55
	ME 3 - Manufacturing Engineering	13	10	23
	ME 4 - Automotive Engine Technology	7	10	17
	Nuclear Engineering	7	0	7
10.	MM - Metallurgical & Materials Engg.	22	17	39
11.	OE - Ocean Engineering	11	10	21
	Ocean Technology & Management	9	7	16
	Petroleum Engg.	10	0	10
12.	Physics:			
	PH - Solid State Technology	8	6	14
	Total	439	373	812(18)

Extended semester students are given in ()

TABLE 7 – M.B.A. students on roll

Sl. No.	Branch	2009	2008	Total
1.	Management Studies	63	71	134

TABLE 8 – M.A. students on roll

Sl. No.	Branch	2009	2008	2007	2006	Total
1.	Humanities and Social Sciences	39	29	27	28	123

TABLE 9 – M.S scholars on roll

Sl. No.	Branch	Jan 2010	2009	2008	2007	2006 & others	Total
1.	Aerospace Engg.	4	16	17	4	3	44
2.	Applied Mechanics	4	13	10	6	4	37
3.	Biotechnology	1	11	5	3	3	23
4.	Chemical Engg	5	6	6	7	3	27
5.	Civil Engg.	5	15	10	6	5	41
6.	Comp. Sc. & Engg.	5	21	22	17	15	90
7.	Electrical Engg.	14	32	18	20	13	97
8.	Engineering Design	1	9	5	5	0	20
9.	Management Studies	5	16	6	6	5	38
10.	Mechanical Engg.	16	28	21	22	14	101
11.	Met. & Mat. Engg.	5	9	4	2	4	24
12.	Ocean Engg.	5	8	5	5	4	27
	Total	80	184	129	103	73	569

TABLE 10 – Ph.D scholars on roll

Sl. No.	Branch	Jan 2010	2009	2008	2007	2006	2005 & others	Total
1.	Aerospace Engg.	2	9	8	13	3	9	44
2.	Applied Mechanics	6	8	9	7	10	10	50
3.	Biotechnology	7	31	26	18	10	27	119
4.	Chemical Engg	4	5	13	6	8	13	49
5.	Chemistry	9	33	23	22	20	54	161
6.	Civil Engg.	13	23	12	19	19	33	119
7.	Comp. Sc. & Engg.	7	18	8	5	9	23	70
8.	Electrical Engg.	12	14	19	14	14	28	101
9.	Engineering Design	1	9	6	3	0	0	19
10	Hum. & Soc. Sci.	2	5	5	4	6	19	41
11	Management Studies	9	22	8	8	10	20	77
12	Mathematics	4	7	7	4	6	13	41
13	Mechanical Engg.	18	33	16	26	32	67	192
14	Met. & Mat. Engg.	2	20	3	11	12	21	69
15	Ocean Engg.	7	9	3	4	3	11	37
16	Physics	11	16	11	25	18	22	103
	Total	114	262	177	189	180	370	1292

In addition to the above, 38 preparatory Course students were on the rolls.

3.3 Courses Offered:

In the academic year 2009-10, 1174 courses were offered of which 576 courses in July–Nov. 2009 and 598 courses in Jan–May 2010. The Department-wise details of the courses offered are given below:

TABLE 11 – No. of Courses offered

Sl. No.	Department	No. of courses offered in July – Nov 2009				No. of courses offered in Jan – May 2010			
		Core	Elect.	Lab.	Total	Core	Elect.	Lab	Total
1	Aerospace Engineering	12	7	4	23	6	16	3	25
2	Applied Mechanics	8	4	2	14	10	5	3	18
3	Biotechnology	10	11	3	24	5	10	2	17
4	Chemical Engineering	12	15	2	29	10	19	2	31
5	Chemistry	13	0	5	18	7	9	3	19
6	Civil Engineering	28	23	7	58	26	26	8	60
7	Computer Sc. & Engg.	12	11	6	29	7	27	3	37
8	Electrical Engineering	26	19	6	51	16	35	10	61

9	Hum. & Soc. Science	29	28	0	57	19	34	2	55
10	Management Studies	12	33	0	45	14	38	1	53
11	Mathematics	17	10	1	28	5	21	2	28
12	Mechanical Engineering	40	30	8	78	33	33	9	75
13	Met. & Mat. Engineering	15	16	6	37	9	18	7	34
14	Ocean Engineering	21	7	2	30	8	12	3	23
15	Physics	17	12	7	36	14	25	6	45
16	Engineering Design	8	7	4	19	4	10	3	17
Total		280	233	63	576	193	338	67	598

3.4 Convocation:

The 46th Convocation was held on 31st July 2009. Prof. Jagdish N Bhagwati, Department of Economics, Columbia University delivered the Convocation address. 1439 candidates were awarded various degrees 962 candidates received degrees in person. The department-wise details of degrees awarded are given below:

TABLE 12 – Degrees awarded

Sl. No.	Department	B.Tech.	Dual Degree		M.B.A	M.Sc.	M.Tech.	M.S.	Ph.D.	Total
			B.Tech	M.Tech						
1.	Aerospace Engineering	13	8	8	--	--	21	3	3	56
2.	Applied Mechanics	--	--	--	--	--	18	--	3	21
3.	Biotechnology	23	16	16	--	--	--	6	4	65
4.	Chemical Engineering	46	12	12	--	--	26	4	6	106
5.	Chemistry	--	--	--	--	28	--	--	18	46
6.	Civil Engineering	41	13	13	--	--	79	8	22	176
7.	Computer Sc. & Engg.	25	12	12	--	--	40	28	7	124
8.	Electrical Engineering	60	46	46	--	--	51	37	12	252
9.	Humanities & Social Sciences	--	--	--	--	--	--	--	2	2
10.	Management Studies	--	--	--	62	--	--	6	13	81
11.	Mathematics	--	--	--	--	31	7	--	10	48
12.	Mechanical Engineering	54	47	47	--	--	75	20	31	274
13.	Metallurgical & Materials Engg	24	12	12	--	--	17	4	10	79
14.	Ocean Engineering	18	6	6	--	--	14	5	6	55
15.	Physics	9	--	--	--	24	2	--	15	54
Total		313	172	172	62	83	354	121	162	1439

Post Graduate Diploma in Management for Executives in Manufacturing (Jointly conferred by IIM Calcutta, IIT Kanpur & IIT Madras) - Diploma awarded by IIM Calcutta to 29 students on 04.04.2009

With this Convocation, the total number of degrees awarded so far by the Institute is 34066, the details of which are given below:

S.No.	Programme	No.
1	Ph.D.	3133
2	M.S.	2341
3	M.Tech	11038
4	M.Sc.	2466
5	M.B.A.	349
6	Dual Degree (B.Tech & M.Tech)	724
7	B.Tech	12997
8	PGPEXVLM	29
9	B.Sc(Tech)	20
10	DIIT	245

3.5 Award of Prizes to the students:

3.5.1 Convocation Prizes:

The following are the details of Prizes awarded to the students at the 46th Convocation:

- President of India Prize ... Srivatsan Narayanan, B.Tech, Computer Science Engineering
- Governor's Prize ... Anush Krishnan, Dual Degree, Aerospace Engineering

□ Other Prizes:

Sl.No.	Donor	Department	Name of student
Doctor of Philosophy – Ph.D.			
1.	Prof C N Pillai Prize	Chemistry	Mannam Sreedevi
2.	Prof Langmuir Prize	Chemistry	A V Vivek
3.	Prof. G Sundararajan Endowment Prize	Chemistry	Gandikota Venkata Ramana
4.	GE Ecomagination Excellence Award	Civil Engineering	Glory Joseph
5.	Shree Gaayathree Devi Award	Civil Engineering	Mini Remanan Jaya V [Joint Winners]
6.	Bhagyalakshmi and Krishna Ayengar Award	Electrical Engineering	Vincent G Aniket Baheti [Joint Winners]
7.	Sudharshan Bhat Memorial Prize	Metal. & Materials Eng	Siddharthan A Kumar S [Joint Winners]
8.	Prof A L Lashkar Prize	Physics	Rakhi R B Shubra Singh [Joint Winners]
Master of Technology – M.Tech.			
1.	Air India Prize	Aerospace Engineering	Nishikant Tamrakar
2.	Indira Sivasailam Merit Prize Prof B V A Rao Endowment Prize	Applied Mechanics	N Harsha
3.	Usha Kothandaraman Memorial Prize	Applied Mechanics	Kattamanchi Manoj
4.	Dr K Subba Raju Memorial Prize	Chemical Engineering	Srijith Mohanan
5.	Valli Anantharamakrishnan Merit Prize	Civil Engineering	R Saravanan
6.	K Devarajan Memorial Prize	Civil Engg. – Transportation Engg.	Hazeera Tahseen
7.	L & T Endowment Prize	Civil Engg. - Construction Technology and Management	Ramaswamy K P
8.	CMC Prize	Computer Science & Engg.	Kate Kiran Appasaheb
9.	Prof H N Mahabala Endowment Prize	Computer Science & Engg	Srinath N P Uma Maheswari [Joint Winners]
10.	Siemens Prize	Electrical Engineering	V Surya Shilpa Gadiraju
11.	Prof Helmut Neunzert Endowment Prize	Industrial Mathematics & Scientific Computing	Anamika Pandey
12.	Prof B Sengupto Prize	Mechanical Engineering	Nagabhushana Rao Vadlamani
13.	S Anantharamakrishnan Merit Prize		
14.	Prof Ramamohana Rao Memorial Prize	Mechanical Engineering	Sangeetha P V

15.	Dr S Vaidyanathan Memorial Prize	Mechanical Engineering	Sonakar Prashant Suresh Rao
16.	Giri Brothers Prize		
17.	Delphi-TVS Diesel Systems Ltd. Prize	Mechanical Engg. - Automotive Engine Tech.	Ganesh Rao
18.	Sudharshan Bhatt Memorial Prize	Metallurg. & Mat. Engg	Christopher J
19.	American Bureau of Shipping Prize	Ocean Engineering	Hima M Titus
20.	Institute Merit Prize	Ocean Technology & Mgmt.	R Gopinath
21.	Institute Merit Prize	Solid State Technology	Jyotirmoy Chatterjee
22.	Prof Achim Bopp Endowment Prize	Physics	Kottapalli Ajay Giri Prakash
Master of Science – M.Sc			
1.	Dr. S R Ramadas 60 th Birthday Commemoration Award and Ratna Rao Memorial Prize	Chemistry	Sovan Biswas
3.	Mira Paul Memorial Prize	Mathematics	Tanmay Sarkar
4.	Prof Chilukury Rama Sastry Memorial Prize	Physics	Ranjini Vaidyanathan
Master of Business Administration - M.B.A.			
1.	K V Arunkumar Memorial Prize	Management Studies	Saarthak Malik
2.	Coka Parthasarathy Prize	Management Studies	Shiwani Gupta
Dual Degree - B.Tech. & M.Tech.			
1.	Governors Prize	Aerospace Engineering	Anush Krishnan
2.	Dr. V Mohan Raman Prize	Aerospace Engineering	Harun Thilak S
3.	Institute Merit Prize	Biotechnology	Utsav Agrawal
4.	B Ravichandran Memorial Prize	Chemical Engineering	Ajit Gopalakrishnan
5.	Mico-Bosch Prize	Chemical Engineering	Anshul Goyal
6.	Institute Merit Prize	Civil Engineering	Aditi Vyas
7.	Motorola Prize	Computer Science & Engineering	Nimit Jain
8.	Alumni Association Prize	Computer Science & Engineering	M Vikramaditya
9.	Institute Merit Prize Phillips India Prize Prof Achim Bopp Endowment Prize	Electrical Engineering	T Siva Viswanathan
10.	Bhagyalakshmi and Krishna Ayengar Award	Mechanical Engineering	Aniket Baheti
11.	Vaidy Krishnan Memorial Prize	Mechanical Engineering	Arjun Vijayaragavan
12.	Prof G V N Rayudu Memorial Prize	Mechanical Engineering	Sourav Mitra
13.	S Anantharamakrishnan Memorial Prize	Metallurg. & Materials Engg	Naveen Prashanth
14.	Goodearth Shipbuilding Pvt. Ltd Prize	Naval Architecture & Ocean Engineering	J Vinay Kumar
Bachelor of Technology - B.Tech.			
1.	HAL Prize	Aerospace Engineering	Bharath G
2.	Institute Merit Prize	Biotechnology	Gairik Sachdeva
3.	Dr Shankar Dayal Sharma Prize C A Sastry Endowment Prize	Chemical Engineering	Sarvesh R
4.	Reliance Heat Transfer Pvt. Ltd. Prize	Chemical Engineering	Siddharth Srinivasan

5.	Larsen & Toubro ECC Endowment Prize	Civil Engineering	Srivatsan H S
6.	President of India Prize	Computer Science Engineering	Srivatsan Narayanan
	Bharat Ratna M Visvesvaraya Memorial Prize		
	B Ravichandran Memorial Prize		
7.	Siemens Prize	Electrical Engineering	T M Nagamayur
8.	Institute Merit Prize	Engineering Physics	S Sriram
9.	Banco Foundation Prize	Mechanical Engineering	Ananya Sunil Shah
10.	Sivasailam Merit Prize	Mechanical Engineering	Shyamprasad N R
11.	Dr Dhandapani Memorial Prize	Metallurg. & Materials Engg	Nikhil D Kamath
12.	American Bureau of Shipping Prize	Naval Architecture and Ocean Engineering	V Swetha

3.5.2 Institute Day Prizes (Silver medal & cash award of Rs.1000/-)

On the basis of performance during the academic year 2009-10, the following students were awarded Merit Prizes on the 50th Institute Day held on 17.4.2009 at the Central Lecture Theatre (CLT). Mr. K V Rangaswami, Director & Senior Executive Vice President (Construction), L&T., Chennai was a Chief Guest.

I. Institute Merit Prizes:

B.Tech / Dual Degree (5th & 6th Semesters)

Aerospace Engineering	AE05B006	Bharath M G
Biotechnology	BT05B007	Gairik Sachdeva
Civil Engineering	CE05B039	Srivatsan H S
Computer Science & Engineering	CS05B001	Ananth R
Engineering Design	ED05B006	Deepan Raj Prabakar
Engineering Physics	EP05B007	S Sriram
Mechanical Engineering	ME05B003	Ananya Sunil Shah
Naval Architecture	NA05B017	V Swetha

B.Tech / Dual Degree (7th & 8th Semesters)

Aerospace Engineering	AE04B029	S Harun Thilak
Biotechnology	BT04B050	Utsav Agrawal
Chemical Engineering	CH04B059	Jikku M Thomas
Civil Engineering	CE04B051	Aditi Vyas
Compute Science & Engineering	CS04B042	M Vikramaditya
Electrical Engineering	EE04B072	T Siva Viswanathan
Electrical Engineering	EE04B102	Shantanu Agarwal
Mechanical Engineering	ME04B081	Sandeep Tiwari
Mechanical Engineering	ME04B094	Kuldeep Kumar
Mechanical Engineering	ME04B122	Sourav Mitra
Metallurgical & Materials Engineering	MM04B040	Sayan Ganguly
Naval Architecture	NA04B027	Kirti Bairathi

M.Tech (First Two Semesters)

Aerospace Engineering	AE07M016	Nishikant Tamrakar
	AE07M019	Rupinderjit Singh [Joint winners]
Applied Mechanics	AM07M018	Naajein C

Chemical Engineering	CH07M031	Srijith Mohanan
Civil Engineering	CE07M158	Ramaswamy K P
Compute Science & Engineering	CS07M010	Kate Kiran Appasaheb
Electrical Engineering	EE07M033	V Surya Shilpa Gadiraju
Mathematics	MA07M001	Anamika Pandey
Mechanical Engineering	ME07M032	Nagabhushana Rao Vadlamani
Automotive Engine Technology	AT07M002	Ganesh Rao P
Metallurgical & Materials Engineering	MM07M007	Christopher J
Ocean Engineering	OE07M004	Hima M Titus
Physics	PH07M004	Kottapalli Ajay Giri Prakash
	PH07M006	Vaidya Varun Pradeep [Joint winners]

M.Sc. (First Two Semesters)

Chemistry	CY07C022	Sovan Biswas
Mathematics	MA07C005	Dhriti Ranjan Dolai

MBA (1st and 2nd Semesters)

Management Studies	MS07A046	Shiwani Gupta
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II. Donors Prizes:

B.Tech (First Six Semester)

Dr S Chandrasekharan Memorial Prize	ME05B003	Ananya Sunil Shah
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B.Tech / Dual Degree (1st & 2nd Semesters)

Sri S Subramanian Prize	CS07B006	Immanuel Ilavarasan T
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B.Tech / Dual Degree (3rd, 4th & 7th Semesters)

K Srinivasan & Indira Srinivasan Prize	BT05B007	Gairik Sachdeva
(Cash Prize of Rs.5,000/- with a certificate and Silver Medal)	CS05B001	Ananth R
	CS05B039	K Arun Kumar
	EP05B008	N Sudharshan [Joint winners]

B.Tech / Dual Degree (5th & 6th Semesters)

Sri Ramasarma V Kolluri Memorial Prize	EE05B111	Kiran Kumar Reddy
Ratna Award	MM05B013	Nikhil D Kamath
Dr R K Viswanath Memorial Prize	CH05B039	Siddharth Srinivasan

B.Tech / Dual Degree (7th & 8th Semesters)

D Ananda Subramanian Memorial Award	EE04B082	Paranay Prateek
	EE04B088	B R V Sumith Kumar [Joint winners]

Dual Degree (1st to 9th Semesters)

Prof V Radhakrishnan Endowment Award	ME04B122	Sourav Mitra
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B.Tech / Dual Degree (Best Project)

ClassNK-100 Award - First Prize (Cash award of Rs.10,000/- with a silver medal)	NA04B005	Ankita Deepak Jain
ClassNK-100 Award – Second Prize (Cash award of Rs.5,000/- with a silver medal)	NA04B019	E Porko
48 th Indian Pharmaceutical Congress Prize	BT03B045	Parimala Geedi

M.Sc (upto 3rd Semester)

LVKV Sarma Prize	MA07C005	Dhriti Ranjan Doli
	MA07C028	Tanmay Sarkar

MBA (1st, 2nd and 3rd Semesters)

T S Rajagopalan Memorial Prize	MS06A008	Balaraman R
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M.Tech (upto 3rd Semester)

LVKV Sarma Prize	MA07M003	Raghavender E
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M.Tech (Best Project)

Lucas–TVS Limited Prize	AT06M004	Davinder Kumar
Bhagyalakshmi & Krishna Ayengar Award (Cash Prize of Rs.20,000/- for faculty having guided the project work) of Sri Geetha T, Ph.D & Tushar Sharma, DD)	Geetha T, EE06D008 Tushar Sharma, BT04B052	Dr. V Jayashankar Dr. T S Chandra Dr. S Ramaprabhu

M.S (Best Thesis)

Sri K Sreeharsha Memorial Prize	CE04S023	Venkateswarlu Gandham
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Dual Degree (Best Project)

Prof C S Krishnamurthy Endowment Prize	EE03B019	Deepak K S
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M.Tech (First Two Semesters)

Prof N Venkatarayulu Memorial Prize	ME07M032	Nagabhushana Rao Vadlamani
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M.Sc. (First Two Semesters)

Chilukuri Ramasastry Memorial Prize (A Silver Medal & Cash Award of Rs.1,500/-)	PH07C016	V Ranjini
R Padmanabhan Memorial Prize	CY07C009	Debashis Mandal
CFD Award (Silver Medal & Cash Award of Rs.5,000/-)	MA02D002	G Chandhini Dr Y V S S Sanyasiraju

DEPARTMENT LEVEL PRIZES

I. Institute Merit Prizes:

B.Tech/Dual Degree (3rd & 4th Semesters)

Aerospace Engineering	AE06B006	Joseph George K
Biotechnology	BT06B043	Srivats Venkataraman
Chemical Engineering	CH06B043	Sivaraman Ramaswamy
Civil Engineering	CE06B024	Phanisri Pradeep Pratapa
Computer Science & Engg.	CS06B038	Swarun Kumar S
Electrical Engineering	EE06B011	M N Chinmoy Venkatesh
Engineering Design	ED06B026	Viswanath K S
Engineering Physics	EP06B002	Ananda Theertha S
Mechanical Engineering	ME06B058	Navaneetha Krishnan
Metallurgical & Materials Engineering	MM06B004	Aravind K
Naval Architecture	NA06B026	Michael John

B.Tech (First Four Semesters)

Sri Raghavendra Memorial Prize ME06B050 Vivek S

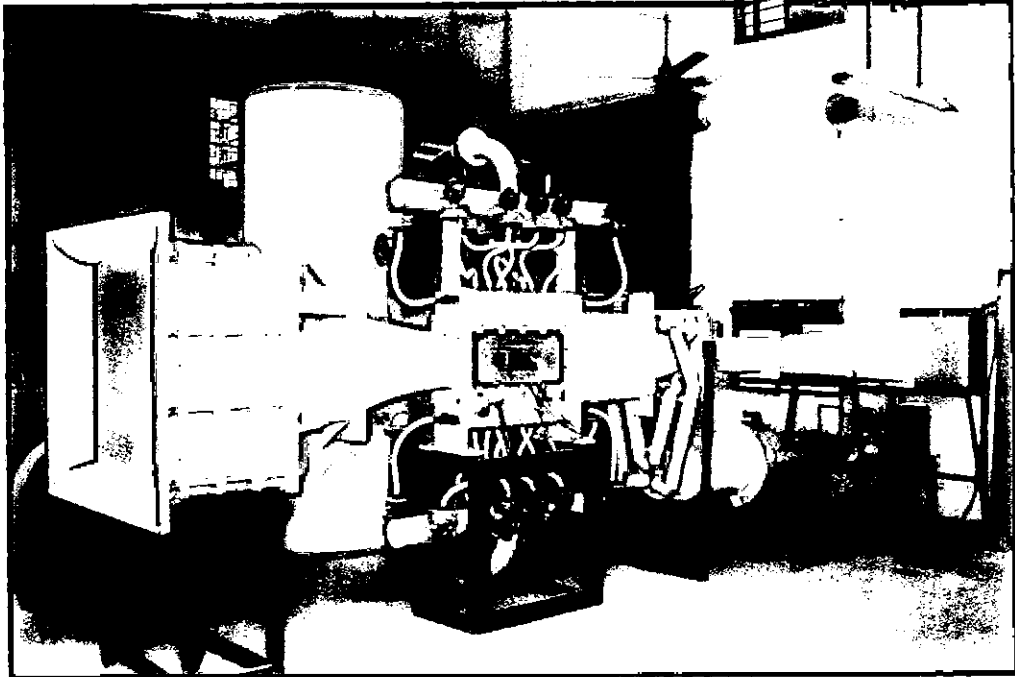
B.Tech / Dual Degree (3rd and 4th Semesters)

Rajalaskhmi Krishnamurthy English Prize EP06B012 Nikhil S Das

Notional Prize – Certificate and cash award of Rs.1,000/- awarded to the following students for having secured high position in the merit list of JEE 2008.

1	EE08B017	Kollagunta Krishnaswamy Anilesh	14	CS08B003	Deshpande Pratik
2	CS08B019	Settipalli Venkata Nihar	15	EE08B034	Tunuguntla Srinivas
3	CS08B006	Hanumanula Srikanth	16	EE08B009	Digumarthi Surya Pavan Anirudh
4	CS08B001	Amirineni Venkata Sainath	17	CS08B028	Karri Karthik Reddy
5	CS08B021	Siddardha Garimella	18	EE08B003	Anumula Utam Kumar Redy
6	CS08B008	Jilla Krishna Saketh	19	EE08B005	Avinash Swama
7	CS08B016	Prahadeesh	20	EE08B036	Venkata Vijay Ventrapragada
8	EE08B029	Shaileshh B V	21	EE08B031	Srinivas Dabbeeru
9	CS08B020	R Shiva	22	EE08B028	A Sanjeev Rao
10	CS08B004	Gangineni Lokesh	23	EE08B011	Golakoti Abhiram
11	EE08B019	Kupplli Pavan Rohith	24	EE08B021	Moturi Abhiram
12	CS08B018	Sai Venkatesh Kolli	25	EE08B025	Ravi Teja Palla
13	CS08B005	Gaurav Maheswari			

AEROSPACE ENGINEERING



Induction Tunnel



Low Density Tunnel

4.1 DEPARTMENT OF AEROSPACE ENGINEERING

4.1.1 Introduction:

The Department of Aerospace Engineering was established in 1969 and has been offering B.Tech./M.Tech/M.S/Ph.D. Programmes. The areas of teaching and research of the Department are Aerodynamics, Propulsion and Structures.

4.1.2 Academic Programmes:

B.Tech. / M.Tech. / M.S. & Ph.D.

New Courses Introduced:

S.No.	Course No.	Title
1	AS5440	Hydrodynamic Stability, transition and flow control
2	AS5470	Unsteady Aerodynamics of Moving Bodies

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	27	24	18	17	4	90
Dual Degree	16	14	14	15	12	71
M.Tech.	22	20	-	-	-	42
M.S.	11	21	8	1	3	44
Ph.D.	12	7	13	6	6	44
Total	88	86	53	39	25	291

Names of student/scholar attended Conference / Seminar and Symposia abroad/India:

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf./ Seminar/ Symposia	Date & Venue
Conference:				
1.	C. Balaji Ph.d. Scholar	Asia Pacific Conference on Combustion (ASPACC)	Attended and presented paper entitled 'Numerical investigation of externally excited non-premixed flame in a dump combustor'	National Taiwan University, Taipei, Taiwan during May 24-27 2009

4.1.3 Faculty and their activities:

Faculty:

Name and Qualification	Major Area of Specialization
Gokhale S. S., Ph.D. (Univ. of Illinois, USA) Director, VNIT Nagpur	Aircraft and missile propulsion, computational methods, simulation and optimization, computer aided instructions
Job Kurian, Ph.D., (IIT Madras)	Gas Dynamics, Combustion, Shock tube flows and measurements
Santhakumar S., Ph.D., IIT Madras	Aerodynamics, flight mechanics, instrumentation
Ramakrishna M., Ph.D., Univ. of Texas at Arlington	Fluid Mechanics, numerical methods, computer solutions
Sriram P., Ph.D. Georgia Inst. Of Technology	Structural mechanics, fatigue & fracture, Parallel computing
Bhaskar K., Ph.D., (IIT Madras)	Structural mechanics, Plants & Shells, composite structures
Sujith R.I., Ph.D., Georgia Inst. Of Technology	Acoustics and combustion Instability Optical Flow Diagnostics
Panchapakesan N.R, Ph.D Cornell University, USA	Fluid Mechanics, Stability and Transition of Fluid Flows, Turbulence.
Chakravarthy., S.R. Ph.D., Georgia Inst. Of Technology	Propulsion, Combustion & Fluid Mechanics
R. Velmurugan., Ph.D. , IIT Delhi	Composite Structures Analysis and Design, Impact Mechanics, 3-D Composites
Luoyi Tao, Ph.D. University of Pittsburgh	Continuum mechanics and its applications (fluids, solids, multiphase flows, etc.)

Rajan S.C, M.Tech. IIT Madras	Aerodynamics, Theory and Computation of Vortex Dominated Flows
H.S.N. Murthy, Ph.D Purdue University	Fatigue and Fracture, Non-destructive evaluation, Tribology, Advanced Materials., Elasticity
Amit Kumar, Ph.D Case Western Reserve Univ.	Combustion, Propulsion, fine research, CFD
K.V. Nagendra Gopal, Ph.D. Ph.D. (Aero) Indian Institute of Science	Computational Mechanics and Multi-scale Modelling, Fracture Mechanics, Structural Dynamics and Aeroelasticity
P.A. Ramakrishna, Ph.D., Indian Institute of Science,	Combustion, Propulsion & Fuel Cells
Nandan Kumar Sinha, Ph.D IIT Bombay	Non linear dynamics, Bifurcation Theory and Continuation methods, Flight Dynamics and Controls
T.M. Muruganandam Ph.D., Georgia Institute of Technology	Combustion, Blowout dynamics, Optical diagnostics, Spectroscopic methods, Vortex breakdown, Dynamics of mode shifting
Dr. Sunetra Sarkar, Ph.D. Indian Institute of Science	Unsteady Aerodynamics, Biomimetic Flows, Particle Techniques
Dr. A. Sameen, Ph.D. Indian Institute of Science	Stability, Transition and Turbulence, Computational Fluid Dynamics
Dr. S. Panneerselvam, Ph.D. IIT Madras	Supersonic/ Hypersonic Aerodynamics, Fluid Dynamics, Gas Dynamics, Missile Aerodynamic Design

Short-term Courses/Workshops/Seminar/Symposia/Conferences II organized by the faculty members:

S. No.	Co-coordinators	Title	Period
Symposia:			
1.	Dr. T.M. Mruuganandam and Dr. Amit Kumar attended the 10th Asian Symposium on Visualisation, held at SRM University, Chennai during March 2010		
	Their students presented the following papers:		
	1. ASV043, Visualization of Flame Loss in a Stagnation Point Stabilised Bumer, T. M. Muruganandam, Mayank Sachan		
	2. ASV067, Visualization of Shock Movement in a Supersonic Tunnel, T.M. Muruganandam, Abhishek Pateria & Vinod Nair		
	3. The paper was titled: "Effect of Surface Orientation on Downward Flame-spread over Thin Solid Fuels" Amit Kumar, B Karthik and S Prasanna		

Short-Term Courses /Workshops /Seminars /Symposia /Conferences/ Training attended by the Faculty in Academic Institutions and Public Sector Undertakings:

S.No	Name of faculty	Title	Period
Workshop:			
	Prof. P. Sriram	Inaugurated the activities of the Computer Society at Anna University (MIT) at their 26 th Annual Inauguration Day	28 th August 2009
Conference:			
1.	Dr. P.A. Ramakrishna, and Shri Sumit Verma, Ph.D. Scholar	Attended an International Conference and Exhibition on Aerospace Engineering (ICEAE) held at IISC Bangalore from and presented a paper titled 'Activated Charcoal as a Burn Rate Enhancer in Composite Solid Propellant	18th to 22nd May 2009
2.	Dr. Nandan Kumar Sinha	Attended an International Conference and Exhibition on Aerospace Engineering (ICEAE) held at IISC Bangalore	18th to 22nd May 2009
3.	Dr. Amit Kumar		
4.	Prof. R.I. Sujith	Attended an International Conference and Exhibition on Aerospace engineering (ICEAE) held at IISC Bangalore and presented a paper titled 'Dynamics of Spray – Swirl-Acoustics Interaction	18th to 22nd May 2009
5.	Dr. Amit Kumar	Attended the International Conference and presented the paper following papers titled Radiation Effects from Fireballs Caused by Rocket Accidents Numerical Study of the Effect of Transverse Protrusions on the Regression Rate of the Hybrid Rocket Motor" at High Energy Materials Conference and Exhibit 2009,HEMRL, Pune	December, 8-10 2009

6.	Prof. S.R. Chakravarthy	<p>Attended 4 conferences and presented the following papers:</p> <ol style="list-style-type: none"> Jan 4-7, 2010: 48th AIAA Aerospace Sciences Meeting and Exhibit, Orlando, Florida, USA -- 3 papers: <ol style="list-style-type: none"> Balaji, C., and Chakravarthy, S. R., "Formulation of Combustion Acoustic Coupling using Multiple Time and Length Scales" Desai, R. D., Ramgopal, S., and Chakravarthy, S. R., "Effect of Fuel Injection Location on Combustion Instability in a Dump Combustor" Jayaraman, K., Mulla, I. A., Chakravarthy, S. R., and Sarathi, R., "Aluminium Agglomerate Size Measurement of the Nano/Micro-Aluminized Composite Propellants". Jan 10-12, 2010: Energy Conclave -- International Workshop on Combustion and Transportation, IIT Kanpur. Chakravarthy, S. R., "Simultaneous Space-Time Multi-Scale Physics of Combustion Dynamics" Jan 18-22, 2010: Indo-UK Workshop on Thermoacoustics, IIT Madras, Chennai. Chakravarthy, S. R., "Flow-Acoustic-Combustion Lock-on in Turbulent Combustors" Jan 22, 2010: National Seminar on Technological Challenges in the Development of Aero-Engines, Rajalakshmi Engineering College, Chennai. Chakravarthy, S. R., "Combustor Development" 	
7.	Dr. Nandan Kumar Sinha	2 papers accepted in the International Conference and Exhibition on Aerospace Engineering (ICEAE), IISc Centenary Conference, IISc Bangalore	18-22 May 2009,

Special Lectures Delivered by the faculty in other Institutions:

Sl.No	Name of Faculty	Topic of Lecture	Venue & Date
1	Dr. R.I. Sujith	Invited Lecture (By Video Conference) : Non normality in thermoacoustic systems, Conference on Advanced instability Methods,	Cambridge University, U.K. March 16 and 17, 2009
2	Dr. R.I. Sujith	Invited talk titled 'Combustion and Flow Diagnostics'	Aditya Birla Science and Technology Company Ltd. (ASBTC) on 6 th April 2009
3	Dr. Amit Kumar	Invited talk titled 'Aircraft Engines' at the Model Rocketry Workshop'	Tamil Nadu Science & Technology Centre o 28 th August 2009 at Chennai
4	Dr. S.R. Chakravarthy	Invited talk titled ' Multi Staging of Rockets' at the Model Rocketry Workshop	Tamil Nadu Science & Technology Centre o 29 ^h August 2009 at Chennai
5	Dr. T.M. Muruganandam	Invited talk titled ' Satellite Attitude Control' at the Model Rocketry Workshop	Tamil Nadu Science & Technology Centre o 29 ^h August 2009 at Chennai
6	Dr. P.A. Ramakrishna	Invited talk Titled 'Rocket Technology' at the Model Rocketry Workshop	Tamil Nadu Science & Technology Centre o 29 ^h August 2009 at Chennai
7	Dr. R. Velmurugan	Delivered a talk titled on Composites in Aerospace Applications'	Srinivasan Engg College, Perambalur on 25 th September 09.
8	Dr. R. Velmurugan	Delivered a talk titled on Composite Materials and Applications	Thiruvalluvar College of Engg., Vandavasi on 8 th Oct. 09
9	Dr. R. Velmurugan	Deliveerd a lecture on 'Testing of high temperature materials	MIT Madras on 7 th January 2010.

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. S.R. Chakravarthy	Germany	2/5/09 to 1/7/09	Collaborative Research Work	Institute
2.	Dr. N.R. Panchapakesan	Australia	25/8/09 to 4/9/09	6 th International Symposium on 'Particle Image Velocimetry'	Institute
3.	Dr. Job Kurian	Canada	6/9/09 to 11/9/09	Presented a paper and chaired a session on Ram & Scram Jets at the 19 th International Symposium on Air Breathing Engines	Institute

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award
1.	Dr. S.R. Chakravarthy	DALMIA-HEMSI award on 9 th December 2009 at HEMRL, Pune
2.	Dr. Nandan Kumar Sinha	Excellent Reviewer for the AIAA Journal of Guidance, Control and Dynamics during December 2009.
3.	Dr. S.R. Chakravarthy	DRDO Academic Excellence Award 2008 on 23 rd February 2010 at DRDO, New Delhi
4.	Dr. R.I. Sujith	Hans Fischer Senior Fellowship of the Institute of Advanced Study, Technische Universitat Munchen (2010).

4.1.4 Research and Consultancy:**Sponsored Research Projects:**

Sl. No.	Title	Period	Funding Agency	Amount (In lakhs)	Co-ordinators
1.	Performance and Stability Calculations for a Conceptual 4-seater Aircraft	1 year	RPI Ltd. Bangalore	2.5	Dr. N.K. Sinha
2.	A Lagrangian approach to capture the unsteady Aerodynamics of insect like flapping flight - Phase II	1 year	AOARD	9.74	Dr. Sunetra Sarkar
3.	Aircraft Maneuver Design by using bifurcation Analysis and Nonlinear Control Techniques	3 years	ARDB	11.77	Dr. N.K. Sinha
4.	Investigation of mixing in gas turbine cooling rings with porous medium modeling	2 years	ARDB	17.28	Dr. S.R Chakravarthy Dr. Arunn Narasimhan
5.	Bi-Global Instability modes in wall jets	2 years	ARDB	12.04	Dr. A. Sameen
6.	Non-boussinesq effects in high Rayleigh Number convection	3 years	DST	16.73	Dr. A. Sameen Dr. A.P. Baburaj

Industrial Consultancy:

S. No.	Name of the Faculty	Title	Industry	Amount (In lakhs)
1.	Dr. R. Velmurugan	Composite Technology Facility	AAAA	2.50

Research Publications:

Total No. of papers published in Refereed International Journals 12

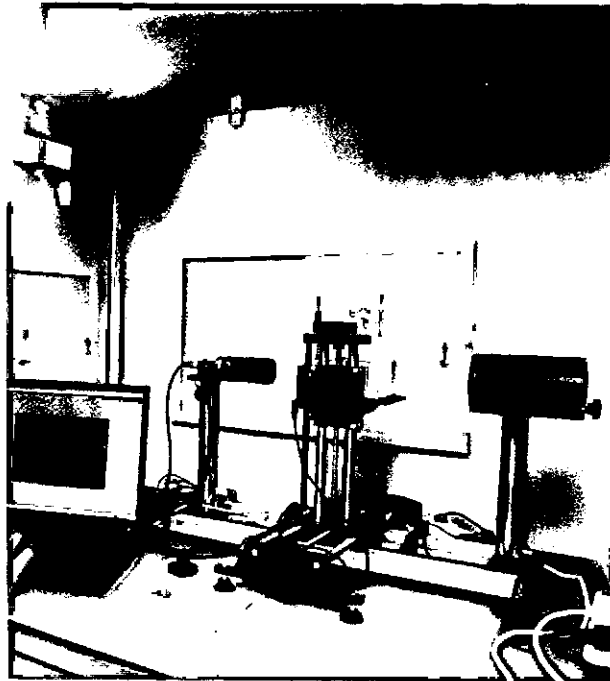
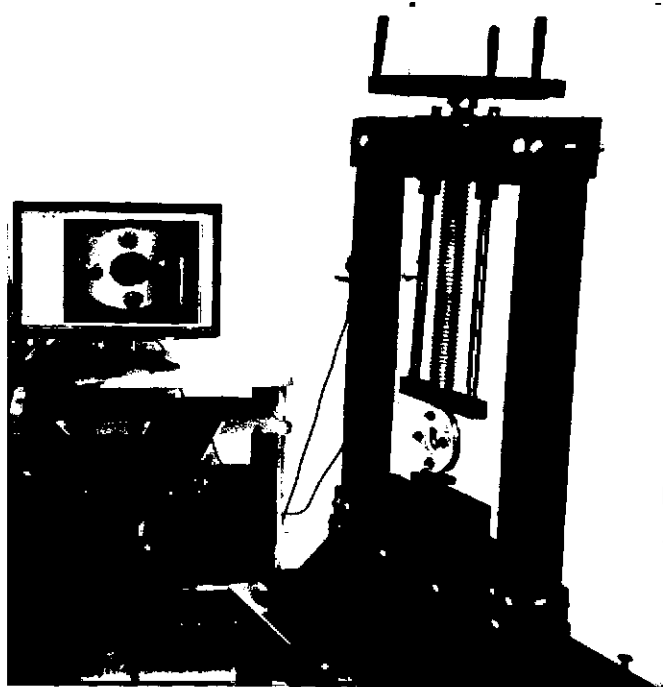
In Refereed International Journal:

1. S.Mukhopadhyay, R.Usha, E.G.Tulapurkara " Numerical study of concentrated fluid-particle suspension flow in a wavy channel" International Journal of Numerical Methods in Fluids, Vol.59,pp.1125-1155,(2009).
2. B. Tulsyan, K. Balasubramanian & R.I. Sujith "Revisiting a Model for Combustion Instability Involving Vortex Shedding" Combustion Science and Technology, 181 (3), 2009 457-482.
3. Computational Bifurcation Analysis of Multi-Parameter Dynamical Systems, Dr. N.K. Sinha AIAA Journal of Guidance, Control and Dynamics, Vol. 32, No.5, September-October 09, p.p 1651-1653.
4. An Object Oriented Design for Two Dimensional Vortex Particle Methods, Prabhu Ramachandran, M. Ramakrishna ACM Transactions on Mathematical Software, 2009, Vo. 32(4) p.p 1-28
5. Effect of Aft Wall Slope on Cavity Pressure Oscillations in Supersonic Flows, N.S. Vikramaditya and Job Kurian, Aeronautical Journal, Vol.113, No.1143, p.p 291-300
6. Pressure Oscillations from Cavities with Ramp, Vikramaditya, N.s and Job Kurian, AIAA, Journal Vol.47, No.12.
7. J. George and R.I. Sujith (2009) Emergence of Acoustic Waves from Vorticity Fluctuations: Impact of Non-normality, Physical Review E, Vol. 80, Article No.046321.
8. Tulapurkara E.G. " Recent developments in computation of flow past airplanes- A brief overview" Invited Talk-Proc. 36th National Conference on Fluid Mechanics and Fluid Power, Pune, Dec.17-19, 2009 pp. Key2.1-19 (on CD ROM).
9. Maheswara Reddy,N.,Tulapurkara, E.G. and Ganesan,V. " Analysis of reacting flow inside a jet engine afterburner" Proc. 36th National Conference on Fluid Mechanics and Fluid Power, Pune, Dec. 17-19,2009,pp.84-ANT-17.1-9 (On CD ROM).
10. Paper titled "Activated Charcoal-A Novel Burn Rate Enhancer of Aluminized Composite Propellants" by Sumit Verma and P. A. Ramakrishna accepted for publication in 'Combustion and Flame.
11. Paper titled "Opposed Flow Flame Spread Over Thin Solid Fuels: A 2D Numerical Study on Flame-Spread Transition from Normal Gravity to Zero Gravity and Vice Versa" by Chenthil Kumar and Amit Kumar in the International Journal of Aerospace Innovations, Volume 1(4), PP 175-187,Dec. 2009
12. Luoyi Tao, M. Ramakrishna, and K. R. Rajagopal, Turbulence modeling from a new perspective, Nonlinear Analysis: Real World Applications, 11, 39-54, 2010

Distinguished Visitors to the Department

S.No.	Name of the visitor and Designation	Date of Visit	Purpose of Visit
1.	Dr. Sébastien Ducruix Laboratoire EM2C - CNRS et Ecole Centrale Paris	24th March 2009.	Talk on "Acoustic Control of the Inlet Boundary of a Turbulent Swirled Burner"
2.	Dr. Dr. Karthik Palaniappan (2001 B.Tech Batch, IITM) CFD Engineer, Amoeba Technologies, Austin, USA	25 th May 2009	Talk titled "Aerodynamic Shape Optimization using CFD and Optimal Control"
3.	Prof. Helmi Attia Adjunct Professor Mechanical Engg. Dept. McGill University	28th May 2009	Talk titled 'Fretting Wear Studies and Fretting Fatigue'
4.	Dr. Razi Nalim Professor & Associate Chair Mechanical Engineering Indiana University, Purdue University, USA	17 th June 2009	Talk titled 'Constant-Volume Rotor Combustion Gas Turbines for Next Generation Jet Engines and Power Plants
5.	Prof. Ben T. Zinn, David S. Lewis, Jr. Chair in the School of Aerospace Engg. And Regents' Professor, Georgia Inst of Technology	14 th December 2009	Talk titled Combustion instabilities : Causes and Remedies Active Control of Combustion instabilities
6.	Dr. Dhanushkodi Mariappan, CEO, TechPassion Technologies, Chennai	19th February 2010	Talk Titled 'Doing Core Engineering in India'

APPLIED MECHANICS



4.2 DEPARTMENT OF APPLIED MECHANICS

4.2.1 Introduction:

The Department of Applied Mechanics has been in existence since 1959 and has grown into a full fledged interdisciplinary graduate research department over the years. The department focuses on academic activities in three broad areas viz., Biomedical Engineering, Fluid Mechanics and Solid Mechanics.

The Department also offers minor streams to undergraduate students.

Biomedical scholars are exposed to research involving Brain Computer Interface, 3D Echocardiography, Electrical Impedance Tomography, Electrical Imaging of Heart, Visually Evolved Potential analysis, and Image compression, Virtual Reality with Touch Feedback, Telemedicine, Medical Simulation, and Intelligent Prosthesis Design.

Students specializing in Fluid Mechanics get exposed to research involved in solving fundamental and applied problem in: Bluff Body Aerodynamics, Flow Control of Shear Layer, Mixing of Multiple Jets, Investigation of wakes, Transition and Turbulence, Buoyancy Driven Turbulence, Interfacial Phenomena, Boundary Layer Studies, Natural Convection and Coherent Structures, Bio-fluid Mechanics, Fluid Structure Interaction. The studies include computational, experimental and analytical efforts, as the problem demands.

Scholars specializing in Solid Mechanics get exposed to a wide spectrum of research problems in: Structural and Experimental Mechanics, Digital Photoelasticity, Composites, Smart and Nanostructures, Fatigue and Fracture, Finite Element Method, Boundary Element method, Plates and Shells, Granular Materials, Continuum Mechanics, Biomechanics and Constitutive Modeling. Various Experimental, Computational and Analytical methods are used for the above. The scholars also gain expertise by assisting in theoretical, computational and laboratory courses and lab related activities.

4.2.2 Academic Programmes:

The Department of Applied Mechanics has programmes leading to M.Tech. M.S. and Ph.D. in three disciplines of Applied Mechanics.

The M.Tech programme consists of two semesters of course work and two semesters of project work. The M.S. programme has five courses followed by a dissertation. The doctoral programme (Ph.D) trains the candidate to pursue original research ideas and prepares them for academic as well as research and development careers.

New lab(s) established:

- Dr. C. Lakshmana Rao = New Laboratory "Piezoelectric Sensing and Actuation Laboratory – September 2009.
- Dr. A. Arockiarajan - New laboratory "Smart Material Characterization Lab December 2009.
- Dr. Anuradha Banerjee – New Laboratory "Fracture & Fatigue Lab" – December 2009.
- Dr. Sayan Gupta – New Laboratory " The Uncertainty Lab" – December 2009.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Tech.	14	14	1	-	-	29
M.S.	11	12	6	4	4	37
Ph.D.	11	8	8	9	14	50
Total	36	34	15	13	18	116

Names of Student/Scholar who attended Conference/ /Seminar and Symposia Abroad/India:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad:					
1.	Ms.K.Chitra	AM05D001	1 st Int. Conf. on Mathematical and Computational Biomedical Engg.	June 29-July 1, 2009	DST

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
2.	Ms.Benolina Neethi Simon	AM06D013	17th International Conference on Composites / Nano Engg, Hawaii, USA	26 July – 1st August 2009	IITM, CSIR
3.	Mr. Kasimayan	AM07D002	7 th Euromech Solids Conference, ESMC '09, Portugal	7 -11 Sept. 2009	DST, CSIR
4.	Mr.N. Dasari	AM08S021	4th Intl. conf. on Experimental mechanics, Singapore	18-20 Nov. 2009	TI Cycles
5.	Mr. Kasimayan	AM07D002	4th Intl. conf. on Experimental mechanics, Singapore	18-20 Nov. 2009	IITM
6.	Ms.Benolina Neethi Simon	AM06D013	4th Intl. conf. on Experimental mechanics, Singapore	18-20 Nov. 2009	DST, CCSTDS
7.	Mr.Mohammad Yacin	AM07D003	Seventh International Conference on Biomedical Engineering(IASTD), Innsbruck, Austria	Feb 17-19, 2010	CSIR, IITM
India:					
1.	Ms.A.K. Jayanthi, Ph.D	AM07D009	Intl. Conf. on Optics and Photonics, paper titled "Laser speckle contrast imaging for analysing static concentration in phantom body fluids" & won best paper award & cash prize of Rs.5000, CSIO, Chandigarh	Nov.1, 2009	IITM
2.	Mr.R.Manivasagam, Ph.D	AM04D009	Intl. Conf ICCMS 2009 – Paper titled "Fracture simulation using triaxiality – dependent cohesive zone model", IIT Bombay	1-3 Dec.2009	IITM
3.	Mr.Mohd. Ghouse Pasha, M.S	AM07S002	Intl. Conf ICCMS 2009.	1-3 Dec.2009.	IITM
4.	Mr.Rajesh P. Nair, Ph.D	AM06D009	Intl. Conf ICCMS 2009 –titled "Elastic response of a cantilever beam using quadrilateral discrete element method"	1-3 Dec.2009.	IITM
5.	Mr.T. Kasimayan, Ph.D	AM07D002	Intl. Conf ICCMS 2009	1-3 Dec.2009.	IITM
6.	Mr.Kishor T. Zingre, M.Tech	AM08M019	Intl. Conf ICCMS 2009	1-3 Dec.2009.	Personal
7.	Ms.Naahein C, M.Tech	AM07M018	Intl. Conf ICCMS,IIT Bombay, Paper titled "An analytical method for predicting crack growth in randomly vibrating structures	December 1-3, 2009	Project
8.	Mr.K. Manoj, M.Tech	AM07M006	Intl Conf ICCMS 2009- Uncertainty quantification of natural frequencies of jointed segments of aerospace vehicles, IIT Bombay	December 1-3, 2009	Personal
9.	Mr.V Srinivasan, M.S.	AM08S004	ICCMS 2009- Numerical simulation of buckling control of aluminium shallow shell, IIT Bombay	December 1-3, 2009	IITM
10.	Mr.M Sridhar, M.S.	AM08S004	ICCMS 2009- Assessment of Turbulence models for flow past a circular cylinder and its wake control, IIT Bombay	December 1-3, 2009	IITM
11.	Mr.Ananth Pai, M.S.	AM08S004	ICCMS 2009- The Chaotic and Targeted Mixing of Inertial Particles, IIT Bombay	December 1-3, 2009	IITM
12.	Mr.M Sakthivel, M.S.	AM08S013	ICCMS 2009 - An analytical model for predicting thermo-electro-mechanical response of 1-3 piezocomposite, IIT Bombay	December 1-3, 2009	ISRO

Names of students/scholars who won outside prizes and awards:

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Ms.A.K. Jayanthy, Ph.D	AM07D009	won best paper award & cash prize of Rs.5000	CSIO, Chandigarh
2	Ms.K. Hemalatha, Ph.D.	AM06D007	Won best paper award in the Allied Field Category	International Conference on Recent trends in Information, Technology, and Computing (ITC 2010)

4.2.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization

Professor:

Prof. M. Ramasubba Reddy[Head]

Biosignal and Image Processing, Bio Instrumentation

Prof. K. Ramesh

Digital photoelasticity, Fracture Mechanics

Prof. C. Lakshmana Rao

Fracture mechanics, Modeling of materials, Piezoelectric materials

Prof. J. Lakshmaninarasimhan

Fluid Mechanics, Aerodynamics

Prof. R. Palaninathan

Structural Mechanics, Composites, FEM, Thermal Structures

Prof. M.S. Sivakumar

Smart Materials & Structures, Plasticity

Associate Professor:

Dr. S. Vengadesan

Fluid Mechanics, Turbulent flows and modeling, CFD

Dr. S. Ramakrishnan

Biomedical Instrumentation, Enhancing Diagnostic Relevance of Medical Equipment

Assistant Professor:

Dr. Anuradha Banerjee

Fracture Mechanics, Composites

Dr. A. Arockiarajan

Smart Materials, Finite Elements Mesh Free Methods

Dr. Arul Prakash

Large Eddy Simulation (LES) and Related Techniques, CFD and Thermal Hydraulics.

Dr. A. P. Baburaj Puthanveettil

Turbulent convection, Interfacial phenomena

Dr. M. Manivannan

Haptics, Medical simulation

Dr. B.S.V. Prasad Patnaik

Flow Control, CFD FIV, Phase-Field Models

Dr. Rinku Mukerjee

Applied Aerodynamics, CFD

Dr. G. Santhanakrishnan

Engineering Mechanics, Rotor Dynamics

Dr. Sayan Gupta

Dynamics & Random Vibration, Structural, reliability, Probabilistic mechanics

Dr. N. Sujatha

Biomedical Imaging, Speckle Metrology

Adjunct Faculty:

Dr. V.B.N. Murthy

Plastic Surgery, Diabetic foot

Dr. S. Thanikachalam

Cardiology, Structural reliability

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1	Dr.M.Manivannan	*Haptics and Biomedical Engineering*, Three-Day Workshop	TechFest, 24-26, Jan. 2009, IIT Bombay.

Short-term Courses/Workshops/Seminars/Symposia/Conferences/Training attended by the faculty members in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	Dr. Sayan Gupta, Naajein C	Stochastic fatigue crack growth in randomly vibrating structures	Fatigue design for safety Chalmers Technical Institute, Goteborg, Sweden.	May 25-27, 2009
2.	Dr. R. Palaninathan	Abrasive studies on high temperature composites	Anna Univ, MIT, Chennai Two day National workshop on High Temp. materials in Aerospace engg	January 8- 9, 2010
Symposia:				
1.	Dr. K. Arul Prakash	Annual Symposium of Aerodynamics	IIT Bombay	17-18 April 2009
Conference: [National / International Conference]				
1.	Dr. S. Vengadesan Mr.Y.Sudhakar	39th AIAA Fluid Dynamics Symposium- paper titled 'Aerodynamic Force Generation in Tiny Hovering Insects'	San Antonio, TX, USA	22-25 June 2009
2.	Dr. K. Ramesh	4th Intl. conf. on Experimental mechanics 2009 – chaired a session on "Photoelasticity and Birefringence techniques"	NTU Singapore	18-20 Nov. 2009
3.	Dr. Rinku Mukherjee	Intl. Conf. on Recent and Emerging advanced technologies in Engg 2009	NTU University, Malaysia	23-24 Nov. 2009
4.	Dr. C. Lakshmana Rao	Intl. Congress on Computational Mechanics	IIT Bombay	1-3 Dec.2009
5.	Dr. A. Arockiarajan	3rd Intl Congress on Computational Mechanics–titled "A thermodynami- cally motivated model for ferro- electrics with free energy smoothing	IIT Bombay	1-3 Dec.2009
6.	Dr. A. Arockiarajan C. Elango	3rd Intl Congress on Computational Mechanics–titled "Active vibration control on smart beam using piezoelectric actuator"	IIT Bombay	1-3 Dec.2009
7.	Dr. A. Arockiarajan, J. Kaliappan, A. Menzel Dr. M.S. Sivakumar	1 st Intl. Conf. on Material Modeling "On polygonal finite elements applied to the modeling of polycrystalline ferroelectrics"	TU Dortmund, Germany	15-17 Sep. 2009
8.	Mr.T. Kasimayan Dr. K. Ramesh	Finite Element Simulation of Whole Field Photoelastic Parameters for the Slice Cut from 3D Models	Proc. 3 rd Intl. Congress on Computational Mechanics and Simulation (ICCMS 09), IIT Bombay	1 st – 3 rd December 2009.
9.	Ms.B. Neethi Simon Dr. K. Ramesh	Finite element simulation of fringe patterns in reflection photoelasticity	Proc. 3 rd Intl. Congress on Computational Mechanics and Simulation (ICCMS 09), IIT Bombay, pp. 265, 266.	1 st – 3 rd December 2009
10.	Mr.Kishore T. Zingre Dr. K. Ramesh	Experimental and numerical assessment of influence of size of speckle in Digital Image correlation	Proc. 3 rd Intl. Congress on Computational Mechanics and Simulation (ICCMS 09), IIT Bombay	1 st – 3 rd December 2009.
11.	Dr. M.S. Sivakumar	ISAMPE National conf on Composites – INCCOM8	VSSC Trivandrum	3-5 Dec.2009
12.	Dr. S. Vengadesan	36th National Conf. on FMFD – paper titled "Reacting flow analysis of a two-sided cavity TVC"	College of Engg, Pune	17-19 Dec. 2009
Short term Course:				
1.	Dr. Arul Prakash	Short term course on Mechanics over Micro and Macro scales.	IIT Kharagpur	21-22 Dec 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. B.S.V. Prasad Patnaik	Talk on Ubiquitous Fluid Fluid Turbulence	VIT, Vellore	1 July 2009
2.	Dr. K Ramesh	Lecture in a short term course	NIT, Trichy	6 July 2009
3.	Dr. M.S. Sivakumar	Modeling Materials: Structures within structures	Foundation Day Address, CMMACS, Bangalore	15 July, 2009
4.	Dr. K. Ramesh	Delivered a lecture on *Innovations in Engineering Education	NUS Singapore	17 Nov. 2009
5.	Dr. K. Ramesh	Experimental Fracture Mechanics	VSSC, Trivandrum	21 Dec 2009
6.	Dr. Sayan Gupta	Research in Structural Reliability: current status and future directions	IIT Kharagpur	7 February 2010
7.	Dr. K. Ramesh	Overview on Photoelasticity	Anna University, MIT campus	3 March 2010
8.	Dr. R. Palaninathan	Metal Matrix Composites : IIT/Madras Experience	National Engg College, Kovilpatti	5 th March 2010
9.	Dr. M. Ramasubba Reddy	Sensors and Transducers used in Biomedical Engineering	MSRIT, Bangalore	12 th January 2010.

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. Sayan Gupta	Delft, The Netherlands	May 2009	discussions on initiating collaborative research.	Funded by hosts
2.	Dr. Sayan Gupta,	Goteborg, Sweden	May-June 2009	collaborative research work & to present a paper in an international conference	Funded by hosts
3.	Dr. S.Vengadesan	Kobe University and Tokyo Polytechnic University, Japan	29/August/09 05/September/09	for discussion on research	Funded by host
4.	Dr. K. Ramesh	NTU Singapore	18-20 Nov. 2009	4th Intl. conf. on Experimental mechanics 2009	IITM
5.	Dr. K. Ramesh	NUS Singapore	17 Nov. 2009	Delivered a lecture on *Innovations in Engineering Education	IITM
6.	Dr. Rinku Mukherjee	NTI University, Malaysia	23-24 Nov. 2009	Intl. Conf. on Recent and Emerging advanced technologies in Engg 2009	IITM
7.	Dr. A. Arockiarajan	TU Dortmund, Germany	17 May -17 July 2009	DAAD Research visit Fellowship	DAAD

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr. M.S.Sivakumar	Inelasticity of Materials	World scientific Inc., Singapore	A.R. Srinivasa
2.	Dr. K. Ramesh	e-book on Experimental Stress Analysis	IIT Madras Published by, India, 2009. http://apm.iitm.ac.in/smlab/kramesh/book_5.htm	
Monographs:				
1.	Dr. Sayan Gupta	Stochastic dynamic stiffness matrix method:Vibration analysis of structures built up of curved and straight beams	Lambert Academic Publishing, . ISBN: 978-3-8383-0152-5. Price: 68 euros. (2009)	CS Manohar:
2.	Dr. Sayan Gupta	Reliability analysis of randomly vibrating structures	Lambert Academic Publishing, . ISBN: 978-3-8383-0154-9. Price: 79 euros(2009)...	CS Manohar

Fellowships of Academies and Professional Societies:

Sl.No	Name of faculty	Year of admission
AR&DB Structures Panel		
1.	M.S.Sivakumar	2009

Journal Editorial Boards/ Membership:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name / Board
1.	Dr. K. Ramesh	Editorial Board	Journal Strain Analysis for Engineering Design, I Mech E' Journal, UK
2.	Dr. M.S.Sivakumar	Editorial Board	CMES, TechScience, USA
3.	Dr. M.S.Sivakumar	Editor-in-Chief	Int. J. of Structural Changes in Solids (JSCS), open online journal

4.2.4 Design and Development Activities:

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. In lakhs)
1	Biaxial Thin Film Testing facilities	Rs. 18 Lakhs

4.2.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
1.	Investigation of near- wall dynamics in turbulent convection	17.08.09	DST	Rs.24 lakhs	Dr.Baburaj, Dr.Sayan Gupta (coinvestigator),
2.	Development of an immersed boundary Navier-Stokes Solver for stimulating insect flight dynamics	12.08.09 [2 Years]	ARDB	Rs.10.58 lakhs	Dr. Arul Prakash Dr. S. Vengadesan
3.	Biaxial testing and modelling of enhanced nitrogen steel SS 316	September 2009-2010	IGCAR, Kalpakkam	Rs.13.8 Lakhs	Dr.C Lakshmana Rao Dr. G.Santhana-krishnan
4.	Experimental studies on non-linear effects of piezoelectric materials	2 Years 23.9.2009-22.9.2011	ISRO	Rs. 21,68,600	Dr.A.Arockiarajan Dr.M.S.Ramachandra Rao

5.	SIMUGLASS : Development of a synergistic computational tool for material modeling, process simulation and optimization of optical glass molding	3 Years 2010-13	DST (Indo . European)	Rs. 69.66 lakhs	Dr. K. Ramesh
6.	Probabilistic residual life assessment of high temperature piping in nuclear power plants against creep fatigue damage	3 years July, 2009- 2012	Board of Research in Nuclear Sciences	Rs.9.94 lakhs,	Dr. Sayan Gupta
7.	Development of structural health monitoring for civil infrastructure using smart sensing Technologies	2 years 9 months, 2010-2012		Rs.231.52 lakhs	Dr.Meher Prasad, Dr.U Saravannan, Dr.Sayan Gupta, Dr.MS Sivakumar, Dr. V Kamakoti
8.	Ablation Studies on Re-Entry Capsule	2 years 2010-11	Defence Research and Development Lab.	Rs.15.00 lakhs	Dr.R. Palaninathan
9.	Computational Investigation of Single and Two-Phase Flows Through Rod Bundles in Creep Distorted Channels	3 years 2009-12	Board of Research in Nuclear Sciences	Rs.19.00 lakhs	Dr.B.S.V.Prasad Patnaik Dr. B V S S S Prasad
10.	Diagnosis through Three Radial Artery Pulse	3 yrs 2007 - 2010	DBT	Rs.13 L	Dr. M.Manivannan
11.	Instrumented Mannequin for Training Medical Doctors	3 yrs 2008 -2011	DBT	Rs.27.6 L	Dr. M.Manivannan, Dr.M. Ramasubba Reddy
12.	2D Haptics Device Design	3 yrs 2008-2011	DST	Rs.16.4 L	Dr. M.Manivannan
13.	Laparoscopic Simulation With Haptics Feedback	3 yrs 2009-2012	DIT	Rs.38.7 L	Dr. M.Manivanann

RBIC projects: (on going & new)

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lakhs)
1	Dr.M.Manivannan	Trauma Care Training DRDO, Govt. of India Simulator (TRaCaTS)	SDD, Secunderabad	16.5 Lakhs

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	—	03
Total No. of papers published in Refereed International Journals	----	31
Total No. of papers presented in National Conferences	----	03
Total No. of papers presented in International conferences	—	23

In Refereed National Journals:

Sl.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Dr. M. Ramji Mr. R. G. R. Prasath Dr. K. Ramesh	A generic error simulation in digital photoelasticity by Jones calculus	Journal of Aerospace Sciences and Technologies, 61(4), pp. 475-481, 2009
2.	Mr. K.Srinivasan Dr.M. Ramasubba Reddy	Selection of Optimal wavelet for lossless EEG compression for real-time applications	Indian Journal of Biomechanics: Special issue (NCBM 2009), pp.241 -245, 2009.
3.	Mr. Bhargav Bhatt Dr. M.Ramasubba Reddy	Theoretical analysis of induced potentials due to blood flow under the static magnetic field of MRI	Indian Journal of Biomechanics, Special Issue NCBM 7-8 March 2009, pp.51- 55, 2009.

In Refereed International Journals:

Sl.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Dr.Baburaj A. Puthenveetil E.J. Hopfinger	Evolution and breaking of parametrically forced capillary waves in a circular cylinder	Journal of Fluid Mechanics, Vol. 633, August 2009, pp 355-379.
2.	K.Chitra Dr. S.Vengadesan Dr. T.Sundararajan Dr. P.Nithiarasu	An investigation of pulsatile flow in a model cavo-pulmonary vascular system	Communications in Numerical Methods in Engineering, 25, 1061-1083, 2009
3.	Dr.A.Lankadasu Dr.S.Vengadesan	Influence of inlet shear on the square cylinder wake transition	Jl. of Fluids and Structures, 25, 889-896, 2009.
4.	Dr.A.Lankadasu Dr.S.Vengadesan	Large eddy simulation of bluff body wake in planar shear flow	Int. Jl. for Numer. Methods in Fluids, Vol. 29, pp.1054-1059, 2009.
5.	K.Chitra Dr. S.Vengadesan Dr. T.Sundararajan Dr. P.Nithiarasu	Non-Newtonian Blood Flow Study in a Model Cavopulmonary Vascular System	Int. Jl. for Numer. Methods in Fluids, (accepted), August, 2009, DOI: 10.1002/ftd.2256.
6.	N. Sekarapandian, Dr.YVSS Sanyasiraju Dr. S.Vengadesan	A Novel Semi-Explicit Fourth Order Accurate Project Method for Unsteady Incompressible Viscous Flows	Numerical Heat Transfer – PART A, 56, 665-684, 2009.
7.	Dr. A. Arockiarajan Dr.S.M.Sivakumar C. Sansour	A thermodynamically motivated model for ferroelectric ceramics with grain boundary effects	Intl. Jl. on Smart Materials and Structures, 19, 2010, 015008
8.	Mr.K. Jayabal, D. Srikrishna, T.S. Abhinandan, Dr.A. Arockiarajan, Dr.S.M. Srinivasan	A thermodynamically consistent model with evolving domain structures in ferroelectrics	International Journal of Engineering Science, 47, 2009, 1014-1024
9.	Y.Sudhakar Dr.S.Vengadesan	Flight force production by flapping insect wings in inclined stroke plane kinematics', Computers & Fluids	doi:10.1016/j.compfluid.2009.11.004, 2009.
10.	Ms.B. Neethi Simon Dr.K. Ramesh	Digital photothermo-elastic and numerical analysis of transient thermal stresses	Journal of Applied Mechanics, Trans. ASME, paper no. 044502, vol. 76(4), 2009.
11.	Ms.B. Neethi Simon Mr.R. G. R. Prasath Dr.K. Ramesh	Transient thermal stress intensity factors of bimaterial interface cracks using refined three-fringe photoelasticity	Journal of Strain Analysis for Engineering Design, 44(6), pp. 427-438, 2009.
12.	Dr.T. Kasimayan Dr K. Ramesh	Adaptive smoothing for isoclinic parameter evaluation in digital photoelasticity	Strain,10.1111/j.1475-1305.2009.00619.x, 2009.
13.	Mr.Kasimayan, T Dr.Ramesh, K	Digital reflection photoelasticity using a conventional reflection polariscope	Experimental Techniques, 10.1111/j.1747-1567.2009.00537.x, 2009.
14.	Dr.Ramji, M Dr. Ramesh, K.	Adaptive Quality Guided Phase Unwrapping Algorithm for Whole Field Digital Photoelastic Parameter Estimation of Complex Models,	Strain, 46(2), pp. 184-194, 2010.
15.	Mr.K. Raghupathy, Dr.K. Ramesh D. Hall	Effects of negative biaxial loadings and notch on failure assessment diagrams	Journal of Pressure Vessel Technology, Trans. ASME, paper no. 011403, vol. 132 (1), 2010.
16.	Mr.M Sridhar Dr. B S V Patnaik	An active flow control strategy for the suppression of vortex structures behind a circular cylinder	European Journal of Mechanics B Fluids, 29, 93-104 (2010).
17.	Ms.L.Suganthi, Dr.M.Manivannan	Modeling the effect of cuff pressure in Upper arm	International Joint Journal Conferences in Computer, Electronics and Electrical 2009, IJRTE, Vol. 2, No. 1- 6, 73-75, CEE 2009.

18.	Mr.S. Mohamed Yacin, Dr.M. Manivannan Dr. V. Srinivasa Chakravarthy	Effect of Gastric Myoelectric Activity on Pulse Rate Variability in Fasting and Postprandial Conditions	International Joint Journal Conferences in Computer, Electronics and Electrical 2009, IJRTE, Vol. 2, No. 1-6,27-29, CEE 2009.
19.	Ms.K. Hemalatha Dr.M. Manivannan	A study of Cardiopulmonary interaction haemodynamics with detailed lumped parameter model	International Joint Journal Conferences in Computer, Electronics and Electrical 2009, IJRTE, Vol. 2, No. 1-6, CEE 2009.
20.	Mr.A.K. Nallathambi, Mr.S. Doraiswamy, Mr.A.S. Chandrasekar Dr.S.M. Srinivasan	A 3-species model for shape memory alloys	International Journal of Structural Changes In Solids, 1, 149 - 170, 2009.
21.	Mr.K.R Pradeep, Dr.B Nageswara Rao, Dr.S.M. Sivakumar Dr.K.Balasubramaniam	Interface Fracture Assessment on Sandwich DCB Specimens	I, Journal of Reinforced Plastics and Composites doi:10.1177/07316844, 2009.
22.	Iyer, M., Kiranmayi, Mr.L., Chandrasekhar, Dr. M.S. Sivakumar	S.M. Analysis for damping in structures braced with superelastic SMA wires	Journal of Structural Engineering, 36, 106 - 113, 2009
23.	Dr.Rajagopal, A. Dr. S.M. Sivakumar	Energy based adaptive strategy for plates and laminates	International Journal of Comp. meth. in engg sci. mech, 10, 209 - 223, 2009
24.	Mr.Baskaran, B Dr.Sivakumar, S. M Dr. Prakash, O	Overview of the Effects of Shot Peening on Plastic Strain, Work Hardening, and Residual Stresses	Computational Materials, 49 - 117, 2009
25.	run, C. O., Rao, B. N., and Sivakumar, S. M.	On Material Discontinuity Treatment in Element Free Galerkin Method	Journal of Structural Engineering, 36, 182 - 194, 2009
26.	Ms.K. Hemalatha Dr.M. Manivannan	Interaction haemodynamics Model Study	Accepted in International Journal of Biomedical Engineering.
27.	Dr.M.Manivanann, Mr.R. Periyasamy, Dr.V.B.Narayanamurthy,	Vibration Perception Threshold and the Law of Mobility in Diabetic Mellitus Patients	Primary Care Diabetes, 3 (2009) 17-21
28.	Mr.K.Srinivasan, Dr.M.R. Reddy	Efficient pre-processing technique for real-time lossless EEG compression	IET Electronics Letters, vol.46, No.1, pp.26-27, 7th January 2010.
29.	Mr.B S Suresh Anand Dr.N Sujatha	Effects of Intralipid-10% in fluorescence distortion studies on liquid-tissue phantoms in UV range	Journal of Biophotonics 2010
30.	Mr.N. Ashok Kumar, Dr.C.Lakshmana Rao, Dr. S.M.Srinivasan,	Large deflection of constant curvature cantilever beam under follower load	International Journal of Mechanical Sciences, 52, 440-445, 2010.
31.	Mr.Anup, S Dr.Sivakumar, S.M. Dr.G.K. Suraishkumar,	G.K, Influence of viscoelasticity of protein on the toughness of bone	Journal of the Mechanical Behaviour of Biomedical Materials, 3, 260-267, 2010.

In Proceedings of National Conferences:

Sl.No.	Name of the faculty	Title of the paper	Institution	Period
1.	Ms.C.Sony Dr.S.Vengadesan	Reacting flow analysis of a two-cavity trapped vortex combustor	Proc. of 34th National Conference on FMFP, pp. B6-1 – B6-9..	Dec, 2009
2.	Mr.Rajasekhar Reddy, Dr. Sayan Gupta	Stochastic Hopf bifurcation of a 2-dimensional turbine blade in a randomly fluctuating flow	XVI the National Seminar on Aerospace Structures, IIT	November 19-20(2009).
3.	Mr.Praveen Kumar Singh, Mr.Subir Kumar Saha Mr.M. Manivannan	Synthesis of Two Degrees-of-Freedom Haptic Device	14th National Conference on Machines and Mechanisms (NaCoMM-09), NIT, Durgapur, India	December 17-18, 2009

In Proceedings of International Conferences:

Sl.No.	Name of the faculty	Title of the paper	Institution	Period
1.	Dr. Sayan Gupta Ms. Naajain Cherat	Stochastic fatigue crack growth in randomly vibrating structures	Fatigue design for safety, Nya Varvet,,	May 25-27(2009).
2.	Ms.B. Neethi Simon Dr.K. Ramesh	Influence of the Location of Interface Crack on the Stress Field in Bimaterial Specimens under Whole-field Cooling",	Proc. 8th Intl. Congress on Thermal Stresses (TS 09), University of Illinois at Urbana-Champaign, USA	31 st May to 4 th June 2009, pp. 349- 352.
3.	Mr.Y.Sudhakar Dr.S.Vengadesan	Aerodynamic Force Generation in Tiny Hovering Insects	AIAA-2009-4197, AIAA – Fluid Dynamics Meeting, San Antonia, TX, USA	June, 2009.
4.	Ms.Chitra K., Dr.S. Vengadesan, Dr.T. Sundararajan Dr.P. Nithiarasu	Pulsatile flow investigation in a model Cavopulmonary connection	1 st Int. Conf. on Mathematical and Computational Biomedical Engg Swansea, UK.	June 29-July 1 (2009)
5.	Ms.B. Neethi Simon Dr.K. Ramesh	Equivalence of thermal and mechanical loads in Bimaterial Strips with Interface Cracks	Proc. 17 th Intl. Conference on Composites/Nano Engineering (ICCE 17), Honolulu, Hawaii, USA	26th July to 1st August 2009.
6.	Mr.T. Kasimayan, Dr.K. Ramesh	Whole Field Photoelastic Parameters Estimation using Five-step Method	7 th EUROMECH Solid Mechanics Conference (ESMC 2009), Portugal	7 th – 11 th September 2009, paper no. GS-EM-970.
7.	Mr.S. Mohamed Yacin, Dr.M. Manivannan Dr.V. Srinivasa Chakravarthy	Pulse Rate Variability and Gastric Electric Power in Fasting and Postprandial Conditions	31st Annual International Conference of the IEEE EMBS Minneapolis, Minnesota, USA	September 2-6, 2009
8.	Ms.L.Suganthi, Dr.M.Manivannan	Effect of Upper Arm Cuff Pressure on Pulse Morphology using Photoplethysmography	31st Annual International Conference of the IEEE EMBS Minneapolis, Minnesota, USA	September 2-6, 2009
9.	Ms.A. K. Jaynathy, Dr. N. Sujatha Dr. M. Ramasubba reddy	Laser speckle contrast imaging for analyzing static scatterer concentration in body fluids	International conference on Optics and Photonics	Proceedings of, C1.5, (30 Oct- 1 Nov 2009).
10.	Mr.T. Kasimayan, Dr. K. Ramesh	Digital Photoelastic Analysis of Stress Frozen Slices using Five-step Method	Proc. 4th Intl. Conference on Experimental Mechanics (ICEM 2009), Singapore	18 th to 20 th November 2009.
11.	Ms.B. Neethi Simon Dr. K. Ramesh	Effect of Error in Crack Tip Identification on the Photoelastic Evaluation of SIFs of Interface Cracks	Proc. 4th Intl. Conference on Experimental Mechanics (ICEM 2009), Singapore	18 th to 20 th November 2009.
12.	Mr.V. Anand, Mr.N. Dasari Dr. K. Ramesh	Inspection of assemble stresses in an industrial chain plate using reflection photoelasticity	Proc. 4th Intl. Conference on Experimental Mechanics (ICEM 2009), Singapore	18 th to 20 th November 2009.
13.	Mr.Bhargav Bhatt, Dr.M.Ramasubba Reddy	Suppression of MHD artifacts on single channel ECG during cardiac MRI" Proceedings of International Conference on Emerging Technologies for sustainable development	IEEE TENCON,Singapore,	23-26 November 2009, pp.1-4.
14.	Ms.Naajain Cherat Dr. Sayan Gupta	An analytical method for predicting fatigue crack growth in randomly vibrating structures.	3rd International Congress on Computational Mechanics and Simulation, IIT Bombay	December 1-5 , 2009.

15.	Mr.K. Manoj Dr.Sayan Gupta	Uncertainty quantification of natural frequencies of jointed segments of aerospace vehicles	3rd International Congress on Computational Mechanics and Simulation, IIT Bombay ,	December 1-5, 2009.
16.	Mr.Ghouse MD, Dr.C. Lakshmana Rao Dr.B.N. Rao	Numerical modeling of fracture in particulate concrete in compression unit cell approach	3rd International Congress on Computational Mechanics and Simulation, IIT Bombay ,	December 1-5 , 2009.
17.	Mr.Rajesh P. Nair, Dr.C.Lakshmana Rao	Elastic response of cantilever beam using Quadrilateral discrete element method	3rd International Congress on Computational Mechanics and Simulation, IIT Bombay ,	December 1-5 , 2009.
18.	Mr.V. Srinivasan, Dr.C Lakshmana Rao Dr. Sayan Gupta	Numerical simulation of buckling control of aluminium shallow shell	3rd International Congress on Computational Mechanics and Simulation, IIT Bombay,	December 1-5 (2009).
19.	Mr.Bhargav Bhatt, Dr.M.Ramasubba Reddy,	ICA based flow artifact removal from ECG during MRI"	Proceedings of International Conference on Advances in Computing, Control and Telecommunication Technologies, ACT2009, Trivandrum, pp.241-243.	28-29 December 2009
20.	Mr.S.Mahesh, Dr.M.Manivannan, Mr.T.Anandan	Design of Pulse Sensor for Siddha Based Disease Diagnosis	ICoRD 09, International Conference on Research in Design	Jan 2009
21.	Dr.M.Manivannan, Mr.P.Rajasekar	Hybrid Model For Haptic Rendering in Virtual Tissue Cutting	ICoRD 09, International Conference on Research in Design	Jan 2009
22.	Mr.Siddharth.N, Dr.Manivannan.M, Mr. Suresh Devasahayam, Mr.George Mathew	Design of a Do-It-Yourself VR based Laparoscopic Simulator	Medicine Meets Virtual Reality 2009, Longbeach, California USA	Feb 2009
23.	Mr.K.Srinivasan, Dr.M.R. Reddy	Wavelet-domain L-infinite constrained near-lossless EEG Coder	in BAIP 2010, Springer LNCS-CCIS, vol.70, pp.76-80,	2010.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. Harish Viswanathan Loughborough University	April 9, 2009	Guest Lecture on Validation of Kinetic Theory Predictions with Experimental Results for Vibro-Fluidized Three Dimensional Granular Beds
2.	Dr. Mohanasankar Sivaprakasam North Carolina State University	April 17, 2009.	Guest Lecture on Biomimetic Microelectronic Systems
3.	Mr. N. Vijayabhaskar Research Scholar University of Glasgow, UK	June 12, 2009	Guest lecture on Analytical modelling of interfacial stresses in plated beams
4.	Prof. K.R. Rajagopal, Regents Professor Texas A&M University, Texas USA	July 22, 2009	Guest lecture on Is our Methodology to Study Vibration Sufficiently General
5.	Mr. Jimmy Philip, Ph.D Research Scholar Faculty of Aerospace Engg, Technion, Israel	July 23, 2009	Guest lecture on The Relationship between Streaks and Hairpin Vortices in Subcritical Wall Bounded Shear Flows
6.	Mr. Natarajan Sundararajan University of Glasgow	August 10, 2009	Guest lecture on Extended Finite Element Method [XFEM] for moving boundary problems"

7.	Dr. Michael Downes Visiting faculty member Department of Bioengineering Christian Medical College, Vellore	30th October, 2009.	Guest lecture on Virtual Reality based Surgical Simulations
8.	Prof. Ulrich Gabbert, University of Magdeburg, Germany	November 17, 2009.	Guest lecture on Piezoelectric smart structures for vibration & noise control Modeling, analysis & application"
9.	Prof. Ulrich Gabbert, University of Magdeburg, Germany	November 18, 2009	Guest lecture on Modeling of soft tissues for real-time simulations in virtual surgery
10.	Prof. Andreas Menzel	April 1, 2010	To attend Ph.D. viva voce of Mr.K.Jayabal

4.2.5 Other Activities of the Department/Centre:

1	Dr. A. Arockiarajan	Project proposal meet at ISRO-VSSC on May 11-14, 2009
2	Dr. R. Palaninathan	Doctoral Committee Meeting, VIT, Vellore on May 20, 2009.
3	Dr. K. Ramesh	Project discussion with Prof. L.S.Srinath, IISc, Bangalore on May 25-27, 2009
4	Dr. R. Palaninathan	Project proposal meeting – lecture on 'Ablative Thermal Protection Systems' DRDL Hyderabad 5 June 2009.
5	Dr. M. Ramasubba Reddy	To conduct Viva Voce examination at NIT Calicut, 10-11 June 2009
6	Dr. N. Sujatha	To conduct Viva Voce examination at VIT Vellore on 30th July 2009
7	Dr. M.S.Sivakumar	AR&DB Structures Panel meeting at NAL, Bangalore on 3rd & 4th August 2009
8	Dr. A. Arockiarajan	AR&DB Structures Panel meeting at NAL, Bangalore on 3rd & 4th August 2009
9	Dr. N. Sujatha	Panel member of International conference on biomedical engineering and healthcare engineering held at MSEC, Chennai (6th-8 th Aug 2009)
10	Dr. A.P.Baburaj	Technical discussion at IGCAR, Kalpakkam on 12 August 2009
11	Dr. K. Arul Prakash	Technical discussion at IGCAR, Kalpakkam on 12 August 2009.
12	Dr. N. Sujatha	Panel member of Shristi 09, National level technical symposium held at SSN Engineering College, Chennai (31st Aug 2009)
13	Dr. M. Ramasubba Reddy	To conduct Ph.D Viva voce examination IIT Guwahati, 17-18 Sept. 2009.
14	Dr. K. Ramesh	INAE Convention at IGCAR, Kalpakkam on 17-18 December 2009
15	Dr. K. Ramesh	Discussion on ISRO-IITM Cell Project, VSSC, Trivandrum, 21-22 December 2009.
16	Dr. M.S. Sivakumar	To attend ARDB Meeting at Delhi on 5th February 2010.
17	Dr. Dr. Sayan Gupta	Invited as an Expert for a panel discussion and presentation in the first topical meeting for the Advanced Facility for Research in Reliability Engineering, IIT Kharagpur. - 7th February 2010.
18	Dr. M. Ramasubba Reddy	To participate in the Board of Studies meeting for M.Tech, Biomedical Engg program at Amrita Institute Coimbatore, 22nd February 2010.
19	Dr. M. Ramasubba Reddy	To attend GTC meeting at VIT, Vellore, 25th February 2010.
20	Dr. M.S.Sivakumar	AR & DB panel meeting, IIT Bombay, 19 Nov. 2009

Results obtained in research work (from M.S. & Ph.D thesis) of the scholar/faculty:

R. Malathy	This doctoral work explores the effect of Sodium ion channel in establishing ventricular arrhythmia using computational models of cardiac ventricular cell from cellular level to tissue level.
P.S. Pandian	Multilayer imaging and characterization of tissues were carried out by Laser Reflectometry and Monte Carlo Simulation for normal tissues and diseased ones of frost bite in hand and of male breast cancer.
K. Jayabal	Micromechanically motivated domain switching models for nonlinear behaviour of ferro-electric ceramics and implementation into polygonal finite element approach.
Y. Sudhakar	In this thesis, we have addressed the significance of delayed stall mechanism in inclined stroke plane hovering. More ever, the influence of varying the wing kinematic parameters on the force production and flow structures are investigated for finclined stroke plane flapping wing.
Vijayarama Reddy	The research was aimed to understand the transport of salt through a horizontal permeable membrane separating the layers of salt solution and water with water at the bottom, and the effect normal-flow on the near membrane region.

Inter disciplinary group achievements of the Departments.

- Interdisciplinary...: awarded an interdisciplinary project by NPMASS involving the departments of Applied Mechanics, Civil and Computer Science

International collaboration achievements by the Department:

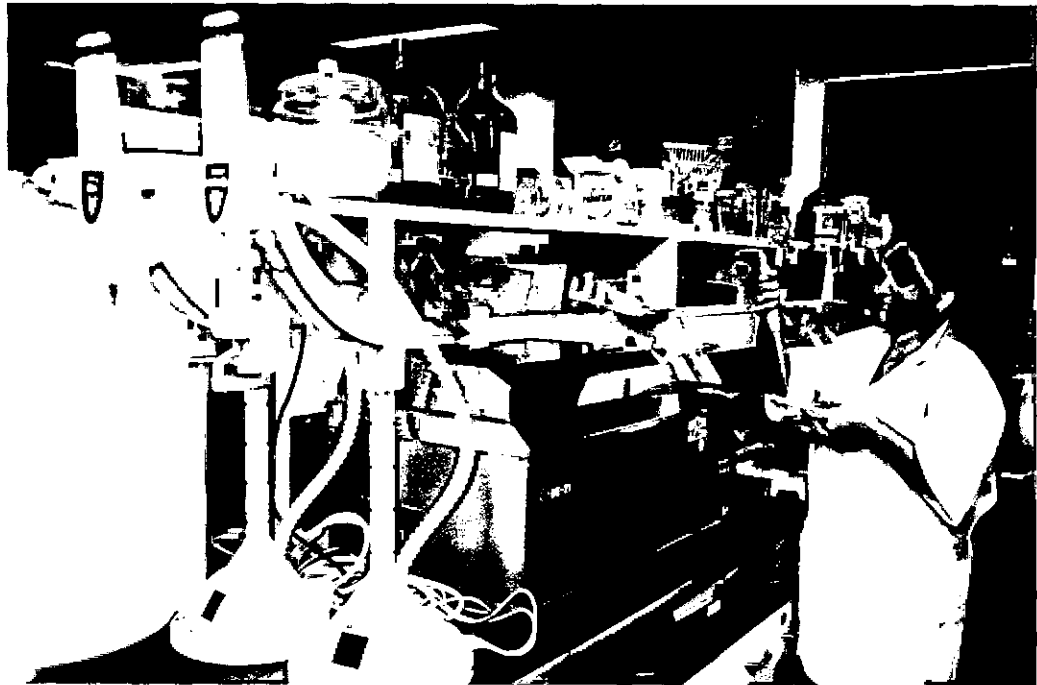
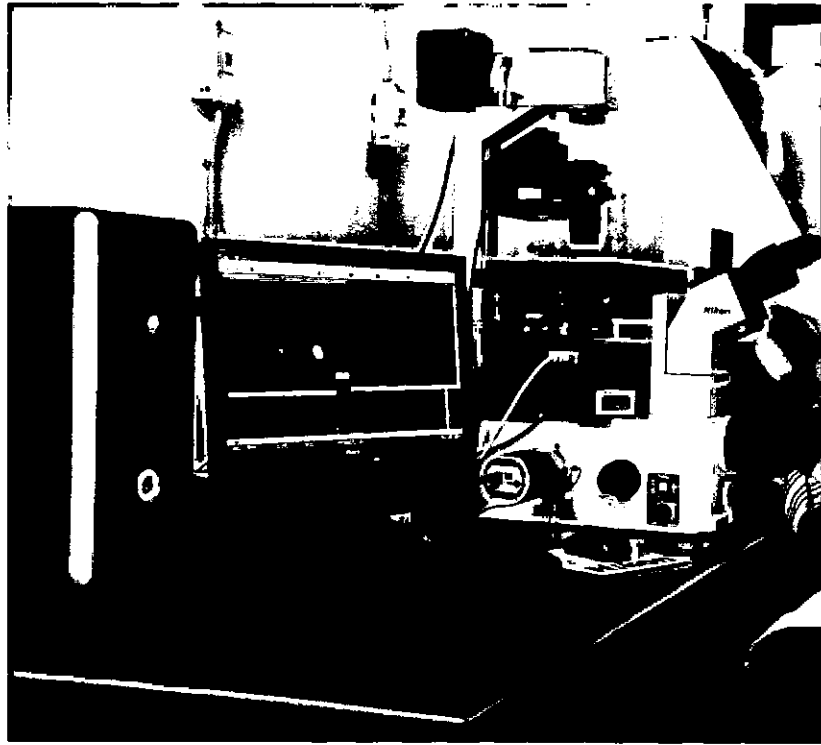
Student visit

Sl.No.	Name of the Faculty / Guide	Exchange Programme	Institute	Name of the Scholar
1.	DR. K. RAMESH	Invitation program for Science & Technological Human Resource under the Japan-East Asia Network of Exchange for Students and others Programme.	[JENESYS] Japan Dec. 7 – 18 2009.	Ms. Benolina Neethi Simon, Ph.D Scholar

Faculty visit

Dr. Sayan Gupta, Invited as a visiting professor in Mathematical Sciences, Chalmers University of Technology and Gothenbourg University, May-June 2009: Joint projects initiated on wind load modeling and studying the probabilistic characteristics. Proposals are pending approval. Prof Igor Rychlik from Mathematical Sciences, Chalmers also visited IIT Madras in November 2009 in continuation of this collaboration.

BIO TECHNOLOGY



4.3 DEPARTMENT OF BIOTECHNOLOGY

4.3.1 Introduction:

The department of Biotechnology at this institute came in to formal existence in July 2004 but has grown rapidly in the past six years. The first batch of B.Tech students graduated in July 2006, and the first dual degree batch students graduated in July 2007.

The vision of the department is to make international impact through research, teaching, technology transfer and service to society. At present, we have 23 faculty members and the diversity of challenges that biotechnologies tackle is reflected in our research activities. The thrust areas of research are Bioprocess Engineering, Computational Biology, Chemical Biology and Medical Biotechnology related cancer and cardiovascular aspects. Faculty members of the department hold several patents and are also involved in active industrial consultancy. Several collaborative and technology transfer projects are currently running with numerous industries and the department also has collaborative research projects with hospitals. We have set up a Center of Excellence in "Bioprocess Engineering" to develop knowledge and expertise in this domain and a DST funded "National Facility to identify potential drug targets through cellular dynamics". We have funding from DBT for program support on Cancer Biology. A Bioinformatics Center has also been set up with funding from DBT

We offer B.Tech., Dual degree, M.S., and Ph.D programmes in Biotechnology. In addition, we offer M.Tech (Clinical Engineering) and Ph.D (Major: Biomedical Devices and Technology) programmes, jointly with Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum and Christian Medical College, Vellore. The aim of the department is to produce talented graduate and undergraduate students who are confident to provide solutions to the technological problems faced by Indian Biotechnology industries. The undergraduate program in Biotechnology has strong emphasis on modern biology and engineering and on several laboratory experiences. M.S and Ph.D programmes emphasize research excellence. The M.Tech (Clinical Engineering) programme is designed to train students to address the complete management of the technology aspects in a hospital as well as the medical technology need of the country.

4.3.2 Academic Programmes:

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	31	24	22	25	3	105
Dual Degree	13	13	12	13	17	68
M.Tech.	10	6	0	0	0	16
M.S.	8	7	4	1	3	23
Ph.D.	22	30	23	12	32	119
Total	84	80	61	51	55	331

Names of Student/Scholar who attended Conference/Seminar and Symposia Abroad/India:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	Prabhavathy Devan	BT07D024	Keystone Symposia: Role of Inflammation in Oncogenesis (Joint with meeting on: Molecular and Cellular Biology of Immune Escape in Cancer)	Feb 7-12, 2010, Keystone Resort, Keystone, Colorado, USA	CSIR
2.	Arutchevi J	BT08D008	Malaysian International Conference on Trends in Bioprocess Engineering, MICOTriBE 2009	Dec 12-13, 2009, Kuala Lumpur,	IITM
3.	Prabhakar PK	BT06D001	2nd International Conference on & Treatments for Diabetes	25-28, 2009. Athens, Greece	IITM
4.	Prabhakar PK	BT06D001	20th World Diabetes Congress organized by International Diabetes Federation (IDF)	Oct 18-22, 2009, Montreal, Canada	IITM

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
5.	Sirisha Potala	BT05D028	Cancer conference of NCRI, UK	Oct 4, 2009 Birmingham UK	IITM
India					
1.	Rao Srinivasa Rao	BT08S001	29th Annual Convention of Indian Association of Cancer Research and Symposium on "Biology of Cancer Stem Cells"	Feb 20-23, 2010 Amrita Institute of Medical Sciences and Research Centre, Kochi	DBT project
2.	Maitreyi Subramanian	BT07D005	29th Annual Convention of Indian Association of Cancer Research and Symposium on "Biology of Cancer Stem Cells"	Feb 20-23, 2010 Amrita Institute of Medical Sciences and Research Centre, Kochi	DBT project
3.	Manisha Juneja	BT08S009	Cancercon 2010- International Conference on Cancer Biology: Molecular Mechanisms and Novel Therapeutics	Feb 18-20, 2010, IIT Madras	DBT project
4.	Padmapriya PV	BT07D002	APBC2010 The Eighth Asia Pacific Bioinformatics conference	Jan 18-21, 2010, Bangalore	IITM
5.	Lakshmi K	--	Emerging Trends in Biotechnology (ETBT), Banaras Hindu University	Dec 4-6, 2009, Varanasi	NRB
6.	Muthukumar T	--	International Polymer Congress (APA 2009)	Dec 17-20, 2009, New Delhi	NRB
7.	Shanmugam Hemaiswarya	BT05D007	The Conference cum Workshop on Current Trends in Medicinal Chemistry (MEDCHEM 2009)	Apr 2-4, 2009, IIT Madras	Self Funding
8.	Padmapriya PV	BT07D002	The Conference cum Workshop on Current Trends in Medicinal Chemistry (MEDCHEM 2009)	Apr 2-4, 2009, IIT Madras	Self Funding
9.	Yoganathan RK	BT095007	CancerCon2010	Feb 17-19, 2010, IIT Madras	IITM
10.	Sandhya N	--	CancerCon2010	Feb 17-19, 2010 IIT Madras	IITM
11.	G. Shyam Sunder Reddy	BT05D021	International Conference on Challenges in Biotech and Food Tech (ICBF-2009) (Oral presentation)	Oct 8-10, 2009 Annamalai University	IITM
12.	G. Shyam Sunder Reddy.	BT05D021	International Conference in Clinical Research and Healthcare ICBio-2010 (Poster presentation)	Mar 26-27, 2010 ICBio clinical research Pvt Ltd Bangalore	IITM
13.	Dillip Kumar Bishi	BT08D023	ICMR's 4th Medical Development Congress on Stem Cell Research and Therapy, "Advances in Clinical Research and Therapy",	Apr 13-14, 2009 New Delhi	MMM
14.	Dillip Kumar Bishi	BT08D023	Human Embryonic Stem cell- differentiation and Genetic Manipulation	Jan 18-23, 2010 Mumbai	ICMR
15.	Dillip Kumar Bishi	BT08D023	17th Adnat Conference	Feb 23-25, 2010 Hyderabad	MMM

16.	A. Kalyani	BT09D033	Indo-US Bilateral Workshop Epigenetic Regulation and Genome Control (Emphasis on RNAi and miRNA)	December 16-18, 2009, CCMB, Hyderabad	DBT project
17.	Anshu agarwal	BT09S005	Indo-US Bilateral Workshop Epigenetic Regulation and Genome Control (Emphasis on RNAi and miRNA)	December 16-18, 2009, CCMB, Hyderabad	DBT project

Names of students/scholars who won outside prizes and awards:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Maitreyi Subramanian	BT07D005	Sheo Mohan Singh special award for best Poster Presentation	Indian Association for Cancer Research
2.	G. Shyam Sunder Reddy	BT05D021	First prize for Best Poster	ICBio Clinical Research Pvt Ltd Bangalore

Name of Students/Scholars who won Institute Convocation/Institute Day Prize:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1.	Garik Sachdeva	BT05B007	Institute Merit Prize	IITM
2.	Utsav Agarwal	BT04B050	Institute Merit Prize	IITM
3.	Garik Sachdeva	BT05B007	Best Cumulative Performance in HSS courses	IITM
4.	Parimala Geede	BT03B045	4 th Indian Pharmaceutical Congress Prize	Indian Pharmaceutical Congress
5.	Srivats V	BT06B043	Best academic record in the 3 rd and 4 th semester	IITM

4.3.3 Faculty and their activities:

Faculty:

Name and Designation

Major area of specialization (only 3 areas)

Professor:

K.B. Ramachandran [Head]

Bioprocess Engineering, Bioprocess Modeling and Simulation, Metabolic Engineering

Anju Chadha

Biocatalysis and Organic [Asymmetric] synthesis using enzymes, Green Chemistry, Biosensors

T.S. Chandra

Microbiology and Genetics

Mukesh Doble

Biomaterials, Drug Design, Biochemical Engineering

A. Jayakrishnan

Biomaterials Science and Technology

Guhan Jayaraman

Biochemical and Bioprocess Engineering

D. Karunakaran

Cancer Biology, Signal transduction, Apoptosis.

G. K. Suraishkumar

Reactive Species, Algal Biofuels, Microbial deactivation in drinking water

Associate Professor:

V Srinivasa Chakravarthy

Computational Neuroscience

Satyanarayana Gummadi

Bioprocess engineering

S. Mahalingam	Molecular Virology and Cell Biology
Rama Shanker Verma	Stem Cell Biology and Tissue regeneration, Cancer Therapeutics Development, Molecular Biology
Rayala Suresh Kumar	Cancer Biology

Assistant Professor:

A. Gopala Krishna	Signal transduction and Protein Biochemistry
Amal Kanti Bera	Electrophysiology
K. Chandraraj	Biofuels, Bioremediation, Industrial Enzymes
R. Baskar	Developmental Genetics
Madhulika Dixit	Vascular Biology
Sanjib Senapati	Computational Biophysics, Computational Green Chemistry
Nitish R. Mahapatra	Cardiovascular Genetics, Molecular Medicine
R. Murugan	Theoretical Biophysics, Computational Biology, Systems Biology
V. Kesavan	Chemical Biology
N. Manoj	Protein structure and function, Computational Molecular Evolution

Adjunct Faculty:

Dr. A.V. Srinivasan	Medical Biotechnology
Dr. Shree Kumar Suryanarayanan	Bioprocess Engineering, Algal Biofuels

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	S. Mahalingam	International conference on cancer Biology: Molecular mechanism and Novel Therapeutics	Feb 18-20, 2010
Seminar:			
1.	Rama S Verma	Animal Tissue culture	July 20-24, 2009
2.	Rama S Verma	Good Laboratory Practices & Compliance in Biotechnology	Nov 3-5, 2009
3.	Rama S Verma	Laboratory Safety and Waste Management	Feb 26 -28, 2010

Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	K. Chandraraj	Recombinant DNA Technology	Madurai Kamaraj University, Madurai	June 18-19, 2009
2.	S. Mahalingam	78 th Society of Biological Chemist of India	National center for cell Sciences, Pune	Nov 11-41, 2009
3.	S. Mahalingam	International conference of HIV/AIDS and opportunistic infections	Institute of Reproductive Medicine, Mumbai	May 5-9, 2009
4.	S. Mahalingam	International Conference on Cell Biology	University of Hyderabad, Hyderabad	Dec 13-17, 2009
5.	Rama S Verma	International Seminar cum training workshop on Bioinformatics, (Molecular Modeling, Protein/Protein interaction and Computer aided Drug Designing	Department of Biochemistry, Center of bioinformatics, University of Allahabad	Mar 20-22, 2010

Symposia:				
1.	K.B. Ramachandran	National Symposium on Emerging Concepts in Biotechnology	NIT, Calicut	Dec 11-12, 2009
Conference:				
1.	G. K. Suraishkumar	Engineering Profession: Vision 2020 keynote address, on behalf of the Director, IIT Madras	National conference of the Education Council of India, New Delhi	Nov 30, 2009
2.	K. Chandraraj	International conference on food security and environmental sustainability	Indian Institute of Technology, Kharagpur	Dec 17-19, 2009
3.	Rama S Verma	International conference on "Cardiovascular Disease Secondary to the Metabolic Disorder: Mechanism and Therapy"	University of Mysore, Mysore	Dec 17-19, 2009
4.	Rama S Verma	National Conference on Cellular & Molecular Medicine	Rajiv Gandhi Proudyogiki Viswavidyalaya, Bhopal	Feb 4-6, 2010

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	D. Karunagaran	Role of microRNAs in cancer	Madurai Kamaraj University	Feb 6, 2010
2.	D. Karunagaran	"Survival Tricks: Lessons from Cancer Cells"	Jeppiar Engineering College	Sept 3, 2009
3.	K. Chandraraj	Recombinant Technology to Improve Cellulosic Ethanol Process	Madurai Kamaraj University, Madurai	June 19, 2009
4.	K. Chandraraj	Prospects of Bio-Ethanol Production in India	Indian Institute of Technology, Kharagpur	Dec 19, 2009
5.	S. Mahalingam	HIV/AIDS Pathogenesis	Madurai Kamaraj University, Madurai	Sep 2009
6.	S. Mahalingam	RAS associated Tumor suppressor genes	Madurai Kamaraj University, Madurai	Feb 2010
7.	Rayala Suresh Kumar	Gene Silencing Workshop (Targeting Head & Neck cancer by silencing IGF-1R signaling)	Madurai Kamaraj University, Madurai	Feb 9, 2010
8.	Rayala Suresh Kumar	Therapeutic Antibodies and Micro RNA's in cancer	Sri Padmavathi Mahila University, Tirupathi	Mar 28, 2010
9.	Rama S Verma	Stem cell Research, Computational Biology and Chemistry in the post-genomic era	University of Madras, Chennai	Aug 8-9, 2009
10.	Rama S Verma	Biodiversity- an overview in IITM campus	Gandhi Institute of Engineering and Technology, Gunupur, Odisha	Nov 15-17, 2009
11.	Rama S Verma	Stem cell research" at contact Program for the Talented School children	Yadava College Madurai	Nov 19-20, 2009
12.	Rama S Verma	Recombinant DNA Technology - Application in Biopharmaceuticals	Institute of Health Management Research, Jaipur, Rajasthan	Nov 27-28, 2009
13.	Rama S Verma	Emerging Trends in Immuno toxins	National Institute of mental health & Neuro Sciences Bangalore India	Dec 16-19, 2009
14.	Rama S Verma	Development of Cardiomyogenic Cell lines	University of Mysore	Dec 17-19, 2009

15.	Rama S Verma	Stem cell & Cardiomyocytes isolation and development of Cardiomyogenic cell lines	Rajiv Gandhi Proudyogiki Viswavidyalaya, Bhopal	Feb 4-6, 2010
16.	Rama S Verma	Stem Cell Research	Ayya Nadar Jakaki Ammal College, Sivakasi	Mar 2-4, 2010
17.	Rama S Verma	Immunotoxin past and present	Indo American College, Cheyyar TN	Mar 5-6, 2010
18.	Rama S Verma	Tradition of Yesterday and Drugs of Tomorrow	K. S. Rangasamy College of Technology, Tiruchengode	Mar 16-17, 2010
19.	Rama S Verma	Application of Bioinformatics for Developing Fusion Toxins	Department of Biochemistry, Center of bioinformatics, University of Allahabad	Mar 20-22, 2010
20.	S.N. Gummadi	Biotechnology industries: Trends and perspectives	Biotechnology-Trends and Perspectives, SPACES Degree College, Tuni	Dec 20, 2009
21.	S.N. Gummadi	Cell membrane biogenesis: role of phospholipid flippases	Emerging trends in cell and nanotechnology at GITAM University, Vishakapatnam,	Dec 11-12, 2009
22.	S.N. Gummadi	Bioprocess development for caffeine degradation	Jawaharlal Nehru Technology University, Hyderabad	March 30, 2009
23.	Nitish R Mahapatra	Physiological anti-hypertensive peptides	Department of Chemistry, Bangalore University, Bangalore	May 29, 2009
24.	Nitish R Mahapatra	Genetic studies on pulmonary arterial hypertension in India	Research into Pulmonary Hypertension in India, Taj Chandigarh	October 22, 2009

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	D. Karunakaran	USA	Jan 14-19, 2010	Keystone Symposia: RNA Silencing: Mechanism, Biology and Application	IITM
2.	G. K. Suraishkumar	USA	Oct 2009	PANIIT conference	Alumni association
3.	K.B.Ramachandran	Malaysia	Dec 1-4, 2009	International Congress of Malaysian Society for Microbiology (IMSM 2009), Penag, Malaysia	IITM
4.	Mukesh Doble	Italy	Sept 6-10, 2009	Present a paper at Polymer Degradation Discussion Group, Sub-group of the Macro Group UK ROYAL SOCIETY OF CHEMISTRY	RBIC
5.	Mukesh Doble	Malaysia	Dec 12-13, 2009	Present a paper at MICOTriBE2009, School of Bioprocess Engineering, University Malaysia Perlis	IIT Madras
6.	Mukesh Doble	UK	Feb 23-25, 2010	Present a paper at International conference on CHEMISTRY and MEDICAL CHEMISTRY: held at University of Cambridge	RBIC

7.	V Srinivasa Chakravarthy	Japan	May-July, 2009	Visiting Researcher, RIKEN Brain Science Institute, Wako-shi, Saitama	RIKEN BSI
8.	Nitish R Mahapatra	China	Oct 29-Nov 1, 2009	To present a paper in the World Hypertension Congress, Beijing	IITM
9.	V. Kesavan	France	20-9-2009 to 02-10-2009	To initiate research collaboration	ARCUS, Université Paris-Sud, France

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
Honours:					
1.	Rama S Verma	Pioneers in Genomics Education Class of 2010	The Human Genome Organization	The outstanding contribution for the field of Genomics	2010
Awards:					
1.	S. Mahalingam	Outstanding Research Scientist award	DAE, Govt. of India	Research on HIV/AIDS	March 2009
2.	T.S. Chandra	Bhagyalakshmi & Krishna Iyengar Award	Bhagyalakshmi & Krishna Iyengar	Research on Microbial Fuel Cell	April 2009

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	A. Gopala Krishna	The science of drug discovery (Chapter in a book edited by Prof. M. Doble)	McGraw Hill India	Lavanya Madhuri Balivada, Ashif Y. Shaikh, Srinivas Hotha, and Mukesh Doble
2.	A. Gopala Krishna	Gpcromics: exploring and exploiting gpcromes for drug discovery (Chapter in a book edited by Prof. M. Doble)	McGraw Hill India	Lavanya Madhuri Balivada
3.	Rama S Verma	Animal biotechnology: application and potential risks in <i>Biotechnology in Functional Foods and Nutraceuticals 14</i> , 220- 250, 2009	Taylor and Francis, USA	Rama S Verma, Abhilasha, Sugapriya M. D. and Chithra R.
4.	Rama S Verma	Neural Stem Cells: New Hope for Successful Therapy) <i>Stem Cell and Regenerative Medicine</i> , 8, 129-151, 2009	Bentham Science Publishers Ltd., USA	Denis English, Akshay Anand, Rama S. Verma and Stephan Gluck
5.	Rama S Verma	Nano-biotechnology: A new generation of biomedicine-Innovative nanotechnology in key areas of biomedical engineering and cancer therapy Application Nanotechnology for Human Health", 2010	Pan Stanford, Italy	Prasanna Vidyasekar, Pavithra Shyamsunder, and Rama S Verma

6.	S.N. Gummadi	Industrially important carbohydrate degrading enzymes from yeasts: Pectinases, Chitinases and β -1,4-glucanases. In: Yeast Biotechnology: Diversity and Applications (eds. T. Satyanarayana and G. Kunze), pp. 673-691, 2009	Springer	S.N. Gummadi, D. Sunil Kumar, S.S. Dash, S.K. Sahu
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Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	K.B. Ramachandran	Member Editorial Board	Bioresource Technology, Elsevier Publications
2	Mukesh Doble	Editorial Board Member	Chemical Engineering, McGraw Hill, USA
3	Mukesh Doble	Editorial Board	Open Enzyme Journal
4	Mukesh Doble	Editorial Board	Open Petroleum Journal
5	Rama S. Verma	Associate Editor	Australian Journal of Basic and Applied Sciences
6	Rama S. Verma	Associate Editor	Bioinformatics
7	Nitish R Mahapatra	Editorial Board Member	International Journal of Biosciences and Technology

4.3.4 Design and Development Activities:

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1	Center of Excellence in Bioprocess Engineering 2L Bioreactor Computer coupled Bioreactor Multi Deck Shaker Live Cell Analyzer RT-PCR	13.34 24.24 29.07 17.42 19.83
2	National facility on functional cell Dynamics: Spectral confocal Microscope DNA sequencer Live Cell imaging system Real-time PCR High-throughput protein-purification system	250 65 77 15 14
3	UG Laboratory HPLC Bioanalytical System Freezer (-80°C)(2 Nos) Sonicator (3 Nos) Bioreactors (3 Nos) Gel Documentation system (2 Nos) Spectrophotometer (3 Nos) Milli-Q integral System(2 Nos) Micro Plate Reader GAS Chromatograph PCR Machines (2 Nos) Inverted Microscope (2 Nos) Protein Purification System TFF	14.68 16.76 8.32 7.06 22.50 7.41 8.07 13.69 6.97 10.81 3.65 13.51 13.38 6.72
4	HPLC Waters	Gift from the Michigan State University
5	Microgravity instrument for animal cell culture	8.5
6	Laminar hood	1.5
7	Biosafety cabinet	3.5
8	Water-jacketed CO ₂ incubator	3.0
9	Inverted Microscope	2.5

Patents:**Patents filed:**

Sl. No.	Name of faculty	Topic of patent
1	Rama S. Verma	Micro-array data at NCBI
2	Rama S. Verma	A Diphtheria Toxin – stem cell factor protein for targeted biotherapy of c-Kit tumors

Patents awarded:

Sl. No.	Name of faculty	Topic of patent
1	Rama S. Verma	GSE17233-Involved in Fanconi anemia Jul 21, 2009 approved
2	Rama S. Verma	GSM431503-Patient 1 Rsvf1 Jul 21, 2009 approved
3	Rama S. Verma	GSM431504-Patient 2 Rsvf2 Jul 21, 2009 approved
4	Rama S. Verma	GSM431502-Normal Jul 21, 2009 approved

4.3.5 Research and Consultancy:**Sponsored Research Projects:**

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Program support in cancer biology	2008-2011	DBT	352.60	D. Karunakaran S. Mahalingam V. Kesavan Nitish Mahapatra Sanjib Senapati
2	Cytomodulins in oral cancer therapy	2009-2011	DBT	23.10	D. Karunakaran Raj Bhatnagar, Raj Bioengineering, New Delhi S. Nagini, Annamalai University
3	Development of a photo-bioreactor facility for algal bio-oil	2009-2011	DBT	130.00	G. K. Suraishkumar Shrikumar Suryanarayan
4	Reactive Oxygen Species and microbial deactivation in drinking water	2008-2010	Indo-US Forum	USD 30000	G. K. Suraishkumar and Jeanne VanBriesen (CMU)
5	Development of a bioprocess for the production of Polyhydroxy butyrate (PHB) from bio-diesel industry generated glycerol	2008-2011	DBT	40.04	K.B. Ramachandran T.S. Chandra
6	Biogas production from non-edible oil cakes for power generation in rural areas	2007-09	IIT-Alumni	8.50	T.S. Chandra K.B. Ramachandran
7	Biosurfactants and enhanced Biodegradation of polymers	2007-2010	DST, Green	31.85	Mukesh Doble
8	Potential TB drug from marine actinomycetes	2008-2010	DST	4.75	Vanajakumar, Tuberculosis Research Center, Chennai (PI) Mukesh Doble (Co-PI)
9	Performance of polymers in marine environment	2008-2010	NRB	34.58	Mukesh Doble

10	Understanding adhesion and characterization of barnacles	2008-2010	NRB	28.13	Ravikumar, Dept of Metallurgy and Material Science, IIT Madras (PI) Mukesh Doble (Co-PI)
11	Biocompatibility studies on nanoparticle coated polymer surfaces	2008-2011	BRNS	17.13	Mukesh Doble
12	Cost effective enzyme immobilized active food packaging	2010-2011	DBT	17.18	Mukesh Doble
13	Sperm cell specification in flowering plants	2006-2010	DBT	35.98	R. Baskar
14	Cell fate determination in cellular slime molds- importance of spatial cues in cellular slime molds	2008-2011	CSIR	12.02	R.Baskar
15	Genetic dissection of pattern formation in the cellular slime mold Polysphondylium pallidum	2009-2012	DST	39.83	R.Baskar
16	Live cell analysis of plant reproductive barriers	2009-2011	DST-JSPS	7.25	R.Baskar
17	Chemical genetics approach to dissect pattern formation in cellular slime mold Polysphondylium pallidum. (New)	2009-2012	DST	39.65	R.Baskar
18	Design and physico-chemical studies of thermo-reversible gels: Towards controlled release of substrates	2009-2012	DBT	38.89	A.K. Mishra, Department of Chemistry, IIT Madras Co-PI: Dr R.Baskar
19	Functional and structural analysis of the GABA _A receptor α subunit during channel activation and benzodiazepine potentiation	2008-2011	CSIR	24.00	Amal Kanti Bera
20	Role of gap junctions in ischemic heart disease	2007-2010	DBT	68.12	Amal Kanti Bera Nitish R. Mahapatra
21	Structure function relationship of Acid sensing ion channel.	2007-2010	DST	45.92	Amal Kanti Bera
22	Modulation of mitochondrial VDAC by proteins of Bcl-2 family	2008-2011	DRDO	24.21	Amal Kanti Bera
23	Mechanisms of Nitric Oxide action on acid sensing ion channel	2009-2011	DST	19.08	Amal Kanti Bera

24	Mechanisms of P2X7 receptor mediated pore formation in Neuron.	2009-2012	BRNS	19.89	Amal Kanti Bera
25	Host cell MAPK/ERK-2 on HIV pathogenesis	2007-2010	DBT	91.71	S. Mahalingam
26	Development of surrogate virus system to understand HIV pathogenesis	2008-2011	DBT	48.31	S. Mahalingam
27	Structure-function studies on GNL3L	2007-2010	DBT	88.16	S. Mahalingam
28	Role of Nucleolar GTPases on Tumorigenesis	2008-2011	DBT	66.07	S. Mahalingam
29	National facility to identify drug targets through functional cell dynamics	2008-2011	DST	664.42	S. Mahalingam
30	Outstanding research investigator award	2009-2014	DAE	100.00	S. Mahalingam
31	HCV-HIV-1 coinfection: immune mechanism, viral interaction and pathogenesis	2009-2012	ICMR	65.25	S. Mahalingam
32	Language and brain organization in normative multilingualism	2009-2012	DST	25.23	V Srinivasa Chakravarthy
33	Development of simplified conceptual content for self-teaching on advanced engineering topics	2010-2011	MHRD	7.00	V Srinivasa Chakravarthy (PI), G.K. Suraishkumar (BT), N. Narayanswamy (CSE), Arunn Narsimham (ME) Anil Prabhakar (EE)
34	Targeting Pak1 in alcohol induced liver cancer	2009-2012	DBT (Rapid Grant for Young Investigators)	25.42	Rayala Suresh Kumar
35	Targeting Pak1 signaling in AML	2009-2010	Lady Tata Trust, UK	Euro 15000	Rayala Suresh Kumar
36	Molecular mechanism behind UV induced Skin Cancer	2010-2013	DRDO	30.00	Rayala Suresh Kumar
37	Targeting IGF1-R in Head and Neck Cancers	2010-2013	DBT	70.00	Rayala Suresh Kumar
38	Pak1 in Head and Neck Cancers	2010-2013	BRNS,DAE (Young Investigator Grant)	14.5 0	Rayala Suresh Kumar
39	PELP1 and Inflammation	2010-2013	DST(Fast track for Young Investigator)	22.00	Rayala Suresh Kumar
40	Ocular Albinism 1: Overexpression, Chracterization & Mechanism of Activation of a Novel G-protein Coupled Receptor	2006-2009	CSIR	15	A. Gopala Krishna

41	Mechanism of Signal transduction by Ocular Albinism type 1 protein (OA1)	2006-2009	DST	20	A. Gopala Krishna
42	OA 1 protein: a novel and orphan G protein coupled receptor. Structure-function relationship and mechanism of signal transduction	2006-2009	DBT	47.3	A. Gopala Krishna
43	Quantum-dot modified nucleotide analogs as probes to understand the mechanism of activation of heterotrimeric G proteins	2007-2010	DBT	55.45	A. Gopala Krishna P. N. Santhosh (Physics, IITM)
44	Efficacy of Retinoblastoma.	2007-2010	DBT	24.05	Rama S Verma
45	ATP- Substrate transition state analogs: A rational approach to target insulin like growth factor receptor-1 Kinase	2007-2010	CSIR	14.46	Rama S Verma K M Muraleedharan (Dept of Chemistry, IITM)
46	To study the effect of SiRNA on the EpCAM expression of Y&(Ratinoblastoma cell line and its co-relation with invasion and migration properties of cell line	2007-2010	DST	22.39	Rama S Verma Dr Krishakumar (Sankar Nethralaya)
47	Studies on proliferation and differentiation of stem cells and cancer cells under microgravity	2009-2012	DRDO	25.00	Rama S Verma
48	Studying the proliferation and differentiation potential of an engineered cardiac biomaterial: a natural matrix for cardiac support and regeneration	2010-2013	DST	33.74	Rama S Verma
49	Identification of novel biomarkers and elucidation of molecular basis of phenotypic features of Fanconi anemia using micro array analysis	2010-2013	DBT	34.80	Rama S Verma
50	Characterization and transdifferentiation of mesenchymal stem cells into hepatocytes by HNF-3beta gene	2010-2013	DST	19.00	Rama S Verma

51	Subcellular localization and characterization of biogenic membrane flippase in plants: A study to understand membrane biogenesis	2008-2011	DBT	33.3	Sathyanarayana N. Gummadi
52	Subcellular localization and characterization of human phospholipids scramblase	2007-2010	CSIR	9.0	Sathyanarayana N. Gummadi
53	Cellular and molecular studies on interaction of the physiological anti-hypertensive peptide catestatin at the neuronal nicotinic acetylcholine receptor	2009-2012	DST	38.85	Nitish R. Mahapatra
54	Identification and functional characterization of regulatory elements in the mouse Hspa1a gene	2009-2012	DRDO	40.96	Nitish R. Mahapatra
55	Polymorphisms in the physiological anti-hypertensive peptide catestatin in an Indian population	2008-2011	DBT	48.48	Nitish R. Mahapatra
56	Molecular characterization of functional polymorphisms in mouse HMG-CoA Reductase gene	2008-2011	CSIR	21.22	Nitish R. Mahapatra

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Mukesh Doble	Biodegradation of poly propylene	RIL, Mumbai	16.75
2	Mukesh Doble	Prediction of retention times in gas chromatography	SHELL, Bangalore	6.00
3	Rama S Verma	Evaluation of Phyto-Pharmaceuticals	Laila Pharmaceuticals, Chennai	2.00
4	Nitish R. Mahapatra	Synthesis and determination of activities of catecholamine release-inhibitory peptides	Jupiter Bioscience Limited, Hyderabad	20.00

Retainer Consultancy:

Sl.No	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	K.B. Ramachandran	Biotransformation/ bio-processing technologies for the manufacture of Cephalosporin derivatives	Orchid Chemicals and Pharmaceuticals Ltd	4.20 lakhs per Year

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	: 03
Total No. of papers published in Refereed International Journals	: 63
Total No. of papers presented in National Conferences	: Nil
Total No. of papers presented in International conferences	: 05

In Refereed National Journals:

1. Damodiran M, Senthil kumar R, Sivakumar PM, Doble M, Perumal PT. A simple protocol for the michael addition of indoles with electron deficient olefins catalysed by TBAHS in aqueous media and their broad spectrum antibacterial activity (2009) *Journal of Chemical Sciences* 121:65-73.
2. Pavithra P.S, Sreevidya N and Rama S Verma (2009) Antibacterial and antioxidant activity of methanol extract of *Evolvulus nummularius* (L). *Indian Journal of pharmacology* 41(5): 233-236.
3. Pavithra P S., Sreevidya N. and Rama S Verma (2009) A review of chemistry and biological activities of Genus *Atalantia* (Rutaceae) *Journal of Medicinal and Aromatic plant Sciences* 31: 63-72.

In Refereed International Journals:

1. Marie Lue Antony, Rema Nair, Paul Sebastian and Devarajan Karunagaran (2010) Changes in expression, and/or mutations in TGF- β receptors (TGF- β RI and TGF- β RII) and Smad 4 in human ovarian tumors (2010) *J Cancer Res Clin Oncol* 136: 351-361.
2. Sivakumar, KC, Thomas B, and Karunagaran D Three dimensional structure of the closed conformation (active) of human merlin reveals masking of actin binding site in the FERM domain (2009) *Int. J. Bioinformatics Research and Applications* 5: 516-524.
3. Mohan H, Uma Maheswari K, Bera AK, Suraishkumar GK (2010) Reactive oxygen species mediated modifications in *Bacillus subtilis* lipid membrane to improve protein productivities *Process Biochem.* 45: 467-474.
4. Shashi Bala Prasad, Guhan Jayaraman and Ramachandran K.B. (2010) Hyaluronic acid production is enhanced by the additional co-expression of UDP-glucose pyrophosphorylase in *Lactococcus lactis*, *Applied Microbiology and Biotechnology*, 86,273-283.
5. S. Jagannath and Ramachandran K.B. (2010) Influence of competing metabolic processes on the molecular weight of hyaluronic acid synthesized by *Streptococcus zooepidemicus*, *Biochemical Engineering Journal*, 48, 148-158.
6. Avneesh D. Singh, Vikineswary Sabaratnam, Nooridah Abdullah, Annuar, M. S. M. and Ramachandran, K. B. (2010) Decolourisation of chemically different dyes by enzymes from spent compost of *Pleurotus sajor-caju* and their kinetics. *African Journal of Biotechnology*, 9: 41-54
7. Sivakumar PM, Balaji S, Prabhawathi V, Neelakandan R, Manoharan PT and Doble M. Effective antibacterial adhesive coating on cotton fabric using ZnO nanorods and chalcone (2010) *Carbohydrate Polymers* 79(3): 717-723.
8. Sangeetha R , Ravi Kumar NV, Venkatesan R, Doble M, Vedaprakash L , Kruparatnam , Lakshmi K, Dineshram. Understanding the structure of the adhesive plaque of *Amphibalanus reticulatus* (2010) *Materials Science and Engineering C* 30: 112-119.
9. Artham T and Doble M. Fouling and Degradation of Polycarbonate in Seawater - Field and Lab Studies (2009) *Journal of Polymers and Environment* 17 (3):170-180.
10. Artham T and Doble M. Biodegradation of Physicochemically treated Polycarbonate by Fungi (2010) *Biomacromolecules* 11:20-28.
11. Arkatkar A, Arutchelvi J, Bhaduri S, Uppara PV, Doble M. Degradation of unpretreated and thermally pretreated polypropylene by soil consortia (2009) *International Biodeterioration & Biodegradation* 63:106-111.
12. Khandwekar AP, Patil DP, Shouche YS, Doble M. The Biocompatibility of Sulfobetaine Engineered Poly(ethylene terephthalate) by Surface Entrapment Technique (2009) *Journal of Biomaterials Applications* DOI 10.1177/0885328209344004.
13. Khandwekar AP, Patil DP, Shouche YS, Doble M. The Biocompatibility of Sulfobetaine Engineered Poly(methyl methacrylate) by Surface Entrapment Technique (2009) *Journal of Materials Science (Materials in Medicine)* 21(2):635-646.

14. Nandakumar V, Shroff S, Karthik J, and Doble M, Polymers as Ureteral Stents (2009) *Journal of Endourology* 24(2):191-198.
15. Ambika A, Arutchelvi J, Sudhakar M, Bhaduri S, Uppara PV, Doble M. Approaches to enhance the biodegradation of polyolefins (2009) *Open Environmental Engineering Journal*. 2:68-80.
16. Khandwekar AP, Patil DP, Shouche YS, Doble M. Controlling Biological Interactions with Surface Entrapment-modified Polyurethane (2009) *Journal of Medical and Biological Engineering* 29(2):84-91.
17. Puratchikody A, Doble M. QSAR Studies on Antiepileptic and Locomotor in vivo Activities of 4,5-diphenyl-1H-Imidazoles (2009) *Chemical Biology & Drug Design* 74(2):173-182.
18. Khandwekar AP, Patil DP, Khandwekar V, Shouche YS, Sawant S, Doble M. TecoflexTM functionalization by curdlan and its effect on protein adsorption and bacterial and tissue cell adhesion (2009) *Journal of Materials Science: Materials in Medicine* 20(5):1115-1129.
19. Sivakumar PM, Muthu Kumar T, Doble M. Antifungal Activity, Mechanism and QSAR Studies on Chalcones (2009) *Chemical Biology & Drug Design* 74(1):68-79.
20. Artham T, Doble M, Sudhakar M, Venkatesan R, Nair M, Krishnamurty K. Biofouling and stability of synthetic polymers in sea water (2009) *International Biodeterioration and Biodegradation* 63(7):884-890.
21. Artham T, Doble M. Fouling and Degradation of Polycarbonate in Seawater - Field and Lab Studies (2009) *Journal of Polymers and Environment* 17(3):170-180.
22. Arutchelvi J, Bhaduri S, Uppara PV, Doble M. Production and Characterization of Biosurfactant from *Bacillus subtilis* (2009) *Journal of Applied Sciences* 9(17):3151-3155.
23. Prabhakar PK, Doble M. Synergistic effect of phytochemicals in combination with hypoglycemic drugs on glucose uptake in myotubes (2009) *Phytomedicine* 16(12):1119-1126.
24. Hemalswarya S, Doble M. Synergistic Interaction of eugenol with antibiotics against Gram negative bacteria (2009) *Phytomedicine* 16(11):997-1005.
25. Sivakumar PM, SobanaPriya and Doble M. Synthesis, Biological Evaluation, Mechanism of Action and Quantitative Structure–Activity Relationship Studies of Chalcones as Antibacterial Drug (2009) *Chemical Biology and Drug Design* 73:403-415.
26. Murugan R. Packaging effects on site-specific DNA-protein interactions (2009) *Physical review. E, Statistical nonlinear and soft matter physics* 79, 061920.
27. Murugan R. Directional dependent dynamics of protein molecules on DNA (2009) *Physical review. E, Statistical, nonlinear, and soft matter physics* 79, 041913.
28. Dilli Rani, N., and Chandraraj, K. (2010) Use of a new catabolite repression resistant promoter isolated from *B. subtilis* KCC103 for hyper-production of recombinant enzymes. *Protein Expression and Purification*. 70, 122-128.
29. Gobinath, R., and Chandraraj, K. (2009) Optimization of agro-residual medium for α -amylase production from a hyper-producing *Bacillus subtilis* KCC103 in submerged fermentation. *Journal of Chemical Technology and Biotechnology*, 84, 618-625.
30. Jetti SK, Swain SM, Majumder S, Chatterjee S, Poornima V and Bera AK. Evaluation of the role of nitric oxide in acid sensing ion channel mediated cell death (2010). *Nitric Oxide* 22: 213-219.
31. Kumari G, Singhal PK, Suryaraja R, Mahalingam S. Functional Interaction of the Ras Effector RASSF5 with the Tyrosine Kinase Lck: Critical Role in Nucleocytoplasmic Transport and Cell Cycle Regulation.(2010) *Journal of Molecular Biology* 397: 89-109.
32. Kumari G and Mahalingam S. Extracellular signal-regulated kinase 2 (ERK-2) mediated phosphorylation regulates nucleo-cytoplasmic shuttling and cell growth control of Ras-associated tumor suppressor protein, RASSF2. (2009) *Exp Cell Res*. 315(16):2775-2790.
33. Sachdeva G, Kalyanasundaram K, Krishnan J, Chakravarthy VS. (2010) Bistable dynamics of cardiac cell models coupled by dynamic gap junctions linked to Cardiac Memory. *Biol Cybern.*102(2):109-21
34. Rohit Gandrakota, V. S. Chakravarthy, Ranjan K. Pradhan (2010) A model of indispensability of a large glial layer in cerebrovascular circulation. *Neural Computation* 22(4):949-68.
35. Garipelli Gangadhar, Denny Joseph, A.V. Srinivasan, Deepak Subramanian, Shiva Keshavan, V. Srinivasa Chakravarthy (2009) A computational model of Parkinsonian handwriting that high lights the role of the indirect pathway in the basal ganglia. *Human Movement Science* 28(5):602-18.
36. Dubey, S., Sambaraju, S., Chautha, S.C., Arya, V., Chakravarthy, V.S (2009) A phase dynamic model of systematic error in simple copying tasks. *Biological Cybernetics* 101(3):201-13.

37. Ohshiro K, Mudvari P, Meng QC, Rayala SK, Sahin AA, Fuqua SA and Kumar R. (2010) Identification of a Novel Estrogen Receptor- α Variant and Its Upstream Splicing Regulator. *Molecular Endocrinology* 24: 1-10.
38. Kumar R, Zhang H, Vadlamudi RK, Holm C, Landberg G, Cardiff RD and Rayala SK (2009) Extranuclear Coactivator Signaling Confers Insensitivity to Tamoxifen. *Clinical Cancer Res*, 15: 4123-30.
39. Li DQ, Ohshiro K, Reddy SDN, Pakala SB, Lee MH, Zhang Y, Rayala SK and Kumar R (2009) E3 ubiquitin ligase COP1 regulates the stability and functions of MTA1. *Proceedings of National Academy of Sciences (PNAS), USA*, 106: 17493-8.
40. Li DQ, Reddy SDN, Pakala SB, Wu X, Zhang Y, Rayala SK and Kumar R (2009) MTA1 coregulator regulates p53 stability and functions. *J Biol Chem*, 284,50, 34545-34552.
41. Kumar A, Molli PR, Pakala SB, Nguyen TB, Rayala SK, and Kumar R. (2009) PAK thread from Amoeba to mammals. *J Cell Biochemistry* 107: 579-585.
42. Molli PR, Li DQ, Brion M, Rayala SK, and Kumar R. (2009) PAK signaling in Oncogenesis. *Oncogene* 28: 2545 – 55.
43. Reddy SDN, Pakala SB, Ohshiro K, Rayala SK, and Kumar R. (2009) MicroRNA-661, a c/EBP α target inhibits Metastatic tumor antigen 1 and regulates its functions. *Cancer Res*, 69: 5639 - 42.
44. Sahu SK, Aradhyam GK, Gummadi SN. Calcium binding studies of peptides of human phospholipid scramblases 1 to 4 suggest that scramblases are new class of calcium binding proteins in the cell. (2009) *Biochim Biophys Acta* 1790(10):1274-81.
45. Sirisha Potala and Rama S Verma (2010) A novel fusion protein diphtheria toxin-stem cell factor (DT-SCF) - Purification and characterization. *Applied Biochemistry and Biotechnology* (DOI: 10.1007/s12010-009-8896-1).
46. Bijesh K Biswal, k. Manniledam, Rama S Verma and E.Prasad (2009) Tumor Cell Imaging Using the Intrinsic Emission from PAMAM Dendrimer: A Case Study with HeLa Cells. *Cytotechnology* 61(1-2):17-24.
47. Bijesh K Biswal, Niladri B. Debata and Rama S Verma (2009) Development of a targeted siRNA delivery system using FOL-PEG-PEI conjugate". *Molecular Biology Reports* DOI: 10.1007/s11033-009-9853-3.
48. Sunnel R*, Dilip K Bishi*, Rama S Verma, Kothurattu M Cherian and Soma Guhathakurta (2009) A multiplex PCR for characterization of human mesenchymal stem cells. *Biotechnology Letter* 31(12):1843-50.
49. Bijesh K Biswal and Rama S Verma (2009) "Differential Usage of the Transport Systems for Folic acid and Methotrexate in Normal Human T-Lymphocytes and Leukemic Cells". *The Journal of Biochemistry* 146(5): 693–703.
50. Santosh Mathapati, Sarasa Bharati Arumugam, Rama Shanker Verma (2009) "High cholesterol diet increases MMP9 and CD40 immunopositivity in early atherosclerotic plaque in rabbits" *Acta histochemica* (DOI: 10.1016/j.acthis.2009.05.011).
51. Chandana Mohanty, Geetanjali Arya, Rama S Verma and Sanjeeb K Sahoo (2009) Nanobiotechnology: Application of Nanotechnology in Therapeutics and Diagnosis. *Journal of Nanobiotechnology: biomedicine* DOI: 10.1080/19430850902908522.
52. Mrudula Mathew and Rama S. Verma (2009) Humanized Immunotoxins - A New Generation of Immunotoxins. *Cancer Sciences* 100 (8): 1359-1365.
53. Pavithra P S., Sreevidya N. and Rama S Verma (2009) Antibacterial activity and chemical composition of essential oil of Pamburus missionis. *Journal of Ethanopharmacology* 124(1): 151-153.
54. M. Himabindu, D. Sugapriya Muthamilselvan, Dillip Kumar Bishi, and Rama S Verma (2009) Molecular Analysis of Coagulase Gene Polymorphism in Clinical Isolates of Methicilin Resistant Staphylococcus Aureus By Restriction Fragment Length Polymorphism Based Genotyping. *American Journal of Infectious Diseases* 5(2): 170-176.
55. T. Kaliaperumal, S. Kumar, S.N. Gummadi, A. Chadha (2010) Asymmetric reduction of S-ethyl-4-chloro-3-hydroxybutanoate using *Candida parapsilosis* ATCC 7330, *Journal of Industrial Microbiology and Biotechnology* 37: 159-165.
56. Sawan Kumar, S.N. Gummadi (2009) Osmotic adaptation in halotolerant yeast, *Debaryomyces nepalensis* NCYC 3413: role of osmolytes and cation transport, *Extremophiles* 1: 793-805.
57. S.K. Sahu. R. Archita, S.N. Gummadi (2009) GroES and GroEL are essential chaperones for refolding of recombinant human phospholipid scramblase 1 in *E. coli*, *Biotechnology Letters* 31:1745-1752.

58. S.K. Sahu, G.K. Aradhyam, S.N. Gummadi (2009) Calcium binding studies of peptides of human phospholipid scramblases 1 to 4 suggest that scramblases are new class of calcium binding proteins in the cell, *Biochemical Biophysica Acta* 1790: 1274-1281.
59. S.N. Gummadi, S.S. Dash, D. Santhosh (2009) Optimization of caffeine demethylase production by *Pseudomonas* sp. in bioreactors, *Journal of Industrial Microbiology and Biotechnology* 36: 713-720.
60. S.N. Gummadi, K.B. Ganesh, D. Santhosh (2009) Enhanced degradation of caffeine by immobilized cells of *Pseudomonas* sp. in agar-agar matrix using statistical approach, *Biochemical Engineering Journal* 44: 136-141.
61. K. Bakshy, S.N. Gummadi, N. Manoj (2009) Biochemical characterization of Alr1529, a novel SGNH hydrolase variant from *Anabaena* sp. PCC7120, *BBA Proteins and Proteomics* 1794: 324-334.
62. Sahu BS, Sonawane PJ, Mahapatra NR. 2010. Chromogranin A: a novel susceptibility gene for essential hypertension. *Cell Mol Life Sci* 67:861-74.
63. Friese RS, Gayen JR, Mahapatra NR, Schmid-Schonbein G, O'Connor DT, Mahata SK. 2010. Global metabolic consequences of a monogenic model of hypertension: Transcriptomic detection, pathway identification, and experimental verification of dissociated features of the metabolic syndrome. *Physiol Genomics* 40:195-207.

b. In Proceedings of International Conferences:

1. Chandraraj K and Gunasekaran P (2009) Prospects of bioethanol production in India. International Conference on Food Security and Environmental Sustainability, Kharagpur, Dec 17-19.
2. Gita Kumari and Mahalingam S. Functional Studies on RAS Effector, RASSF5. International conference on Cell Biology, Hyderabad, Dec 13-17, 2009.
3. Rajendra Kumar P, Singal PK and Mahalingam S. Host-cell MAPK-ERK-2 interacts with SIV/HIV Structural protein, Gag and regulates virion associated viral proteins. Conference on Society of Biological Chemists of India, Pune, Nov 11-14, 2009.
4. Singal PK, Rajendra Kumar P and Mahalingam S. Host cell MAPK on HIV/SIV pathogenesis. International conference of HIV/AIDS and opportunistic infections, Mumbai, May 5-9, 2009.
5. Mahapatra NR, Sonawane PJ, Sahu BS, Lenka G, Sasi B. 2009. Molecular basis of altered expression of the HMG-CoA reductase gene in genetically hypertensive mice. World Hypertension Congress, Oct. 29-Nov. 1, 2009. International Convention Center, Beijing, China.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Dr. Bolshakov Konstantin, Professor, Russia	16-23 Feb, 2010	Collaboration
2	Dr. Nathalia Dorofeeva, Scientist, Russia	„	Collaboration

4.3.6 Other Activities of the Department/Centre:

Socially relevant activities carried out by the Department:

Translation of the following science literature from English to Telugu by VS. Chakravarthy:

1. How we found out about COMETS Isaac Asimov
2. How we found out about NEPTUNE Isaac Asimov
3. How we found out about PLUTO Isaac Asimov
4. How we found out about BLACK HOLES Isaac Asimov
5. How we found out about BRAIN Isaac Asimov
6. How we found out about DNA Isaac Asimov
7. How we found out about BLOOD Isaac Asimov
8. How we found out about GENES Isaac Asimov
9. How we found out about ROBOTS Isaac Asimov
10. How we found out about COAL Isaac Asimov
11. How we found out about SUPERCONDUCTIVITY Isaac Asimov
12. How we found out about VOLCANOES Isaac Asimov
13. How we found out about LASERS Isaac Asimov
14. "How Children Learn" by John Holt

Original book:

V.S. Chakravarthy, Moodadugullo Vishvam (The Universe in Three Steps), Jana Vijnana Vedika, 2010.

International collaboration achievements by the Department:

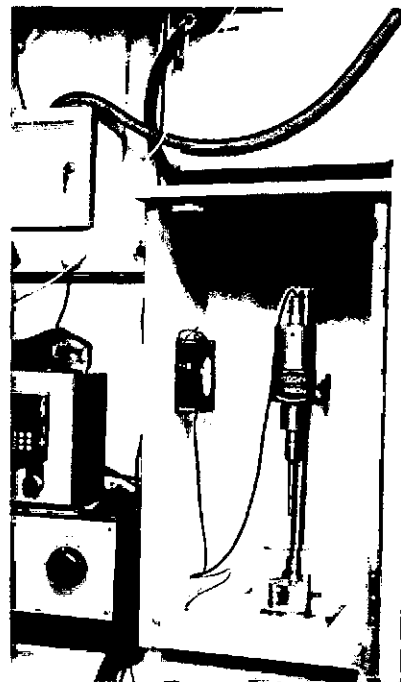
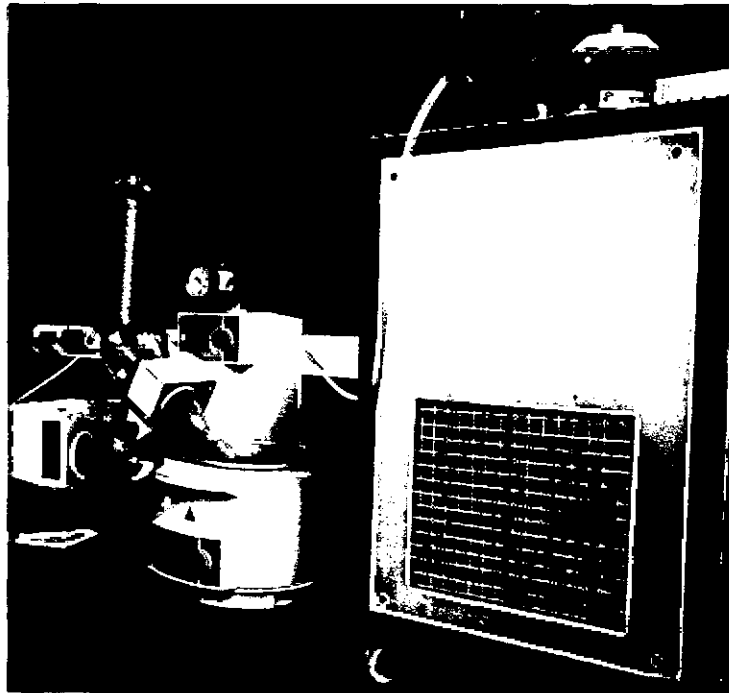
Student visit:

Pundrik Jaiswal, a PhD student is in University of Geneva on a collaborative project with the lab of Dr. Thierry Soldati.

Major infrastructure development made in the Department

Center of Excellence in "Bioprocess Engineering" has been set up with an objective to develop knowledge and expertise in this domain and serve as a nodal point for various end users to interact with and to develop the frontiers of this area.

CHEMICAL ENGINEERING



4.4 DEPARTMENT OF CHEMICAL ENGINEERING

4.4.1 Introduction:

The Department of Chemical Engineering was established in 1959. The department has 27 faculty members who carry out research in state of the art areas. The focus of the research is geared towards: energy, materials and environment. Faculty work towards analyzing these systems by understanding their behavior at the molecular level as well as using a systems approach.

4.4.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1	NE6060	Reliability and Safety Analysis
2	PE6080	Petroleum Refining Technology
3	CA5350	Catalysis in Petroleum Technology
4	CA5370	Nano – Materials in Catalysis

New Disciplines introduced

Sl. No.	Course No.	Title
1	M.Tech	In Nuclear Engineering, Catalysis Technology, Petroleum Engineering.

* These courses are introduced along with other departments such as Civil Engineering, Mechanical Engineering, Ocean Engineering, Chemistry etc.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	60	52	47	38	1	198
Dual Degree	14	13	13	15	12	67
M.Tech.	31	30	-	-	-	61
M.S.	8	6	7	3	3	27
Ph.D.	7	6	10	9	17	49
Total	120	107	77	65	33	402

Names of Student/Scholar who attended Conference/ Workshops /Seminar and Symposia India/abroad:

Sl. No.	Name of the Student	Programme	Name of the Conference/ Seminar / Symposia	Date and Venue
Conference:				
1	Gigi Sebastian (Ph.D)	International Conference	Control, Automation, Communication and Energy conservation	4 th June to 6 th June 2009 at Kongu Collage, Erode.
2.	Abhijnan Sarkar (M.S)	National Conference	Fuel Cell Technology And Hydrogen Energy	20 th July to 28 th July 2009, Centre for Energy Studies, IIT Delhi
3.	Srinivasarao Modekurti (MS)	Long term visit	Dept. of Chemical Engg., Texas Tech University	Dec 23, 2009 to May 31, 2010
4	Manivannan (M.S.)	International Conference	International conference on planarization / cmp technology	November 19-21, 2009, Fukuoka, Japan

Name of Students/Scholars who won Institute Convocation/Institute Day Prize:

Sl.No	Name of the Student/Scholar	Roll No.	Name of Prize	Name of Donor
1.	Sivaraman Ramasamy	CH06B043	Institute day Prize 2010	Dr.R.K.Viswanath Memorial Prize
2.	Harshit Kulin Desai	CH05B054	Institute Merit Prize 2010	IIT Madras
3.	Sheril Mary Mathew	CH08M029	Institute Merit Prize-2010	IIT Madras

4.4.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization
Professor:	
Dr. A.R.Balakrishnan	Transport Processes, Energy Conservation
Dr.M.Chidambaram	Process Control
Dr.K.Krishnaiah	Chemical reactor analysis and design fluidization
Dr. R.Nagarajan	Particle Science & Technology
	Ultrasonic Processing
	Statistical Quality Control
Dr.T.Panda	Bioprocess Optimization, bioprocess technology and enzyme design
Dr.S.Pushpavanam	Modeling and simulation, non linear dynamics, flow visualization
Dr.V.S.Ramachandra Rao	Advanced Control strategies, Neuro Fuzzy Control
Dr.Shankar Narasimhan (Head)	Process design, data mining, fault diagnosis
Dr.T.Swaminathan	Environmental Management, Biotechnology, Membrane technology, Environmental risk assessment
Dr.PST Sai	Chemical reactor analysis and design
Dr.R.Ravi	Applied statistical mechanics, foundations of thermodynamics and mechanics, process dynamics and control
Dr.Sreenivas Jayanti	Fuel cells, Combustion, Energy systems
Associate Professor:	
Dr.Abhijit Deshpande	Rheology of complex fluids, polymers and polymeric composites
	Processing flow visualization
Dr.A.Kannan	Rate enhancement of Reaction and Transport Processes
Dr.Upendra Natarajan	Polymer Science & Engineering, Molecular simulation, statistical thermodynamics of complex fluids, nanostructured hybrid composite materials.
Assistant Professor:	
Dr.Susy Varughese	Physics & mechanics of polymeric materials, polymeric nano composites
Dr.S.Ramanathan	Semiconductor processing, Electrochemistry, Chemical Reaction Engineering
Dr.Tanmay Basak	Microware application, mathematical modeling and simulation
Dr.Arun K Tangirala	System identification and parameter estimation
Dr.R.Ramnarayanan	Integrated Chemical Systems, Photoelectrochemistry, Solidstate synthesis.
Dr.R.Ravikrishna	Contaminated Sediment remediation, contaminant fate and Transport, Air Pollution process and control.
Dr. Niket S Kaisare	Microreactor Technology, Multiscale modeling , Process control, Fuel Processing, Fuel cells.
Dr. Raghuram Chetty	Electrocatalysis, Fuel cells, Wastewater treatment
Dr.Sridharakumar Narasimhan	Process System Engineering, optimization, Process Control, Fault diagnosis.
Dr.Renganathan	Multiphase reactors, Computational Fluid Dynamics
Dr. Preeti Aghalayam (Assot.Visiting Professor)	Chemical Reaction Engineering,
Scientific Officers / Engineers:	
Dr. K. Krishnamurthy	

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
Workshop:			
1.	Dr.Arun K Tangirala	AICTE Sponsored workshop on Advanced Wavelet Transforms: Theory and Applications	July 6 th - 11 th 2009
2.	Dr. S. Narasimhan	Workshop on Data Reconciliation and Gross Error Detection at ABB, Bangalore	May 21-22, 2009
3.	Dr. Sridharkumar Narasimhan and Dr. S. Narasimhan	Workshop on Optimization Theory and Applications	Nov 2-4, 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Ramnarayanan. R	Creative thinking and problem solving in engineering and the sciences	Central Electrochemical Research Institute, Karaikudi on 16.04.2009
2.	Dr.S.Pushpavanam	Lecture on Non-Linear Dynamics of coupled System	NCL, Pune 4 th June 2009 to 6 th June 2009
3.	Dr.A.Kannan	Seminar on "Solvent Extraction	IICE, Kalpakkam Regional Centre. 24 th June 2009.
4	Dr.T.Panda	To work as a AICTE Expert committee visit to Colleges in A.P	Colleges in A.P (Nellore,Raajmundry) 28 th June 2009 to 1 st July 2009
5	Dr.S. Ramanathan	External Examiner for Ph.D.Viva	Anna University 9 th July 2009
6	Dr.V.S.Ramachandra - Rao	Selection Committee meeting	IIT Bombay 21 st July 2009 to 23 rd July 2009
7	Dr. T.Panda	Evaluation of Seminar performed by faculty position Candidates	IIT Hyderabad 29 th July 2009 to 31 st July 2009.
8	Dr. Sreenivas Jayanti	Evaluation of Seminar performed by faculty position Candidates	IIT Hyderabad 29 th July 2009 to 31 st July 2009.
9	Dr.Raghuram Chetty	Interview Selection Committee At CECRI,	CECRI, CSIR Madras Complex 29 th July 2009
10	Dr. R.Ravi	Evaluation of Seminar performed by faculty position Candidates	IIT Hyderabad 30 th July 2009 to 31 st July 2009.
11	Dr. Arun K Tangirala	Visiting Faculty	Andra University Visakhapatnam 3 rd to 8 th August 2009.
12	Dr. Shankar Narasimhan	Attend DST-PAC meeting	Pune 28 th August 2009
13	Dr.R.Nagarajan	DC Meetings for 4 students	VIT Vellore 28 th August 2009
14.	Ramnarayanan. R	Creative thinking and problem solving in engineering and the sciences	Central Electrochemical Research Institute, Karaikudi on 16.04.2009
15	Dr. R. Nagarajan	"Nanoparticle Generation: Scale-Up Aspects", Inaugural Lecture of DRDO Sponsored Workshop on Nanotechnology, SSN College of Engineering, Kalavakkam, Chennai	SSN College of Engineering, Kalavakkam, Chennai Aug 20, 2009
16	Dr. Arun K Tangirala	Guest Lecture	Veltech, Chennai 10 th September 2009.
17	Dr.S. Ramanathan	PhD DC meeting	NIT Trichy 23 rd to 25 th September 2009
18.	Dr.Tamay Basak	Participant in Indo-German Symposium	1 st to 4 th October 2009

19.	Dr.T.Panda	Ph.D.Viva voce Exam	Annamalai University Chidambaram
20.	Dr. Arun K Tangirala	Inagural speaker for Students Conference	Erode Sengunthar Engg.College Erode 30 th October 2009
21.	Dr.T.Panda	Indo-German Frontiers Symposium	IIT Madras 1 st to 4 th October 2009.
22.	Dr.Raghuram chetty	Project Meeting	IIT Delhi 26 th - 27 th November 2009.
23.	Dr. Arun K. Tangirala	Lecture at IGCAR Training School.	Kalpakkam 21 st 28 th January 2010.
24.	Dr.Preeti Aghalayam	Organisation & conduct of Int. conference	IIT Bombay 7 th - 12 th December 2009
25.	Dr.A.R. Balakrishnan	To attend the UGC committee to Assess the XI plan requirements	14 th -15 th October 2009 Institute of Chemical Technology, Mumbai
26	Dr.Shankar Narasimhan	Expert member for chair professor selection	10 th December 2009 IIT Bombay
27	Ravikrishna R.	Current Trends in Environmental Science and Technology	GMR Institute of Technology, Rajam, A.P., March 26, 2010
28	Ravikrishna R.	Contaminated Sediments	St. Josephs Engineering College, Chennai., August 24, 2009
29	Ramnarayanan. R	Molecular science and engineering	National Institute of Technology, Tiruchirapalli on 22.10.2009
30	Dr.S. Ramanathan	Seminar	IIT-Kanpur, 7 th Aug 2009

Visits abroad by faculty:

Sl. No.	Name of the faculty	Country Visited	Date		Purpose of Visit
			From	To	
1.	Dr. R. Nagarajan	Malaysia Singapore	4 th April 2009	3 rd June 2009	Conducting Tutorial
2.	Dr. R .Nagarajan	London, UK & Chicago, USA	Oct 1 2009	Oct 9, 2009	IIT Alumni London Chapter Mtg & PanIIT 2009 Meeting
3.	Dr.Shankar Narasimhan	USA	8 th June 2009	17 th July 2009	Professional Visit
4.	Dr.S.Pushpavanam	Belgium	9 th Jan. 2009	23 rd March 2009	Scientific Stay
5.	Dr.Sridharkumar Narasimhan	USA	1 st June 2009	31 st July 2009	Research Work
6.	Dr. Sreenivas Jayanti	USA	8 th November 2009	15 th November 2009	To Present Papers at an International Conference
7.	Dr. Sreenivas Jayanti	Taiwant	24th May 2009	27 th May 2009	To Present Papers At an International Conference

Journal Editorial Boards

Sl.No	Name of faculty	Position (Editor/Member)	Journal Name.
1.	Dr. A.R.Balakrishnan	Editor	International journal of Heat and Mass Transfer
2.	Dr. A.R.Balakrishnan	Editor	International Communications in Heat and Mass Transfer.
3.	Dr. A.R.Balakrishnan	Editor	Journal of Energy, Heat and Mass Transfer
4.	Dr. Shankar Narasimhan	Editorial Board Member	ICE, Advances in Chemical Engineering
5	Dr. Shankar Narasimhan	Editor	International Journal on Advances in Engineering Sciences and Applied Mathematics (IITM Journal)

4.4.4 Design and Development Activities:

Brief and specific details of Process/Instruments/Equipment/ Software designed and developed:

Ramnarayanan. R, Hydrothermal furnace, 0.4 lakh

New facilities added or major equipment procured through project funds:

Sl. No.	Name of Equipment	Value (Rs. in lacs)
1	Potentiostat	2.8
2	Chemical synthesis bath	1.0
	Gas-Chromatography system with FID and TCD – sponsored by Chevron Corporation	14.0

Patents:

Patents filed:

* A new method for external humidification of Hydrogen for the continuous operation of a PEM fuel cell has been developed *.

4.4.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lacs)	Co-ordinators
1	Characterizing metal loss defects from de-noised radial influx leakage signals	7/7/2009 to 7/6/2011	Board of Research in Nuclear Sciences	19.50	Arun K Tangirala
2	Integrating Nanomaterials in Formulations	7/1/2009 to 6/30/2012	European Commission	24.01	Ramnarayanan R
3	Megasonic Cleaning	8/1/2009 to 7/31/2010	Crest Ultrasonics Corporation	3.92	Nagarajan R
4	Atomistic molecular dynamics simulation of the interaction between anionic polyelectrolytes and surfactants	10/9/2009 to 10/8/2012	Department of Science & Technology	12.24	Upendra Natarajan
5	Rheology of ionic polymers near gelation	11/12/2009 to 11/11/2012	Department of Science & Technology	37.44	Abhijit P Deshpande
6	Inkjet printing of conducting polymers for optoelectronic devices - processability and wetting characteristics		Department of Science & Technology	19.20	Susy Varughese
7	Electrogenerated Chemiluminescence in integrated chemical systems using modified electrodes	06/2008-06/2011	Council of Scientific and Industrial Research, India	12.36	Ramnarayanan. R
8	Polymer based evanescent wave chemical sensors with long period resonant gratings	11/2008-11/2011	Department of Science and Technology, India	33.53	Ramnarayanan. R and Balaji Srinivasan (Electrical Engineering)
9	Titanium compounds of interest in electrochemical Titanium production	03/2009-03/2012	Defense Research and Development Organization, India	14.97	Ramnarayanan. R
10	Integrating Nanomaterials in Formulations	07/2009-06/2010	European Union Framework Program 7	24.4	Ramnarayanan. R

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1	Sreenivas Jayanti	Process modeling of a seawater FGD	Bharat Heavy Electricals Ltd.,	2.206
2	Sreenivas Jayanti	CFD Modelling of the Flow distribution in the inlet and outlet ducts of a Regenerative Airpreheater	Bharat Heavy Electricals Ltd.,	3.860

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1.	Ramnarayanan. R	Proof-of-principle layered double hydroxide synthesis	Procter and Gamble Company, Cincinnati	1.2
2.	B. Viswanathan (PI) Ramnarayanan. R (Co-PI)	Solar radiation induced photo-electrochemical method for hydrogen generation	Tata Chemicals	33.84

Journal Editorial Boards:

Sl. No.	Name of faculty	Level	Journal
1.	Dr.T.Swaminathan	Member	International Journal of Environment and waste Management.
2.	Dr.R.Nagarajan	Editor	"Journeys" (e-magazine of IIT Madras Alumni Association)
3.	Dr.T.Panda	Member	The Open Biotechnology journal Bentham Science Publishers
4.	Dr.T.Panda	Member	The Open Journal of Enzyme Inhibition , Bentham Science Publishers.

Research Publications:

Total No. of papers published in Refereed National Journals Nil
 Total No. of papers published in Refereed International Journals 59
 Total No. of papers presented in National Conferences 2
 Total No. of papers presented in International conferences 11

In Refereed International Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1	Harini M. Abhijit P. Deshpande	Rheology of poly (sodium acrylate) hydrogels during cross-linking with and without cellulose micro-fibrils,	Journal of Rheology, 53(1), pp 31-47 (2009).
2	S. Selvanathan A.K. Tangirala	Delay estimation in multivariate closed-loop systems using Hilbert Transform relationships.	<i>Chemical Engineering Sciences</i> , 65(2), 660-674(2009)
3	S. Babji A.K. Tangirala	Source separation in multivariate interacting systems. <i>Digital Signal Processing</i> .	Digital Signal Processing, 20(2), 417-432 (2010)
4	S. Selvanathan A.K. Tangirala	Detection and diagnosis of oscillations due to multiple sources in closed-loop systems using wavelet transforms	<i>ICFAI University Journal of Chemical Engineering</i> , 1(1), 7-21.
5	S. Babji A.K. Tangirala	Delay estimation in closed-loop systems using average mutual information theory.	<i>Control and Intelligent Systems</i> , 37(3). (2009).
6	S. Babji, P. Gorai A.K. Tangirala	Detection and quantification of control-valve non-linearities using Hilbert Huang Transform	<i>Advances in Adaptive Analysis</i> , 1(3), 425-446. (2009).
7	R. Sindhuja, A.R. Balakrishnan S. Srinivasa Murthy,	"Post-CHF Heat Transfer during Two-Phase Upflow Boiling of R-407C in a Vertical Pipe",	Applied Thermal Engineering, 30, 167-173 (2010).

8	G. Sateesh, S.K. Das A.R. Balakishnan	"Experimental Studies on the Effect of Tube Inclination on Nucleate Pool Boiling",	Heat and Mass Transfer, 45, 1493-1502 (2009)
9	G. Sateesh, S.K. Das A.R. Balakishnan	"Experimental Studies on the Effect of Tube Inclination on Nucleate Pool Boiling	Heat and Mass Transfer, 45, 1493-1502 (2009)
10	Tanmay Basak, S. Roy, Amit Singh A.R. Balakrishnan	"Natural Convection Flows in Porous Trapezoidal Enclosures with Various Inclination Angles",	International Journal of Heat and Mass Transfer, 52, 4612-4623 (2009).
11	J.M. Goodson R. Nagarajan	Megasonic Sweeping and Silicon Wafer Cleaning,	Solid State Phenomena, Vols. 145-146, 2009, pp. 27-30
12	T. Basak, S. Roy, A. Singh, I. Pop	Finite Element Simulation of Natural Convection Flow in a Trapezoidal Enclosure Filled with Porous Medium due to Uniform and Non-Uniform Heating,	International Journal of Heat and Mass Transfer, 52 (1-2), 70-78 (2009).
13	T. Basak, S. Roy, P. K. Sharma, I. Pop,	Analysis of Mixed Convection Flows within a Square Cavity with Linearly Heated Side Wall(s),	International Journal of Heat And Mass Transfer, 52 (9-10), 2224-2242
14	T. Basak, S. Roy, P. K. Sharma, I. Pop, ,	Analysis of Mixed Convection Flows within a Square Cavity with Uniform and Non-Uniform Heating of Bottom Wall	International Journal of Thermal Sciences, 48(5), 891-912 (2009).
15	D. J. Krishna, T. Basak, S. K. Das,	Natural Convection in a Non-Darcy Anisotropic Porous Cavity with a Finite Heat Source at the Bottom Wall	International Journal of Thermal Sciences (Available online, January 2009),
16	T. Basak, S. Roy, I. Pop, Concept	Heat Flow Analysis for Natural Convection within Trapezoidal Enclosures Based on Heatline	International Journal of Heat and Mass Transfer, 52(11-12), 2471-2483 (2009)
17	T. Basak, G. Aravind, S.Roy,	Visualization of Heat Flow due to Natural Convection within Triangular Cavities using Bejan's Heatline Concept	International Journal of Heat and Mass Transfer, 52 (11-12), 2824-2833 (2009).
18	S. Durairaj, T. Basak	A New Microwave Processing Strategy For Food-Ceramic Composite Layer Confined within Ceramic Plates,	Food Research International, 42 (2), 254-270 (2009).
19	Stefanidis G. D. D. G Vlachos, N. S. Kaisare M. Maestri.	"Methane steam reforming at microscale: Operation strategies for variable power output at millisecond contact times."	<i>AIChE Journal</i> , 55:180-191(2009),
20	Kaisare N. S., G. D. Stefanidis D. G. Vlachos	"Comparison of Ignition Strategies for Catalytic Microdevices,"	<i>Proc. Combust. Inst.</i> , 32: 3027-3034. (2009),
21	Kaisare N. S., G. D. Stefanidis D. G. Vlachos,	"Millisecond production of hydrogen from alternative, high hydrogen density fuels in a co-current multifunctional microreactor	<i>Ind. Eng. Chem. Res.</i> , 48:1749-1760. (2009),
22	Kaisare N. S. J. H. Lee	"Optimal Design of Periodic Test Input Signals for Multivariable Impulse Response Models,"	<i>Optimal Control Applications and Methods</i> , accepted (2010),
23	Seshadri V. N. S. Kaisare;	"Hydrogen-assisted ignition of lean propane/air mixtures in catalytic microburners"	<i>Combust. Flame</i> , accepted (2010)
24	Swernath S, Benny Malengier Pushpavanam S,	"Effect of Korteweg stress on viscous fingering of solute plugs in a porous medium "	Chemical Engineering Science , Article in Press (2009)

25	Sreenath K, Pushpavanam S,	"Issues in the Scaling of exothermic reactions: From micro scale to macro scale",	Chemical Engineering Journal , Volume: 155, Issues 1-2, Pages 312-319 , DEC 1 2009
26	Cherlo SKR, Sreenath K, Pushpavanam S,	,"Screening, Selecting, and Designing Microreactors"	Industrial And Engineering Chemistry Research Volume: 48 , Issue: 18 , Pages: 8678- 8684 , SEP 16 2009
27	Rao SK, Imam R, Ramanathan K, Pushpavanam S, ,	"Sensitivity Analysis and Kinetic Parameter Estimation in a Three Way Catalytic Converter"	Industrial And Engineering Chemistry Research , Volume: 48 , Issue: 8 , Pages: 3779- 3790 , APR 15 2009
28	Selvaraju N, Pushpavanam S ,	"Adsorption characteristics on sand and brick beds",	Chemical Engineering Journal, Volume: 147 , Issue: 2-3 , Pages: 130-138 , APR 15 2009
29	R. Chetty, W. Xia, S. Kundu, M. Bron, T. Reinecke, W. Schuhmann, M. Muhler,	Effect of reduction temperature on the preparation and characterisation of Pt- Ru nanoparticles on multi-walled carbon nanotubes,	<i>Langmuir</i> , 25, 3853-3860, 2009.
30	R. Chetty, S. Kundu, W. Xia, M. Bron, W. Schuhmann, V. Chirila, W. Brandl, T. Reinecke, M. Muhler	PtRu nanoparticles supported on nitrogen-doped multiwalled carbon nanotubes as catalyst for methanol electrooxidation	<i>Electrochim. Acta</i> , 54 (2009) 4208-4215
31	Sivaji Seepana Sreenivas Jayanti,	,"Flame structure and NO generation in oxy-fuel combustion at high pressures",	Energy Conversion and Management 50(4), 1116-1123, 2009.
32	Sivaji Seepana Sreenivas Jayanti,	"Optimized enriched CO2 recycle oxy- fuel combustion for high ash coals, Fuel	(Accepted for Publication, 2009)
33	S. K. Samanta, T. Basak	Enhanced Microwave Processing of Oil-Water Emulsions Confined within Ceramic and Ceramic/Metallic or Composite Plates	Chemical Engineering and Processing, 48 (2), 706-721 (2009).
34	M. Bhattacharya, T. Basak,	Linear Stability Analysis for the Onset of Convection during Microwave Heating of Oil Confined within Horizontal Plates	Journal of Applied Physics, 105 (2), Art. No. 024906 (2009).
35	R. S. Kaluri, T. Basak, S. Roy, ,	Bejan's Heatlines and Numerical Visualization of Heat Flow and Thermal Mixing in Various Differentially Heated Porous Square Cavities	Numerical Heat Transfer Part A-Applications, 55(5), 487-516 (2009). (2009).
36	S. Durairaj, T. Basak	Analysis of Pulsed Microwave Processing of Polymer Slabs Supported with Ceramic Plates	Chemical Engineering Science, 64 (7), 1488-1502 (2009).
37	T. Basak S. Roy G. Aravind	Analysis of Heat Recovery and Thermal Transport within Entrapped Fluid Based on Heatline Approach,	Chemical Engineering Science, 64(8), 1673-1686 (2009).
38	R. Manivannan S. Ramanathan	The effect of hydrogen peroxide on polishing removal rate in CMP with various abrasives	Appl. Surf. Sci. 255, (2009), 3764-3768.
39	Narasimhan, S., R. Rengaswamy	"Reply to Comments on Recursive Estimation in Constrained Nonlinear Dynamical Systems,"	<i>AIChE J.</i> , 55 (4), 1080, 2009.
40	Narasimhan, S., R. Rengaswamy	Reply to Comments on Robust and reliable estimation via unscented recursive nonlinear dynamic data reconciliation (URNDDR)	<i>J. Process Control</i> , 19 (4) 719- 721 (2009).
41	Bhatt, N., and S. Narasimhan	Multivariate Calibration of Non- Replicated Measurements for the Factored Noise Model	<i>Chemometr. Intell. Lab.</i> 98, 182-194 (2009)

42	Suresh Raja, Ravikrishna R, Raghava R. Kommalapati, Xinhua Shen, Jeffrey L. Collett, Jr. , Kalliat T. Valsaraj	Organic composition of fogwater in the Texas–Louisiana gulf coast corridor	Atmospheric Environment, 43, pp 4214-4222 (2009).
43	Jeevan Maddala, S. Krishnaraj, V. Vinod Kumar, S. Ramanathan,	Identification of reaction mechanism for anodic dissolution of metals using Electrochemical Impedance Spectroscopy	J. Electroanal.Chem. 638 (2010) 183-188
44	R. Prasanna Venkatesh, S. Ramanathan	Electrochemical characterization of Cu dissolution and chemical mechanical polishing in ammonium hydroxide - hydrogen peroxide based slurries	J. Appl. Electrochem. 40 (2010) 767-776
45	R. Prasanna Venkatesh, S. Ramanathan	Electrochemical impedance spectroscopic studies of copper dissolution in glycine - hydrogen peroxide solutions,	J.Solid State Electrochem. (accepted)
46	S. Suahaykumar T.Basak	Efficient processing of oil –water emulsions confined within 2D Cylinders with various microwave irradiations: Role of metallic annulus	Food Research International 43(2010)148-166
47	Cherlo,sivakumar R Sreenath ,pushpavanam S	Experimental and Numerical Investigations of Two-Phase (Liquid-Liquid) Flow behavior in Rectangular Microchannels	Industrial& Engineering Chemistry Research49(2010) 893-899
48	Prasad K.B Shyama Suresh P .V Jayanti S	A hydrodynamic network model for interdigitated flow fields	International Journal of Hydrogen energy 34(2009) 8289-8301.
49	Shivamurthy R.C. Kamaraj Sheriff S.M Padmanabhan G Nagarajan R	Slurry Erosion Characteristics and Erosive wear Mechanisms of C-Based and Ni-Based Coatings Formed by Laser surface Alloying	Metallurgical and Materials Transactions a Physical Metallurgy and Materials Science 41A(2010) 1073-5623.
50	Sandilya D Krishna Kannan A	Effect of ultrasound on the solubility limit of a sparingly soluble solid	Ultrasonic Sonochemistry 17 (2010) 1350-4177.
51	Rene Eldon R Estefania Lopez Murthy DVS Swaminathan T	Removal of Xylene in gas Phase using compost ceramic ball biofilter	International Journal of Physical Science 4 (2009) 1992-1950.
52	Samanta sujaykumar Basak T	Efficient microwave processing of oil-water emulsion cylinders with lateral and radial irradiations	Food Research International 42 (2009) 1337-1350
53	Durairaj Sankaran Chaudhary Amrita Basak T	Efficient microwave heating of discrete food samples layered with ceramic composites	Journal Food Engineering 95 (2009) 62-75
54	Pakshirajan K Swaminathan T	Biosorption of Lead, copper and cadmium by phanerochaete chrysosporium in Ternary metal Mixtures: Statistical Analysis of Individual and Interaction Effects	Applied Biochemistry & Nanotechnology 158 (2009) 457-469.
55	Ambedkar B Gowrisankar Somasundaram S Nagarajan R	Development of Predictive model for fly-ash erosion Phenomena in coal-burning boilers	WEAR 267(2009) 122-128
56	Shivamurthy R.C. Kamaraj Sheriff S.M Padmanabhan G Nagarajan R	Influence of microstructure on slurry erosive wear Characteristics of laser surface alloyed 13 Cr-4Ni steel	WEAR 267(2009) 204-212

57	Subramani A Shet U S P Selvaraj P Jayanti S	Dynamics of liquid sodium pool spreading under sodium fire conditions	Nuclear Engineering and Design 239(2009) 1354-1361
58	Kareemulla D Jayanti S	Comprehensive one - dimensional, semi-analytical ,Mathematical model for liquid- feed polymer electrolyte membrane direct methanol fuel cells	Journal of Power Sources 188(2009)367-378
59	Seepana Sivaji Jayanti S	Flame structure and No generation in oxy-fuel combustion at high pressures	Energy Conversion Management 50 (2009) 1116-1123.

Books chapter

1	Kaisare N. S., G. D. Stefanidis D.G. Vlachos ,	"Transport Phenomena in Microscale Reacting Flow," In Handbook of Microprocess Engineering, Part A: Fundamentals, Operations and Catalysts, A. Renken and Y. Wang (Eds.),	Solid State Phenomena, Vols. 145-146, 2009, pp. 27-30 Wiley-VCH
2	Nagarajan R kohli R Mittal K.L	Ultrasonic Cleaning	Advances in Surface Contamination and Cleaning Vol. 2 2009

In Proceedings of International Conferences:

Sl.No	Name of faculty	Title	Institution	Period
1.	Vikram S. and N. S. Kaisare N. S	."Simulation of Ignition Characteristics of Various Fuels in a Catalytic Microreactor," ECM-2009	European Combustion Meeting, Vienna, Austria.	April 2009,
2	Nagarajan R Ambedkar B Anupama K RaviTeja A	"Sono-Processing of nano - composite polymers"	Asian symposium on Materials, Minerals and Environment Penang, Malaysia.	June 2009
3.	Santhosh kumar, SAmbedkar B, Nagarajan R	Ultrasonic Purification Of fly-ash	Asian Symposium on Materials and Processing, Penang, Malaysia	June 2009
4.	Villez, K. (Purdue University); Narasimhan, S.; Venkatasubramanian, V. (Purdue University)	Bayesian inference for Fault-Tolerant Control.	Proceedings of the 2nd International Symposium on Resilient Control Systems (ISRCS2009)	Aug 11-13 2009, Idaho, USA.
5	S. Santosh Kumar, B. Ambedkar and R. Nagarajan	Ultrasonic purification of fly-ash	Proc. 4 th Intl. Conf. on Recent Advances in Materials, Minerals and Environment and 2 nd Asian Symposium on Materials and Processing (RAMM & ASMP 2009), Penang, Malaysia	June 1-3, 2009
6	S. Sivaji and S. Jayanti	Experimental investigation of oxy-fuel combustion	7 th Asia-Pacific Conference on Combustion, National Taiwan University, Taipei, Taiwan	24-27 May 2009
7	A. Subramani and S. Jayanti	Experimental study of sodium pool fire in a table-top set-up	7 th Asia-Pacific Conference on Combustion, National Taiwan University, Taipei, Taiwan	24-27 May 2009
8	N S Suresh S Jayanti	Modelling of Cross-Over Effects in Direct Ethanol Fuel Cells (DEFCs)	2009 AIChE Annual Meeting, Nashville, TN, USA	8 – 13 Nov 2009
9	P V Suresh S Jayanti P Haridoss A P Deshpande	Effect of Wall Adhesion On Liquid Water Transport through the Gas Diffusion Layer of a PEM Fuel Cell	2009 AIChE Annual Meeting, Nashville, TN, USA	8 – 13 Nov 2009

10	S Sivaji S Jayanti	Enhanced CO ₂ Sequestration From a Combined Cycle Power Plant	2009 AIChE Annual Meeting, Nashville, TN, USA	8 – 13 Nov 2009
11	S Jayanti N Rammohan A Subramani	Numerical Model Development for Flow Analysis of Hot Gas Filters	2009 AIChE Annual Meeting, Nashville, TN, USA	8 – 13 Nov 2009

In Proceedings of National Conferences:

Sl.No	Name of faculty	Title	Institution	Period
1.	Nagarajan R Ambedkar B	Characterization of Ultrasonic coal-wash for deashing	ChEmference 09, Annaul Research Symposium IIT Madras.	August 2009
2	Jaganathan TK Choudhary SK Nagarajan R Ramamurthy K Srinivasan K	Ultrasonically enhanced atomization	ChEmference 09, Annaul Research Symposium IIT Madras.	August 2009

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. Kiirti Chandra Sahu Imperial College London	16 th July 2009	To give a Seminar talk
2.	Dr.Gunddu Sabde 3M Corporation (Minneapolis)	24 th July 2009	- do -
3.	Prof.G.Baskaran (IMSc)	11 th September 2009	- do -
4.	Dr.M.K.Rao India Glycols Ltd.	31 st August 2009	- do -
5.	Dr. Maymol Cherian Apotex Pharmachem Inc.Canada	27 th August 2009	- do -
6.	Dr.Senthil Kandasamy D.E.Shaw Research Lab. Hydrabad	23 rd October 2009	- do -
7	Dr.Anand Mohan Houston ,TX	19 th November 2009	- do -
8.	Dr.Rahul Anatharaman Norwegian University of Science and Technology	12 th December 2008	- do -
9.	Dr.Rajan Dewar Harvard Medical School,Boston, M.A	12 th February 2010	- do -
10.	Dr.Jasbir Singh HEL Ltd, England and India	12 th February 2010	- do -
11.	Dr.A.P.Uthirakumar South Korea	5 th February 2010	- do -
12.	Dr. K.Anki Reddy	24 th December 2009	- do -

4.4.6 Other Activities:

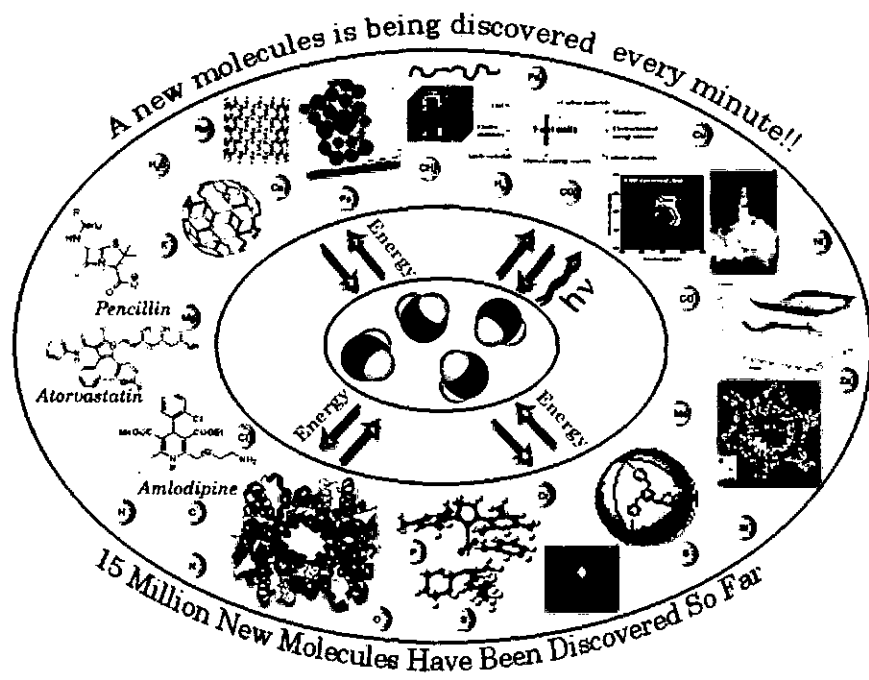
a. Inter disciplinary group achievements by the department:

Department Faculty of the department actively collaborate across the Institute with faculty from Mechanical engineering, Civil Engineering, Electrical Engineering, and basic sciences.

b. International Collaboration achievements by the department:

The department faculty are actively involved in collaborative projects with other universities across the world such as University of Ghent, Belgium, Texas Technical University Lubbock, U.S.A, Imperial College London, University of Houston , Texas, U.S.A etc.

CHEMISTRY



Pamplet



GPC

4.5 DEPARTMENT OF CHEMISTRY

4.5.1 Introduction:

The Department of Chemistry was a part of the Department of Chemical Engineering during the period 1959-1961 and was established as an independent Department in the year 1961 with Prof. V. Srinivasan as the Head-in-Charge. Prof. M.V.C. Sastri assumed charge as the first Head of the Department in November 1961. He was instrumental in building the Department as well as the Applied Chemistry Building (completed in 1973). Prof. Sastri was also responsible for the special instruments laboratory (established in 1970; later known as RSIC and presently known as SAIF), and the MSRC (established in 1974 with Prof. Sastri as the Head and Prof. V. Srinivasan as the Associate Head).

4.5.2 Academic Programmes:

The Department offers MSc and PhD programs in chemistry. As on date 765 students have graduated with MSc degree and 566 students with PhD degree. It is also involved in teaching various aspects of Chemistry at the preparatory level (for weaker section students) and BTech (core as well as minor stream courses in Chemistry). Presently, the Department is very well equipped with modern instrumentation facilities and is actively engaged in performing quality teaching and research in frontier areas.

New Courses introduced:

S. No.	Course No.	Title
1	CY7001	Photoinduced Electron and Energy Transfer Reaction (Ph.D level)
2	CY7630	Supermolecular Chemistry
3	CY6001	Chemistry of the Earth's Atmosphere

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Sc.	41	32	-	-	-	73
Ph.D.	28	26	22	23	62	161
Total	69	58	22	23	62	234

Names of Student/Scholar who attended Conference/ Seminar and Symposia Abroad/India:

S. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance
Abroad:					
1	Niladri B Debata	CY05D016	The Fourth Joint International Symposium on Macrocyclic and Supramolecular Chemistry	21-25 June 2009, Maastrich The Netherlands	Institute (IITM) Alumni Assoc (IITM)
2	Md. Akbar Ali	CY05D024	7 th Canadian Computational Chemistry Conference	20 th -24 th July 2009 Halifax, Canada	IITM, DST IITM Alumni CSIR
3	S. Kumar Alamsetti	CY07D007	Tenth Tetrahedron Symposium	23-26 June 2009 Paris, France	CSIR
4	Illa Ramakanth	CY03D037	13 th IACIS-ICSCS on Surface and Colloid Science and 83 rd ACS CSS Symposium	14-19 June 2009 Columbia Univ. New York, USA	IITM, DST

S. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/Seminar/Symposia/Workshop	Date and Venue	Financial Assistance
India					
1	Laxminarayan Sahoo		XXIV Carbohydrate Conference	Dec. 7-9, 2009 Lachoo Memorial College of Science and Technology, Jodhpur.	
2	Sumanta Kumar Mehar	CY05D040	International Conference on Multifunctional Oxide Materials (ICMOM-2009)	April 16-18, 2009 Department of Physics, University, Shimla	IITM
			International workshop on Nanotechnology and Adv. Functional Materials	July 9-11, 2009 National chemical Laboratory Pune	Project Funds
3	Debakanta Tripathy	CY08D028	Modern Trends in Inorganic Chemistry (MTIC-XIII)	IISc Bangalore 7-10.12.2009	
4	Jagadeesh Chandra Prasad	CY07D038	5 th Junior National Organic Symposium Trust	Kanpur 4-7.12.2009	UGC
5	Santosh Kumar Alamsetti	CY07D007	5 th Junior National Organic Symposium Trust	Kanpur 4-7.12.2009	CSIR
6	P. Manohar	CY06D036	5 th Junior National Organic Symposium Trust	Kanpur 4-7.12.2009	CSIR
7	J. Joseph	CY06D035	International Conference on Advanced Functional Materials	Trivandrum 9-10.12.09	HTRA
8	A.K. Jibin	CY06D001	International Conference on Advanced Functional Materials	Trivandrum 9-10.12.09	HTRA
9	Saritha Davuluri	CY06D039	International Conference on Advanced Functional Materials	Trivandrum 9-10.12.09	HTRA
			6 th National Symposium and Conference of Solid State Chemistry	VIT Univ. Vellore 19-21.11.2009	
10	Soumabha Bag	CY08D021	11 th ISMAS-TRICON-2009	Ramoji Film City Hyderabad 24-28.11.2009	
11	A. Senthimurugan	CY06D014	CARBO XXIV	Jodhpur 7-9.12.2009	
12	Satyanarayan Sahoo	CY06D026	12 th International Symposium on Inorganic Ring System	Goa 16-21.8.09	UGC
13	Shubhankar Kumar Bose	CY07D012	12 th International Symposium on Inorganic Ring System	Goa 16-21.8.09	UGC
14	Soma Saha	CY09D021	Understanding Molecular Simulations	17-28 August 2009, JNCASR, Bangalore	JNCASR
			SERC School-cum-Symposium on Rheology of Complex Fluids	4-9 Jan 2010, IITM, Chennai	UGC
15	Prasanta Kundu	CY09D032	SERC School –cum-Symposium on Rheology of Complex Fluids	4-9 Jan 2010, IITM, Chennai	UGC
16	B. Vijay Kumar	DST Fast Track Young Scientist	International Conference on Current Trends in Chemistry and Biochemistry, ICCTCB - 2009	18-19 Dec 2009, Department of Chemistry, Bangalore University Bangalore 560 001	DST Fast Track Project
		DST Fast Track Young Scientist	Indo-Hungarian Workshop on "Future Frontiers in Catalysis	16-18 Feb 2010 at IIT Madras	NIL
17	D. Balamurugan		5 th JNOST	Dec 4-7, 2009, IIT Kanpur	IITM

Names of students/scholars who won outside prizes and awards:

S.No.	Name of the Scholar	Roll No.	Name of Prize	Prize awarded by
1	Keshav Kumar	CY06C012	Prof. Ramamurthy	Best M. Sc. Dissertation
2	Richa Sethi	CY06C023	Prof. Ramamurthy	Best M. Sc. Dissertation
3	Vijay Shankar	CY02D010	Prof. & Mrs. Ramamurthy	Best Ph.D. Thesis
4	Sumanta Kumar	CY05D040	SMCCD	SMCCD Bhabha Atomic Research Centre
5	Monalisa Mohapatre	CY06D024	Dr. R. K. Nanda Prize	North Prissa University, Baripada
6	S Amrita	CY06D016	Poster Presentation Award	Organisers of ISCBC-2009
7	Abhinav	CY07C006	Prof. Ramamurthy Endowment Prize	

Name of Students/Scholars who won Institute Convocation/Institute Day Prize:

S.No.	Name of the Scholar	Roll No.	Name of Prizes
1	B. Vijay Shankar	CY02D010	Werner Prize
2	Arkashis Bandyopandhya S.M. Mahalingam (Jointly Awarded)	CY02D009	C.N. Pillai Prize
		CY03D011	
3	A. Saieswari	CY03D021	Langmuir Prize

4.5.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major Area of Specialization

Professors:

Dhamodharan, R (PhD / U Mass, Amherst)
(Head of the Department)

Chemistry of Macromolecules

Aidhen, Indrapal Singh (PhD / Pune)

Synthetic Organic Chemistry

Baskaran S (PhD / IIT Kanpur)

Organic Synthesis & Asymmetric Synthesis

Bhyyappa P (PhD / IISc Bangalore)

Bioinorganic & Supramolecular Chemistry, Materials Chemistry

Chandrakumar, N (PhD / IIT Kanpur)

Magnetic Resonance Imaging & Spectroscopy

Kumar, Sanjay (PhD / IIT Kanpur)

Theoretical Chemistry, Quantum Chemistry

Loganathan, D (PhD / IIT Bombay)

Synthetic & Structural Carbohydrate Chemistry,

Bio-organic & Medicinal Chemistry and Structural Glycobiology

Mangala Sunder K (PhD / McGill, Canada)

Theoretical Spectroscopy

Mishra, A K (PhD / IIT Kanpur)

Fluorescence Spectroscopy

Patnaik, Archita (PhD / BHU, Varanasi)

Colloid & Interface Science, Nanoscience & Nanotechnology

Pradeep, T (IISc / Bangalore)

Nanomaterials, Spectroscopy, Ion Chemistry

Ranga Rao, G (PhD / IISc Bangalore)

Heterogeneous Catalysis and Surface Science

Sanganarayanan, M V (IISc / Bangalore)

Electrochemistry

Sankararaman, S (PhD / Victoria, Canada)

Synthetic and Mechanistic Organic Chemistry

Selvam, Parasuraman (PhD / IIT Madras)

Solid State and Catalysis, Nano- & Nanoporous Materials

Sudheendra Rao, M N (IISc / Bangalore)

Main Group Inorganic Chemistry

Varadaraju, U.V (IISc / Bangalore)

Solid State Chemistry, Materials Science

Varadarajan, T K (PhD / IIT Madras)

Catalysis, Chemical Kinetics

Vidyasagar K (IISc / Bangalore)

Solid State Chemistry

Associate Professor:

Murthy, N N (IISc, Bangalore)

Bioinorganic chemistry, Inorganic Chemistry, Spectroscopy

Assistant Professors:

Chand, Dillip Kumar (PhD / IIT Kanpur)

Supramolecular Chemistry, Inorganic Chemistry
Synthetic Organometallic Chemistry

Chakraborty, Debashis

(PhD / Göttingen, Germany)

Dua, Arti (IISc / Bangalore)

Statistical Mechanics , Polymer Theory, Stochastic Processes

Gharpure, Santosh J (IISc, Bangalore)

Organic Synthesis, New Synthetic Methods

Ghosh, Sundaragopal (PhD / IIT Bombay)

Organometallic and Metalloborane Chemistry

Madhavan, Nandita (PhD /

Oligopeptide Synthesis, Polymer Chemistry, Organic Materials

Muraleedharan, K M

Medicinal Chemistry, Bio-organic Chemistry

(PhD / RRL Trivandrum)

Prasad, Edamana (PhD / RRL Trivandrum)

Divalent Lanthanide and Dendrimer Chemistry

Rajakumar, B (IISc / Bangalore)

Atmospheric Chemistry, Gas Phase Kinetics & High resolution

Cavity Ring Down Spectroscopy, Computational Chemistry

Sekar, G. (PhD / IIT Kanpur)

Enantioselective Organic Synthesis

Vijay, Amrendra (IISc / Bangalore)

Theoretical Physical Chemistry

Scientific Officer:

Balachandran Pillai, R (PhD / IIT Madras)

Catalytic Organic Transformation

Emeritus Professors:

Viswanath, R P (PhD / IIT Madras)

Heterogeneous catalysis

Viswanathan, B (PhD / IIT Madras)

Heterogeneous catalysis, Energy systems

Short-term Courses/Workshops/Seminars/Symposia/Conferences organized by Faculty:

S. No.	Coordinator(s)	Title	Institution	Period
Conference:				
1.	Ghosh, Sundaragopal	Invited lecture: Title: C-H Activation of Alkanes and Arenes by Trantalaborane Clusters	IRIs 12 th , Goa, India	August 16-21, 2009
		Invited lecture: Title: C-H Activation of Alkanes and Arenes by Trantalaborane Clusters	2 nd ACCC Nanjing , China	November 1-4, 2009
2.	Gharpure, Santosh J	Co-convener of "MEDCHEM 2009 Conference cum Workshop on Current Trends in Medicinal Chemistry"	IIT Madras Dept. of Chemistry	April 2-4, 2009
		Title: Tandem Reactions for the Synthesis of Oxa-and Azacycles" Invited Talk at 4 th CRSI-RSC Symposium in Chemistry at NIPER	Hyderabad	February 4, 2010
		"New Synthesis of Donor Acceptor Cyclopropanes via Intermolecular Cyclopropanation of Vinylogous Caramates: Applications in the divergent Synthesis of Azacycles" Poster presented at 12 th Chemical research society of India (Best Poster Award)	National symposium in Chemistry	February 5-7, 2010
Symposia:				
1.	P.B. Sunilkumar A. Deshpande , Arti Dua	SERC School-cum-symposium on Rheology of Complex fluids		4-10 Jan 2010

Workshop:		
1	Mangala Sunder K	<p>Several NPTEL workshops-one day events organized in various parts of the country during the calendar year 2009-2010.</p> <ol style="list-style-type: none"> 1. IIT Madras, Dec 12, 2009 participants: IIT Alumni 2. IIT Madras, Jan 30, 2010 participants: faculty from Tamil Nadu and AP colleges of engineering and technology 3. M.S. Ramaiah College of Information Technology, Bangalore, Feb 4, 2010: Participants: faculty from engineering colleges in Karnataka state 4. IIT Bombay, March 19, 2010, Participants: faculty from engineering colleges in Maharashtra state <p>2. Workshop on E-learning and standardization of E-templates for Program Coordinators of National Agricultural Innovation Project from all over the country in IIT Madras Web studio, Sept. 24-26, 2009. Program sponsored by the World Bank.</p> <p>3. One day NMEICT Workshop in Manonmaniam Sundaranar University, Tirunelveli on Oct 1, 2009</p>

Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:

S.No.	Name of Faculty	Title	Institution	Period
Workshops:				
1.	Ranga Rao, G	Fluid Dynamic Scaling, Design & Instrumentation of cold Models and Practical issues of CFBC Boilers	BHEL, Trichy	September 1-3, 2009
2.	Madhavan, Nandita	Faculty Development Program	IIT Madras (conducted by experts from Texas A&M University)	December 7-9, 2009
3.	Mangala Sunder, K	NPTEL and NMEICT	Bannari Amman Engineering and Technology Institute	July 24, 2009
		NMEICT organized by the Ministry of HRD	HP University, Shimla	Sept 26, 2009
		NPTEL and NMEICT	Sengunthar College of Engineering and Technology, Erode	October 22, 2009
		One day workshop and meeting of academic heads for NMEICT/NPTEL programme	Biju Pattnaik University of Technology, Bhubhaneshwar, Orissa	October 27, 2009
Seminar:				
1	Prasad, Edamana	Fluorescence 2009	TIFR Mumbai 09-10.7.2009	09-10.7.2009
2	Sekar, G	Seminar	Univ. of Loughborough Univ. of Nottingham	14.9.2009 15.9.2009
3	Baskaran, S	Semipinacol – Schmidt Based Domino Strategy for the Stereoselective Synthesis of Azacyclic Ring Systems	Department of Chemistry IIT Bombay	October 30, 2009
		Development of New synthetic Methods Based on Benzylidene Acetal	Department of Chemistry IIT Kanpur	March 19, 2010
		Development of New synthetic Methods Based on Benzylidene Acetal	Department of Organic Chemistry, IISc, Bangalore	March 23, 2010
4	Mangala Sunder, K	Modern theoretical spectroscopy (rotational-vibrational)	Sree Neelakanta Govt. Sanskrit College, Pattambi, INSA sponsored	March 25-26, 2010
		Rotational-vibrational spectroscopy National workshop sponsored by the INSA	Recent Trends: Lady Doak College Madurai	January 19-20, 2010

	Mangala Sunder, K	Four sessions in the workshop on computing technologies for the sciences Web based Curriculum Writing-I; II Solving problems, Standard deviation and regression analysis, graph, graphs with large data, identifying the slope, intercept, locating unknown values on graph - – Part I; Part II	Stella Maris College, Chennai	Jan 20-23, 2010
		NPTEL and NMEICT: Invited Lecture	Institute of Mathematical Sciences, Chennai	June 17, 2009.
		Session on NPTEL, Workshop for faculty and teachers	Engineering Colleges in UP by IIT Kanpur	July 22, 2009
		Keynote Speaker on NPTEL, Faculty training workshop. NPTEL projec	IIT Guwahati, Guwahati	Aug 22, 2009
		NPTEL and NMEICT, Workshop for Vice-Chancellors of Affiliating Universities organized by the Chairman	AICTE, New Delhi	Aug 31, 2009
		NPTEL and NMEICT	NPR group of Institutions, Nattham, Dindigul	Nov 13, 2009
		NPTEL and its Implementation-One day workshop for faculty	Kalinga Institute of Science and Technology, Bhubhaneshwar	Nov 16 2009
		NPTEL and its implementation, training of faculty and e-content development	Rajiv Gandhi Institute of Engineering and Technology, Sriperambudur	Nov 27, 2009
		One day workshop on NPTEL and NMEICT	St. Xavier's College, Palayamkottai	Nov. 2, 2009
		One day workshop on awareness programme, NPTEL and NMEICT	IIT Bombay	Dec. 7, 2009
		NPTEL Programme, ISTE Annual Conevntion	NIT, Surathkal, Mangalore	Dec 20, 2009
		NPTEL and NMEICT, TIFAC Core Programme workshop	TIFAC-DST, Amrita University, Ettimadai	Dec 23, 2009
		One day workshop on NPTEL and NMEICT	Kongu engineering College, Perundurai, Erode	Dec 24, 2009
		E-TV and E-content production wworkshop	EMMRC, Anna University, Chennai	Jan 29, 2010
		One day workshop for faculty on NPTEL content creation and the four quadrant approach	IIT Kanpur	Jan 31-Feb 1, 2010
Symposia				
1	Rajakumar, B	National Seminar on Recent Developments and Applications of Chromatographic Techniques (NSRDACT -2010)	MRPG college Vizianagaram Andhra Pradesh	31 st January 2010 one day
2	Baskaran, S	Development of New Synthetic Methods: Novel Synthesis of Biologically Active Molecules	"Frontier Lectures in Bio-Organic Chemistry" Bangalore University, Bangalore	May 28-30, 2009
		SERC School on Green Chemistry: PEG and HPA in Green synthesis	"Green Chemistry- Applications, Research Activities and Recent Trends" MKU Madurai	December 21, 2009
3	Mangala Sunder, K	59 th Meeting of the Nobel Laureates & Students at Lindau, Germany	Lindau Germany	28.6.09-03.7.09

4	Selvam, P.	Indo-Australian exchange Programme 1	Univ. of Queensland, Brisbaned, Australia	13-22.07.2009
		Russia-India Symposium of Catalysis	Novosibirsk, Russian	14-17.9.2009
5	Sangaranarayanan, M V	Alexander von Humboldt Research Fellowship	Univ of Ulm, Germany	1-29.7.2009
6	Pradeep, T	Organisation for Economic Co-operation and "Development (OCED)	France	15-17.7.2009
		Indian delegation to Russia	Russia	14-18.09.2009
		International team of experts at Meridian Institute	Africa	17-26.11.2009
7	Prasad, Edamana	Fluo rescence 2009	TIFR Mumbai	09-10.07.2009
8	Kumar, Sanjay	Indo-German Workshop on Electronically excited molecules: structure and dynamics	Neuss, Germany	6-12.09.2009
9	Varadaraju, U V	Indo-Russian Workshop on Structure and Properties of Organic and Organometallic Crystals	Novosibirsk, Russia	27-30.9.2009
10	Chand, Dilip Kumar	PAC meeting in the area of DST, India Inorganic Chemistry	NISER Bhubaneswar	9-11.9.2009
11	Ranga Rao, G	International symposium on Ostwald's 10 Years of Catalysis in Chemical Research	Allahabad Agricultural University	3-4 Nov 2009
12	Sekar, G	Seminar in Gregynog Synthesis Workshop 2009	Univ. of Wales UK	11-13.9.2009
Conferences:				
1	Pradeep, T	Neutron scattering and mesoscopic systems	Goa Univ.	12-14.10.2009
		USA as a part of project for improving agriculture in Africa	USA	
		UC SB funded conference of Nanotechnology for equitable global development	Washington DC	4-6.11.2009
2	Ghosh, Sundaragopal	The 2 nd Asian Conference on Coordination Chemistry	Nanjing China	3-5.11.2009
		Modern Trends in Inorganic Chemistry	IISc Balgalore	7-10.12.2009
3	Chandrakumar, N	Visiting Scientist	Osaka Univ. Japan	2.12.2009-4.1.2010
4	Chand, Dillip Kumar	Symposium on Modern Trends in Inorganic Chemistry	IISc Bangalore	6-11.12.2009
5	Varadaraju, U V	JSPC-DST Asia Science Seminar 2009	Yokohoma Japan	8-14.12.2009
6	Ranga Rao, G	National Seminar of Nanotechnology 11 th Dec., 2009	SRR & CVR College Vijayawada	11-14.12.2009
		Recent Developments & Future Trends of Nanotechnology in Modern Science	SVNIT Surat	21-23.12.2009
7	Murthy, N N	National Conference MTIC - XIII	IISc Bangalore	7-10.12.2009
8	Gharpure, Santosh J	Conducting Ph.D interviews	IIT Hyderabad	07-8.12.2009
9	Selvam, P	Invited Speaker MTIC-XIII	IISc Bangalore	07-10.12.2009
10	Baskaran, S	New Synthetic Methodologies Based on Benzylidene acetals: Synthesis of Highly Functionalized Chiral Inetrmediates	*Frontier Lecture in Organic Chemistry – 2009, IACS, Kolkata	December 10-12, 2009
11	Rajakumar, B	Computational Chemistry: Recent Development & Trends	NEHU SHILLAONG	12 th March 2010 to 13 th March 2010
12	Chand, Dillip Kumar	National Seminar on Recent Trends in Chemical Science	Sambalpur University	19-21 February 2010

Special Lectures delivered by the faculty in other Institutions:

S. No.	Name of faculty	Topic of Lecture	Institution	Date
1	E. Prasad	Nano-Scale Aggregation in Dendrimers and its Effect on the Properties	NCL Pune	July 09-11, 2009
		Design and Engineering of Dendritic Nano Structures	University College, Trivandrum	November 23-24, 2009
2	B. Rajakumar	Global Warming – role of a Chemist	Aluxilium college Vellore	02.12.2009
		Global Warming	Velammal Engineering College, Chennai	18.02.2010
3	Archita Patnaik	Insight into Nano Materials	Andhra Loyola College	5-6.01.2010
		Directed Electron Transport in functional Amphiphiles	Central College, Bangalore	November 2009
		Structure – Function relationship in Fullerene C60-based Dyads	Sambalpur University, Buria	January 2010
		Guided Molecular Self-assembly: an approach to Potential Electrode Fabrication	NIT Calicut	December 5-8, 2009
		Surface / Interface electronic Structure and Molecular Orientation in C ₆₀ Anchored Aminothiolate Self – Assembled Monolayers	NIT Calicut	December 5-9, 2009
		Hybrid Gold Nanoarchitectures for Directed Electron Transport	NIT Calicut	December 5-9, 2009
4	T. Pradeep	The Different Colours of Gold	St. Thomas College, Thrissur	05.01.2010
5	P. Selvam	TIFR- ANL / US Research Network	Mumbai	11-13.01.2010
6	P. Bhyrappa	Tetrapyrrole Pigments in Biology	Bharathiar University Coimbatore	February 3, 2010
		Synthetic Prophyrin Analogues and their Applications.	Bharathiar University Coimbatore	February 3, 2010
7	G. Ranga Rao	Tuning shapes and colors of Nanoparticles	SRR College, Vijayawada, AP	11 Dec 2009
		Surface, Catalysis and Nanomolecular Science	S.V. National Institute of Technology, Surat	21 Dec 2009
		Development of Heterogeneous Catalysts by dispersion of polyoxometalates on reducible oxide supports	M.S. University, Baroda	22 Dec 2009
		Ostwald, Haber, Langmuir, Ertl-a catalysis	Reliance Industries limited, Hazira, Surat	21 Dec 2009
		Chemistry and Catalysis on Metal Surfaces Dharamsi Morarji Endowment Lecture 1	Institute of Chemical Technology, Mumbai	15 April 2009
		The Chemistry of Sm/Ru(001) Interface Dharamsi Morarji Endowment Lecture 2	Institute of Chemical Technology, Mumbai	15 April 2009
		Water adsorption on Si(100)-H surface studied by IRRAS Dharamsi Morarji Endowment Lecture 3	Institute of Chemical Technology Matunga, Mumbai	16 April 2009
		Catalysis by Pillared clays Dharamsi Morarji Endowment Lecture 4	Institute of Chemical Technology Matunga, Mumbai	16 April 2009
		Ideas, explorations and Innovations in the growing World of Science and Technology	Pragati Engineering College, Kakinada, AP	26 Feb 2009
		Surface Chemistry and Spectroscopy: Foundations of Catalysis and Nanoscience	Ideal College of Arts and Science, Kakinada, AP	25 Feb 2010

8	Muraleedharan K.M	Spectro-analytical tools in Organic- and Bio-molecular Chemistry Invited lecture during the UGC Sponsored national seminar on 'Hot trends in Analytical Spectroscopy'	MAMO College, Calicut University	14 th -15 th October 2009
		Sensing the 'Pulses' of Chemical Reactions: Synthesis of Multi-Functionalized Organic Frame-works with Potential Application in Medicine - Invited lecture during the UGC Sponsored national seminar on 'Emerging trends in Chemical sciences'	Payyanur College, Kannur University	22 th -24 th October 2009.

Visits abroad by faculty:

S. No.	Name of Faculty	Country Visited	Date	Purpose of visit	Funding from
1	Sundargopal Ghosh	China	Oct 31-5 November	Conference	IIT Madras
2	T. Pradeep	United Kingdom	08.03.2010 - 13.03.2010	INSA-RSE Exchange Visit	
3	Archita Patnaik	Japan	June 2010	Academic Discussion	21 st COE, Japan

Honours and Awards obtained by Faculty:

S.No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date of award
Honours:					
1	S. Baskaran	IUPAC National Representative			January 01, 2010
Awards:					
1	Archita Patnaik	Fulbright-Nehru Senior Research Fellowship	USIEF CIES, USA	Advance level research	November 2009
2	G. Ranga Rao	Dharamsi Morarji Chemical Co. Visiting Fellowship in chemistry for the year 2008 - 2009	Institute of Technology, University of Mumbai	Excellence in Heterogeneous catalysis and Materials Science	01 September. 2008

3.8. Fellowships of Academies and Professional Societies:

S.No.	Name of Faculty	Year of admission
AvH		
1	Chand , Dillip Kumar	1998
2	Patnaik, Archita	1987
FNA		
1	Chandrakumar, N	
FASc		
1	Chandrakumar, N	
FRSC		
1	Selvam, P	2002
JSPS		
1	Patnaik, Archita	2002
2	Chand , Dillip Kumar	2000
Others		
1	Mishra (FNASc)	
2	Patnaik, Archita (USIEF)	2010

Journal Editorial Boards:

S.No.	Name of Faculty	Position (Editor/Member)	Journal Name
1	Chand, Dilip Kumar	Member	Open Catalysis Journal
2	Loganathan, D	Member	Open Glycoscience
3	Muraleedharan K M	Editorial advisory board member	Recent patents on anti-infective drug discovery

4.5.4 Design and Development Activities:

New facilities added or major equipment procured:

S.No.	Name of Equipment	Value (Rs. in lakhs)
1	Polarization-modulated Fourier Transform Infrared Reflection – Absorption Spectroscopy set-up was established for investigation of structure –Function relationships in model membranes/mono/multilayer amphiphilic functional Materials	70.00
2	Scanning Electrochemical Microscopy with a Bipotentiostat along with a Faraday-cage for low current imaging and chemical sensitivity for transport-active functional materials was set up.	30.00
3	JASCO UV Vis Spectrophotometer Model V 660	11.00
4	Electrochemical work station CH Instruments Model CHI 7081C	9.00
5	National video server from Sun Microsystems with 256 Cores and with a 100 TB usable storage set up in the Computer centre of IIT Madras	120.00
6	Set up a a trial country-wide classroom in IIT Madras for mentor-mentored IITs instruction through video conference facility between IITM and IIT Hyderabad.	25.00
7	Setting up three country-wide classrooms for IIT Madras-IIT Hyderabad pair under the National Knowledge Network Mission launched by the Department of Information Technology, Ministry of Communication and Information Technology	110.00
8	Set up the youtube channel for the entire programme of NPTEL from the beginning of Nov 2007 till date and have coordinated the conversion of nearly 4300 video lectures and their upload into the youtube channel: http://www.youtube.com/iit . (with a total channel view of nearly 3 million viewers)	Conversion process: 110-150 spent so far under the NPTEL mission.
9	Coordinating the design and the management of the NPTEL website for the world since 2006 and uploaded so far 250 courses for the benefit of several million viewers so far.	NPTEL project funds provide for this activity from a total of: 11,647 (Rs. 116. 47 crores till 2012, the project period)
10	Coordinated the distribution and setting up of video/web intranet sites for NPTEL courses in more than 125 engineering Institutions so far and created a DVD library of all NPTEL video courses for individuals to obtain from anywhere in the world.	Under the NPTEL project funds.

Patents:

Patents awarded:

S.No.	Name of Faculty	Topic of patent
1	Sankararaman, S	An improved single stage procedure for the synthesis of cross-linker polyallylamine hydrochloride, India Patent application number 263/Che/2006, Patent No: 237658, dated 1/1/2010
		Synthesis of various salts of cross-linked polyallylamine polymer by ion exchange metathesis, Indian Patent application number 261/CHE/2006, Patent No: 239890, dated 7/4/2010

4.5.5 Research and Consultancy:

Sponsored Research Projects:

S.No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Photochemistry and Photophysics of functional Macromolecules Based on PAMAM Dendrimers	2008-2009	DST	36.50	E. Prasad
2	Synthesis of Functionalized Polyethynyl Pyrene and Perylene Derivatives for Application in Molecular electronics and Photonics	06.07.2007-05.07.2010	DST	28.75	S.Sankararaman
3	Functionalisation of hydrocarbons using metallaboranes as catalyst	3 Years	DST	42.00	Sundargopal Ghosh
	Chemistry and application of Metallsila and Metallagermaboranes Derived from group 14 unsaturated Organic Substrates (accepted)	3 Years	IFCPR	1,40,000 (Euro)	Sundargopal Ghosh Jean-Francois Halet
	Metalla- carboranes via alkenyl Fischer Carbene Complexes	3 years	CSIR	14.00	Sundargopal Ghosh
4	Council of Scientific and Industrial Research	2009 - 2012	CSIR	20,42	Santosh J Gharpure
	Department of science and Technology	2010 - 2013	DST	37,82	
5	"Synthesis of Novel Weinreb amide based Conjugated and pi –systems for applications in Laster and Non Linaer Optics"		DRDO	38.00	Santosh J Gharpure Prem Bisht (co-investigator)
6	Molybdenum- based Catalysts for Organic Transformations	May 2007- May 2010	CSIR	11.46	Dillip Kumar Chand
	Self-Assembly Coordination Cages and their Dynamic acts	Dec 2009 - Dec 2012	DST	20.40	
7	Investigation of Thermal Decomposition studies of 1,2 and 1,2-difluoroethane shock waves between 750-2500 K: Establishment of single Pluse shock tube (SPST) Facility	11.01.2008 - 10.01.2011	CSIR	12.96	B. Rajakumar
	Establishment of Cavity Ring down Spectrometer (CRDS) for the absorption measurements of trace species in the Earth's atmosphere	12.04.2010 - 11.04.2013	DST	115.61	
8	Excited State Proton Transfer and Fluorescence Decay Dynamics of Certain ESPT Molecular Probes in lipid dillayer members	3 Years	DST	37.90	A.K Mishra
9	Electron transfer processes at the interface between two immiscible electrolyte solutions	3 Years	DST	34.75	M.V Sangaranarayanan
	Reductive Cleavage of carbon-chlorine bonds in polychlorobiphenyls-A complementary synthetic electrochemical and computational approach	2 years	DST	13.19	
10	Photochemistry and photophysics of functional macromolecules based on PAMAM dendrimers	3 Years	DST	36.46	Edamana Prasad
11	B-Pyrrole substituted tetraphenyl porphyrins: Synthesis and their properties	3 years	CSIR	39.19	P. Bhyrappa
12	Synthesis and applications of pore-modified novel nano-porous materials	3 years	DRDO	27.52	G. Ranga Rao

13	Raft polymerization as a tool towards water soluble block copolymers of polystyrene using novel chain transfer agents (Trithiocarbonates)	3 years	DST	28.37	R. Dhamodharan
14	Enantioselective total synthesis of anti-HIV michellamines A, B & C and their unnatural isomers by asymmetric ullmann coupling	3 years	DST	39.90	G. Sekar
15	2-Deoxy-C-Aryl Nucleosides important molecular probes: New Synthetic Strategy Based on Acylanion Chemistry	3 years	BRNS	18.70	Indrapal Singh Aiden
16	Domino Reaction Based Strategy for the Stereoselective Synthesis of Biologically Active Azacyclic Ring Systems	3 years	DST	39.97	S. Bhaskaran
17	Text transcription of technical video lectures and creation of searchable video index, metadata and online quizzes	18 months	Google Research	24.91	K. Mangala Sunder
18	Synthesis of Functionalized Polyethynyl Pyrene and Perylene Derivatives for Applications in Molecular Electronics and Photonics.	3 years	DST	28.75	S. Sankararaman
19	Synthesis & Structural Studies of N-glycoprotein Analogs	March, 2005 – December, 2008	IFCPR	66.16	D. Loganathan A. Imberty & S. Perez (CNRS, Grenoble)
20	B-pyrrole substituted porphyrins Synthesis and their properties	May 2008- May 2011	DST	39.19	P. Bhyrappa
21	Novel Asymmertic synthesis of Glycosidase Inhibitors	2006 - 2009	CSIR	14.00	S. Baskaran
	Unit on Nano Science & Technology	2005 - 2010	DST	1166.00	T. Pradeep S. Baskaran T. Sundararajan S. K. Das
	Domino Based Strategy for the Stereoselective Synthesis of Biologically active Azacyclic Ring Systems	2008 - 2011	DST	40.00	S. Baskaran
	Chemical Genetics approaches to dissect pattern formation in the cellular slime mold Polyspondylium	2009 - 2012	DST	39.80	R. Baskar S. Baskaran V. Kesavan
22	Interfacial Engineering of D-B-A Dyads	2007 Dec - 2011 Jan	DST, India	111.12	Archita Patnaik
23	Conversion of Bio-Glycerol in to Value Added Chemicals – Project Component - I	13.04.2007 – 30.09.2010	NMITLI (CSIR)	33.52	P. Selvam B. Viswanathan
	Conversion of Bio-Glycerol in to Value Added Chemicals – Project Component - II	13.04.2007 – 30.09.2010	NMITLI (CSIR)	35.36	
	Catalytic Conversion of Crbohydrates as Renewable Raw Materials to Key Platform Chemicals	08.08.2008 – 07.08.2011	Indo-Australian Joint Project (DST)	31.51	
24	Development of doped-oxide/noble metal Nanostructure for electrocatalysis and fuel cell related applications	30.01.2007- 29.04.2010	MNRE	23.28	G. Ranga Rao Co-PI: P. Selvam
	Synthesis of Some Organic Compounds of Industrial Significance Using Eco-Friendly Clay Catalysts	01/08/2008- 31/07/2011	DST Fast Track	20.00	B. Vijayakumar G. Ranga Rao

	Studies on doped ceria nanopowders for electrochemical energy applications	10/06/2009 - 09/06/2012	Indo-Italian (DST)	4.90	G. Ranga Rao P. Fornasiero
	Synthesis and Applications of Pore-modified Novel Nano-porous Materials	27/11/2008 - 26/05/2011	DRDO	27.50	G. Ranga Rao
25	Designing New Polymer Supports to Improve Liquid Phase Peptide Synthesis	2009-2011	IIT Madras	5.00	Nandita Madhavan
	Development of Novel Soluble Polymer Supports to Improve Liquid Phase Peptide Synthesis: Towards the Facile Synthesis of Cyclic Peptide Nanotubes	2009-2012	CSIR	21.26	Nandita Madhavan
	Engineering Internally Functionalized Pores Derived from Cyclic Peptides	2010-2013	DST	36.88	Nandita Madhavan
	Unit of Nanoscience (Phase II)	2010-2015 5 yrs	DST	555.5	T. Pradeep Edamana Prasad Dillip Kumar Chand Nandita Madhavan Sarit Kumar Das T Sundararajan C Vijayan Nitish R Mahapatra
26	NPTEL	Till 2012	MHRD	9600.00	Principal Coordinator: M. S. Ananth K. Mangala Sunder
	Text transcription of technical video lectures and creation of searchable video index, metadata and quizzes	Till Aug 2010	Google Inc.	US \$50,000	K. Mangala Sunder
	Text transcription of technical video lectures for 120 NPTEL video courses	Till June 2010, to be extended for one more year	MHRD	315.00	K. Mangala Sunder Co-PI: Hema A. Murthy
	Establishment of Cavity-ring down spectrometer for the absorption measurements of trace species in the earth's atmosphere	Three years	DST	120.00	B. Rajakumar
	National Mission on Education Through Information and Communication Technology Awareness Workshop Programme	Six months	MHRD (Ongoing)	2.00	K. Mangala Sunder

RBIC projects:

S.No.	Name of Faculty	Title	Industry	Amount (Rs. in lakhs)
1	Dillip Kumar Chand	Synthesis of Nitrogen containing Fused Heterocyclic Carboxylic Acid	PPG Inc, USA	2.86
2	K. Mangala Sunder	Online and video supplemented laboratory experiments for Indira Gandhi National Open University, New Delhi Six months	IGNOU, New Delhi	6.70
		Online and Video supplemented Instruction for Election Commission Processes Six Months	The Election Commission of the Government of India	1.50
		Technology Enhanced Learning Modules in Elementary School Education Kuruvila Jacob Initiative-Two years from Oct 1, 2007	Brakes India Ltd.	5.53

Exchange program with other Universities including Institutions/Universities under MOU:

Mangala Sunder, K

On sabbatical leave in the Department of Inorganic and Physical Chemistry, Indian Institute of Science, Bangalore from Jan 12, 2010 till May 31, 2010 as a Visiting professor with research activities jointly with Professor E. Arunan, IISc Bangalore.

As A DST sponsored senior scientist, accompanied the Indian delegation of PhD scholars and post-docs (About 40 of them) to the 58th Nobel Laureates conference in Lindau, Germany during June 2009.

Selvam, P

Deputy leader of the Indian delegation to the Russia-India Symposium on Catalysis under the auspices of the Indo-Russian Joint Council for the Implementation and Coordination of the Integrated Long Term Programme (ILTP) of Cooperation in Science and Technology held at Novosibirsk, Russia during September 13-14, 2009.

Faculty members participation with other institution under MoU:

S. No.	Name of Faculty	Participation details	Name of University/Institution which has MoU
1	Mangala Sunder, K	Course on Introductory Statistical Mechanics to IGCAR and BARC registrants to the PHD programme started by the DAE. 20 lectures were delivered in ten sessions during the months Feb 2010-April 2010.	IGCAR, Kalpakkam, DAE

Research Publications of the Faculty members & research scholars:

AIDHEN INDRAPAL SINGH

1. Title: 2-O-Benzoylation in D-Gluconamide Derivative Under Basic Conditions with Complete Retention of Stereo-Integrity: Convenient Access to 2-O-benzyl-3,4:5,6-di-O-isopropylidene-D-glucitol and other Differently Protected D-glucitol Derivatives, Author(s): Manjunath BN, Harikrishna K, Aidhen IS, et al. Source: JOURNAL OF CARBOHYDRATE CHEMISTRY Volume: 28 Issue: 5 Pages: 264-277 Published: 2009.
2. Title: A new distyrylbenzene derivative with Weinreb amide functionality: An efficient laser dye and nonlinear optical material, Kalanoor, Author(s): B. S.; Bisht, P. B.; Senthilmurugan, A.; Aidhen, I. S. Published: *J. Luminescence*, 2009, 129, 1094-1098.
3. Title: "Synthesis of (+)-Varitriol Analogues via Novel and Versatile Building Blocks Based on Julia olefination." Author(s): Senthilmurugan, A.; Aidhen, I. S. *Eur. J. Org. Chem.*, Published: 2010, 555-564.
4. Title: "Weinreb Amide based Synthetic Equivalents for Convenient access to 4-aryl-1, 2, 3, 4-tetrahydroquinolines" Author(s): Harikrishna, K.; Sivaraman, B.; Aidhen, I. S. *Tetrahedron*, Published: 2010, 3723-3729.
5. Title: "Weinreb Amide Based Building blocks for Convenient Access to Various Synthetic Targets" Author(s): Sivaraman, B.; Manjunath, B. N.; Senthilmurugan, A.; Harikrishna, K.; Aidhen, I. S. *Ind. J. Chem.*, Published: 2009, 48B, 1749-1756.

BASKARAN S.

1. Title: Regioselective Oxidative Cleavage of Benzylidene Acetals: Synthesis of alpha- and beta-Benzoyloxy Carboxylic Acids, Author(s): Kumar PS, Banerjee A, Baskaran S, Source: **ANGEWANDTE CHEMIE-INTERNATIONAL EDITION** Volume: 49 Issue: 4 Pages: 804-807 Published: 2010.
2. Title: A regioselective reductive cleavage of benzylidene acetal: stereoselective synthesis of N-Boc-protected cis-(2R,3S)-3-hydroxy pipercolic acid, Author(s): Kumar PS, Baskaran S, Source: **TETRAHEDRON LETTERS** Volume: 50 Issue: 26 Special Issue: Sp. Iss. S1 Pages: 3489-3492 Published: JUL 1 2009.
3. Regioselective Reductive Cleavage of bis-Benzylidene Acetal: Stereoselective Synthesis of Anti-cancer Agent OGT2378 and Glycosidase Inhibitor 1,4-Dideoxy-1,4-imino-L-xyllitol A. Aravind, M.G. Sankar, B. Varghese and S. Baskaran *J. Org. Chem.* 2009, 74, 2858-2861.

4. A regioselective reductive cleavage of Benzylidene acetal: stereoselective synthesis of N-Boc protected cis – (2R,3S)-3-hydroxy pipercolic acid P.S. Kumar and S. Baskaran *Tetrahedron Lett.* 2009, 50, 3489-3492.
5. Regioselective oxidative cleavage of Benzylidene acetals: Novel synthesis of α – and β – benzoyloxy carboxylic acids P.S. Kumar, A. Banerjee and S. Baskaran *Angew. Chem. Int. Ed.* 2010, 49, 804 – 807.

BHYRAPPA P.

1. Title: Synthesis of beta-di and tribromoporphyrins and the crystal structures of antipodal tri-substituted Zn(II)-porphyrins, Author(s): Bhyrappa P, Velkannan V, Source: **TETRAHEDRON LETTERS** Volume: 51 Issue: 1 Pages: 40-42 Published: **JAN 6 2010**.
2. Title: Influence of Mixed Substituents on the Macrocyclic Ring Distortions of Free Base Porphyrins and Their Metal Complexes, Author(s): Bhyrappa P, Arunkumar C, Varghese B, Source: **INORGANIC CHEMISTRY** Volume: 48 Issue: 9 Pages: 3954-3965, Published: **MAY 4 2009**.
3. Title: "Structure and electrochemical properties of β -tetrabromo-meso-tetrakis(4-alkoxyphenyl) porphyrins and their metal complexes". Author(s): P. Bhyrappa and C. Arunkumar, *J. Chem. Sci.* Published: 2010, 122, 233,-238.
4. Title: "Functionalized Au₂₂ clusters: Synthesis, characterization and patterning" Author(s): E. S. Shibu, B. Radha, P. K. Verma, P. Bhyrappa, G. U. Kulkarni, S. K. Pal and T. Pradeep, Published: *ACS Appl. Mater. Interfaces* 2009, 1, 2199-2210.

CHAND DILLIP KUMAR

1. Title: Simple and efficient method for the oxidation of sulfides to sulfones using hydrogen peroxide and a Mo(VI) based catalyst, Author(s): Jeyakumar K, Chakravarthy RD, Chand DK, Source: **CATALYSIS COMMUNICATIONS** Volume: 10 Issue: 14 Pages: 1948-1951 Published: **AUG 25 2009**.
2. Title: "Molybdenum(VI) Dichloride Dioxide Catalyzed Conversion of β -Hydroxycarbonyls into α -Bromo 1,3-Dicarbonyls by N-Bromosuccinimide" Author(s): K. Jeyakumar and D.K. Chand, *Synthesis*, Published: 306-310, (2009).
3. Title: "Application of Molybdenum (VI) dichloride Dioxide (MoO₂Cl₂) in Organic Transformations" Author(s): K. Jeyakumar and D.K. Chand, Published: *J. Chem. Sci.* 121, 111,- 123, (2009).

CHANDRAKUMAR N.

1. Title: Study of dynamics in pentachlorophenol in the solid state by 1D Nuclear Quadrupole Resonance exchange spectroscopy, Author(s): Pal S, Chandrakumar N, Source: **MOLECULAR PHYSICS** Volume: 107 Issue: 14 Pages: 1505-1511 Published: 2009.

DHAMODHARAN R.

1. Title: Ambient temperature Atom Transfer Radical copolymerization of tetrahydrofurfuryl methacrylate and methyl methacrylate: Reactivity ratio determination - Author(s): Rajendrakumar K, Dhamodharan R, Source: **EUROPEAN POLYMER JOURNAL** Volume: 45 Issue: 9 Pages: 2685-2694 Published: **SEP 2009**.
2. Title: Synthesis of Polymer Grafted Magnetite Nanoparticle with the Highest Grafting Density via Controlled Radical Polymerization, Author(s): Babu K, Dhamodharan R, Source: **NANOSCALE RESEARCH LETTERS** Volume: 4 Issue: 9 Pages: 1090-1102 Published: **SEP 2009**.
3. Title: "Synthesis of poly (benzyl methacrylate)/Mg-phyllsilicate nanocomposites by surface-initiated ambient temperature ATRP" Author(s): Bharathwaj R, Natarajan U, Dhamodharan R, Source: **APPLIED CLAY SCIENCE** Volume: 48 Issue: 3 Pages: 300-306, Published: **APR 2010**.
4. Title: "POLY 406-Ambient temperature grafting of n-vinyl carbazole onto the latent sites of polystyrene via atrp" Author(s): Vivek AV, Dhamodharan R, Source: **ABSTRACTS OF PAPERS OF THE AMERICAN CHEMICAL SOCIETY** Volume: 235 Meeting.

LOGANATHAN D.

1. Title: "Examination of the effect of structural variation on the N-glycosidic torsion(Φ (N)) among N-(beta-D-glycopyranosyl) acetamido and propionamido derivatives of monosaccharides based on crystallography and quantum chemical calculations, *Carbohydr*" Author(s): Ali MMN, aich U, Perez S, Imbert a, Loganathan D Published: *Res.* 2009, 344, 355-361.

MANGALA SUNDER K.

1. Title: "Computational studies on cyclic [n]paraphenylenecetylenes using hmodesmotic reactions" Author(s): Mohamad Akbar Ali and Mangala Sunder Krishnan, *Molec. Phys.*, vol 107, Published: 2149-2158, 2009.
2. Title: "Generalized controlled dense coding with maximally entangled multiqubit states" Author(s) Atul Kumar and Mangala Sunder Krishnan, *International Journal of Quantum Information*, accepted, in print.

MISHRA A. K.

1. Title: Measurement of Viscoelastic Properties of Polyacrylamide-Based Tissue-Mimicking Phantoms for Ultrasound Elastography Applications, Author(s): Kumar K, Andrews ME, Jayashankar V, et al. Source: IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT Volume: 59 Issue: 5 Special Issue: Sp. Iss. SI Pages: 1224-1232 Published: MAY 2010.
2. Title: Measurement of Viscoelastic Properties of Polyacrylamide-Based Tissue-Mimicking Phantoms for Ultrasound Elastography Applications, Author(s): Kumar K, Andrews ME, Jayashankar V, et al. Source: IEEE TRANSACTIONS ON INSTRUMENTATION AND MEASUREMENT Volume: 59 Issue: 5 Special Issue: Sp. Iss. SI Pages: 1224-1232 Published: MAY 2010.
3. Title: A Photophysical Study on the Role of Bile Salt Hydrophobicity in Solubilizing Amphotericin B Aggregates Author(s): Selvam S, Andrews ME, Mishra AK, Source: JOURNAL OF PHARMACEUTICAL SCIENCES Volume: 98 Issue: 11 Pages: 4153-4160 Published: NOV 2009.
4. Title: Photophysical behaviour of ground state anion and phototautomer of 3-hydroxyflavone in liposome membrane, Author(s): Mohapatra M, Subuddhi U, Mishra AK, Source: PHOTOCHEMICAL & PHOTOBIOLOGICAL SCIENCES Volume: 8 Issue: 10 Pages: 1373-1378 Published: 2009.
5. Title: Humic acid-cetyltrimethylammonium bromide interaction: a fluorimetric study, Author(s): Subbiah D, Mishra AK, Source: LUMINESCENCE Volume: 24 Issue: 2 Pages: 84-89 Published: MAR-APR 2009.
6. Title: The effect of sodium cholate aggregates on thermoreversible gelation of PNIPAM Author(s): Kumar AC, Bohidar HB, Mishra AK, Source: COLLOIDS AND SURFACES B-BIOINTERFACES Volume: 70 Issue: 1 Pages: 60-67 Published: APR 1 2009.

MURALEEDHARAN K. M.

1. Title: Synthesis of β -Hydroxyphosphonate and 1,2-Dihydroxy Acyclic Nucleoside Analogs via 1,3-Dipolar Cycloaddition Strategy, Author(s): Ganesan M, Muraleedharan KM, Source: NUCLEOSIDES NUCLEOTIDES & NUCLEIC ACIDS Volume: 29 Issue: 2 Pages: 91-96 Published: 2010.
2. Title: An efficient synthetic approach towards trans-beta(2,3)-amino acids and demonstration of their utility in the design of therapeutically important beta(2,3)-peptides and alpha,beta(2,3)-peptide aldehydes (vol 65, pg 10074, 2009), Author(s): Balamurugan D, Muraleedharan KM, Source: TETRAHEDRON Volume: 66 Issue: 7 Pages: 1503-1503 Published: FEB 13 2010.
3. Title: As many as six tandem reactions in one step! Unprecedented formation of highly functionalized benzothiophenes, Author(s): Gopinath P, Nilaya S, Debi TR, Muraleedharan Kannoth Manheri. Source: CHEMICAL COMMUNICATIONS Issue: 46 Pages: 7131-7133 Published: 2009.
4. Title: "Progress in the development of peroxide-based anti-parasitic agents" Author(s): K. M. Muraleedharan and Mitchell Published: A. Avery, (*Drug Discovery Today*, 2009, 14, 15/16, 793-803).
5. Title: "Trans- $\beta^{2,3}$ -amino acid-based supramolecular synthons for probing the interrelationships between structure, torsion-directed assembly and isomorphism." Author(s): Balamurugan D., Ramkumar V. and Muraleedharan K. M. Published: (*Crystal growth and design*, 2010, 10 (6), pp 2460-2464).
6. Title: "Synthesis of β -Hydroxyphosphonate and 1,3-dihydroxy acyclic nucleoside analogs via 1,3 dipolar cycloaddition strategy" Author(s): Ganesan M. D., Muraleedharan K. M., Manuscript accepted and scheduled for publication in *Nucleosides, Nucleotides and Nucleic acids* Published: 2010, 29, No.2. 91-96.

MURTHY N. N.

1. Title: A Simplified and Rapid Method for the Determination of Sulphur in Kimberlites and Other Geological Samples by WD-XRF Spectrometry, Author(s): Roy P, Balaram V, Singh RS, et al., Source: ATOMIC SPECTROSCOPY Volume: 30 Issue: 5 Pages: 178-183 Published: SEP-OCT 2009.
2. Title: Mononuclear [(BP)(2)MX](n+) (M = Cu²⁺, Co²⁺, Zn²⁺; X = OH⁻, Cl⁻) complexes with a new biphenyl appended N-bidentate ligand: structural, spectroscopic, solution equilibrium and ligand dynamic studies Author(s): Sabiah S, Varghese B, Murthy NN, Source: DALTON TRANSACTIONS Issue: 44 Pages: 9770-9780 Published: 2009.

3. Title: First hexanuclear copper(II) pyrophosphate through hydrolysis of phosphodiester with a dicopper complex, Author(s): Sabiah S, Varghese B, Murthy N N, Source: CHEMICAL COMMUNICATIONS Issue: 37 Pages: 5636-5638 Published: 2009.
4. Title: X-ray structure and spectroscopic characterization of doubly-bridged binuclear copper(II) complexes in symmetric and asymmetric coordination environments, Author(s): Siluvai GS, Murthy N N, Source: POLYHEDRON Volume: 28 Issue: 11 Pages: 2149-2156 Published: JUL 6 2009.
5. Title: Hydro-geochemistry around waste disposal site at Pattulaguda, Hyderabad, India, Author(s): Parth V, Murthy N N, Saxena PR, Source: GEOCHIMICA ET COSMOCHIMICA ACTA Volume: 73 Issue: 13 Pages: A998-A998 Supplement: Suppl. S Published: JUN 2009
6. Title: Determination of Heavy Metals in Soil, Sediment, and Rock by Inductively Coupled Plasma Optical Emission Spectrometry: Microwave-Assisted Acid Digestion Versus Open Acid Digestion Technique Author(s): Krishna AK, Mohan KR, Murthy N N, Source: ATOMIC SPECTROSCOPY Volume: 30 Issue: 3 Pages: 75-81 Published: MAY-JUN 2009
7. Title: X-ray structure and spectroscopic characterization of divalent dinuclear cobalt complexes containing carboxylate- and phosphodiester- auxiliary bridges, Author(s): Siluvai GS, Murthy N N, Source: INORGANICA CHIMICA ACTA Volume: 362 Issue: 9 Pages: 3119-3126, Published: JUL 1 2009.
8. Title: X-ray structure and spectroscopic characterization of divalent dinuclear cobalt complexes containing carboxylate- and phosphodiester- auxiliary bridges, Author(s): Siluvai GS, Murthy N N, Source: INORGANICA CHIMICA ACTA Volume: 362 Issue: 9 Pages: 3119-3126, Published: JUL 1 2009

T. PRADEEP

1. Title: Bimetallic Mesoflowers: Region-Specific Overgrowth and Substrate Dependent Surface-Enhanced Raman Scattering at Single Particle Level, Author(s): Sajanlal PR, Pradeep T, Source: LANGMUIR Volume: 26 Issue: 11 Pages: 8901-8907, Published: JUN 1 2010
2. Title: Closed-Cage Tungsten Oxide Clusters in the Gas Phase, Author(s): Singh DMDJ, Pradeep T, Thirumoorthy K, et al., Source: JOURNAL OF PHYSICAL CHEMISTRY A Volume: 114 Issue: 17 Pages: 5445-5452 Published: MAY 6 2010.
3. Title: Investigation of the role of NaBH₄ in the chemical synthesis of gold nanorods, Author(s): Samal AK, Sreeprasad TS, Pradeep T, Source: JOURNAL OF NANOPARTICLE RESEARCH Volume: 12 Issue: 5 Pages: 1777-1786 Published: JUN 2010.
4. Title: Uptake of Toxic Metal Ions from Water by Naked and Monolayer Protected Silver Nanoparticles: An X-ray Photoelectron Spectroscopic Investigation, Author(s): Bootharaju MS, Pradeep T, Source: JOURNAL OF PHYSICAL CHEMISTRY C Volume: 114 Issue: 18 Pages: 8328-8336 Published: MAY 13 2010
5. Title: High yield combustion synthesis of nanomagnesia and its application for fluoride removal, Author(s): Maliyekkal SM, Antony AKR, Pradeep T, Source: SCIENCE OF THE TOTAL ENVIRONMENT Volume: 408 Issue: 10 Pages: 2273-2282 Published: APR 15 2010.
6. Title: Lanthanum Telluride Nanowires: Formation, Doping, and Raman Studies, Author(s): Samal AK, Pradeep T Source: JOURNAL OF PHYSICAL CHEMISTRY C Volume: 114 Issue: 13 Pages: 5871-5878 Published: APR 8 2010.
7. Title: Electric field enhancement and concomitant Raman spectral effects at the edges of a nanometre-thin gold mesotriangle, Author(s): Sajanlal PR, Subramaniam C, Sasanpour P, et al., Source: JOURNAL OF MATERIALS CHEMISTRY Volume: 20 Issue: 11 Pages: 2108-2113 Published: 2010.
8. Title: Molecular precursor-mediated tuning of gold mesostructures: Synthesis and SERRS studies, Author(s): Mathew A, Sajanlal PR, Pradeep T, Source: JOURNAL OF CRYSTAL GROWTH Volume: 312 Issue: 4 Pages: 587-594 Published: FEB 1 2010.
9. Title: As(III) removal from drinking water using manganese oxide-coated-alumina: Performance evaluation and mechanistic details of surface binding, Author(s): Maliyekkal SM, Philip L, Pradeep T, Source: CHEMICAL ENGINEERING JOURNAL Volume: 153 Issue: 1-3 Pages: 101-107 Published: NOV 1 2009.
10. Title: Mesoflowers: A New Class of Highly Efficient Surface-Enhanced Raman Active and Infrared-Absorbing Materials, Author(s): Sajanlal PR, Pradeep T, Source: NANO RESEARCH Volume: 2 Issue: 4 Pages: 306-320 Published: APR 2009.
11. Title: Optical limiting properties of Te and Ag₂Te nanowires, Author(s): Sandeep CSS, Samal AK, Pradeep T, et al., Source: CHEMICAL PHYSICS LETTERS Volume: 485 Issue: 4-6 Pages: 326-330 Published: JAN 26 2010

12. Title: Bimetallic Flowers, Beads, and Buds: Synthesis, Characterization, and Raman Imaging of Unique Mesostuctures, Author(s): Sajanlal PR, Pradeep T, Source: **LANGMUIR** Volume: 26 Issue: 1 Pages: 456-465 Published: JAN 5 2010
13. Title: Size tuning of Au nanoparticles formed by electron beam irradiation of Au-25 quantum clusters anchored within and outside of dipeptide nanotubes, Author(s): Ramasamy P, Guha S, Shibu ES, et al., Source: **JOURNAL OF MATERIALS CHEMISTRY** Volume: 19 Issue: 44 Pages: 8456-8462 Published: 2009
14. Title: Bending and Shell Formation of Tellurium Nanowires Induced by Thiols, Author(s): Sreeprasad TS, Samal AK, Pradeep T, Source: **CHEMISTRY OF MATERIALS** Volume: 21 Issue: 19 Pages: 4527-4540 Published: OCT 13 2009.
15. Title: Electric Field Assisted Growth of Highly Surface Enhanced Raman Active Gold Nanotriangles, Author(s): Sajanlal PR, Pradeep T, Source: **JOURNAL OF NANOSCIENCE AND NANOTECHNOLOGY** Volume: 9 Issue: 9 Pages: 5283-5287 Published: SEP 2009.
16. Title: Gold Nanoparticle Superlattices: Novel Surface Enhanced Raman Scattering Active Substrates, Author(s): Shibu ES, Kimura K, Pradeep T, Source: **CHEMISTRY OF MATERIALS** Volume: 21 Issue: 16 Pages: 3773-3781 Published: AUG 25 2009.
17. Title: Room-Temperature Chemical Synthesis of Silver Telluride Nanowires, Author(s): Samal AK, Pradeep T Source: **JOURNAL OF PHYSICAL CHEMISTRY C** Volume: 113 Issue: 31 Pages: 13539-13544 Published: AUG 6 2009.
18. Title: Probing the Initial Stages of Molecular Organization of Oligo(p-phenylenevinylene) Assemblies with Monolayer Protected Gold Nanoparticles, Author(s): Kumar VRR, Sajini V, Sreeprasad TS, et al., Source: **CHEMISTRY-AN ASIAN JOURNAL** Volume: 4 Issue: 6 Pages: 840-848, 2009.
19. Title: Probing the Initial Stages of Molecular Organization of Oligo(p-phenylenevinylene) Assemblies with Monolayer Protected Gold Nanoparticles, Author(s): Kumar VRR, Sajini V, Sreeprasad TS, et al. Source: **CHEMISTRY-AN ASIAN JOURNAL** Volume: 4 Issue: 6 Pages: 840-848, 2009.
20. Title: Comments on 'Electric-Field-Assisted Growth of Highly Uniform and Oriented Gold Nanotriangles on Conducting Glass Substrates' Reply, Author(s): Sajanlal PR, Pradeep T, Source: **ADVANCED MATERIALS** Volume: 21 Issue: 13 Pages: 1320-1321, 2009.

PRASAD, EDAMANA

1. Title: "Nematic to smectic texture transformation in MBBA by in-situ synthesis of silver nanoparticles" Author(s): P.K. Sudhadevi Antharjanam, Edamana Prasad, Published: **New J.Chem.**2010, 34, 420-425.
2. Title: "Aggregation Controlled Excimer Emission from Anthracene Containing PAMAM Dendrimers" Author(s): P.K. Lekha, Edamana Prasad, Published: **Chem.Eur.J.**2010, 16, 3699-3706.
3. Title: "Tumor Cell Imaging Using the Intrinsic Emission from PAMAM Dendrimer: A Case Study with HeLa Cells" Author(s): K. Bijesh, M.Kavitha, R.S. Verma, Edamana. Prasad, Published: **J.Cytotechnology** 2009 61, 17-24.
4. Title: "Generation of Ag Nanoparticles by PAMAM Dendrimer and their Size Dependence on the Aggregation Behavior of Dendrimers" Author(s): M. Kavitha, M.R. Parida, Edamana Prasad, C.Vijayan, P.C. Deshmukh **Macromol.Chem Phys.** Published: 2009, 210, 1310 – 1318
5. Title: "Intrinsic Luminescence Properties of Ionic Liquid Crystals Based on PAMAM and PPI Dendrimers" Author(s): P.K. Sudhadevi antharjanam, M.Jaseer, K.N. Ragi, Edamana Prasad **J.Photochem.Photobiol.A: Chemistry,** Published: 2009, 203,
6. Title: "Effect of solvent Controlled aggregation on the Intrinsic Emission Properties of PAMAM Dendrimers" Author(s): M.J. Jasmine, M.Kavitha, Edamana Prasad **J. Luminescence,** Published: 2009, 129,506-513

RAJAKUMAR, B.

1. Title: "Rate coefficients for the Reaction of OH with CF₃CH₂CH₃(HFC – 263fb) between 200 and 400K: ab initio, DFT and Transition State Theory Calculations" Author(s): Mohamad Akbar Ali, B. Rajakumar. , Published: **J. Comp. Chem.** 2010, 31, 500 – 509.
2. Title: "Rate coefficients for the Reaction of the acetyl radical, CH₃CO, with Cl₂ between 253 and 384 K" , Author(s): thomasz Gierczak, B. Rajakumar, John E. Flad, James B. Burkholder. Published: **Int.J.Chem.Kinet.** 2009, 41, 543-553.

3. Title: "Kinetics of OH radical reaction with CF₃CHFCH₂F (HFC-245eb) between 200 and 400K: G3MP2, G3B3 and transition state theory calculations" Author(s): Mohamad Akbar Ali, B. Rajakumar. Source: Journal of Molecular Structure: **THEOCHEM** Published: **2010,949,73-81**

RANGA RAO, G.

1. P. Justin, G. Ranga Rao, Catalysis Today 141 (2009) 138–143. G. Ranga Rao, T. Rajkumar, Babu Varghese, Solid State Sciences 11 (2009) 36–42. P. Justin, Sumanta Kumar Meher, and G. Ranga Rao, J. Phys. Chem. C **2010, 114, 5203–5210.**

SANKARANARAYANAN, M. V.

1. Title: Analysis of C-F bond cleavages in methylfluorobenzoates-Fragmentation and dimerization of anion radicals using convolution potential sweep voltammetry, Author(s): Muthukrishnan A, Sangaranarayanan MV Source: **ELECTROCHIMICA ACTA** Volume: **55** Issue: **5** Pages: **1664-1669** Published: **FEB 1 2010.**
2. Title: Theoretical Chemistry and Electrochemistry, Author(s): Sangaranarayanan MV, Sebastian KL, Source: **JOURNAL OF CHEMICAL SCIENCES** Volume: **121** Issue: **5** Pages: **559-560** Published: **SEP 2009.**
3. Title: Partition function of nearest neighbour Ising models: Some new insights, Author(s): Nandhini G, Sangaranarayanan MV, Source: **JOURNAL OF CHEMICAL SCIENCES** Volume: **121** Issue: **5** Pages: **595-599** Published: **SEP 2009.**
4. Title: Author(s): Muthukrishnan A, Sangaranarayanan MV, Source: **JOURNAL OF THE ELECTROCHEMICAL SOCIETY** Volume: **156** Issue: **2** Pages: **F23-F28** Published: **2009.**

SANKARARAMAN, S.

1. Title: "Unusual fluorescence emission from ethynyltriphenylene-substituted diacetylenic molecular hinge. Formation of intramolecular excimer" Author(s): Nandy R, Sankararaman S, Source: **ORGANIC & BIOMOLECULAR CHEMISTRY** Volume: **8** Issue: **9** Pages: **2260-2266** Published: **2010**
2. Title: "Palladium complexes with abnormal N-heterocyclic carbene ligands derived from 1,2,3-triazolium ions and their application in Suzuki coupling" Author(s): Karthikeyan T, Sankararaman S, Source: **TETRAHEDRON LETTERS** Volume: **50** Issue: **42** Pages: **5834-5837** Published: **OCT 21 2009**
3. Title: "Hydrogen-bond network in isomeric phenylenedipropionic acids and their DABCO salts. Water mediated helical hydrogen bond motifs". Authors(s):R. Saravanakumar, B. Varghese, S. Sankararaman, Published: CrystEngComm., **2009, 11, 337-346**

GHARPURE, SANTOSH J

1. Title: "Tandem Alkylation-Michael Addition to Vinylogous Carbonates for the Stereoselective Construction of 2,3,3,6-Tetrasubstituted Tetrahydropyrans" Author(s): S. J. Gharpure, S.R.B. Reddy, Published: Org.Lett. **2009, 11, 2519.**
2. Title: "Topologically driven tandem radical cyclization based strategy for the synthesis of oxa-and aza-cages" Author(s): S. J. Gharpure, S.K. Ponwal, Published: Tetrahedron Lett.**2009, 50, 7162.**
3. Title: "Stereoselective Synthesis of Donor-Acceptor Substituted Cyclopropafuranones by Intramolecular Cyclopropanation of Vinylogous Carbonates: Divergent Synthesis of Tetrahydrofuran-3-one, Tetrahydropyranone and Lactones" , Author(s): S. J. Gharpure, M.K. Shukla, U. Vijayasree, Published: Org. Lett. **2009, 11, 5466.**

SEKAR, G.

1. Title: Domino synthesis of 2-arylbenzo[b]furans by copper(II)-catalyzed coupling of o-iodophenols and aryl acetylenes, Author(s): Jaseer EA, Prasad DJC, Sekar G, Source: **TETRAHEDRON** Volume: **66** Issue: **11** Pages: **2077-2082** Published: **MAR 13 2010.**
2. Title: Synthesis of Benzoxazoles by an Efficient Ullmann-Type Intramolecular C-(aryl)-O Bond-Forming Coupling Cyclization with a BINAM-Copper(II) Catalyst, Author(s): Naidu AB, Sekar G, Source: **SYNTHESIS-STUTTGART** Issue: **4** Pages: **579-586** Published: **FEB 2010, Times Cited: 0**
3. Title: An Efficient, Mild and Intermolecular Ullmann-Type Synthesis of Thioethers Catalyzed by a Diol-Copper(I) Complex, Author(s): Prasad DJC, Sekar G, Source: **SYNTHESIS-STUTTGART** Issue: **1** Pages: **79-84** Published: **JAN 2010.**

4. Title: Copper(I)-Catalyzed C-aryl-C-alkynyl Bond Formation of Aryl Iodides with Terminal Alkynes, Author(s): Thakur KG, Sekar G, Source: **SYNTHESIS-STUTTGART** Issue: 16 Pages: 2785-2789 Published: AUG 17 2009.
5. Title: Chiral iron complex catalyzed enantioselective oxidation of racemic benzoin, Author(s): Muthupandi P, Alamsetti SK, Sekar G, Source: **CHEMICAL COMMUNICATIONS** Issue: 22 Pages: 3288-3290 Published: 2009.
6. Title: General, Mild, and Intermolecular Ullmann-Type Synthesis of Diaryl and Alkyl Aryl Ethers Catalyzed by Diol-Copper(I) Complex, Author(s): Naidu AB, Jaseer EA, Sekar G, Source: **JOURNAL OF ORGANIC CHEMISTRY** Volume: 74 Issue: 10 Pages: 3675-3679 Published: MAY 15 2009.
7. Title: Highly Efficient Copper-Catalyzed Domino Ring Opening and Goldberg Coupling Cyclization for the Synthesis of 3,4-Dihydro-2H-1,4-benzoxazines, Author(s): Rao RK, Naidu AB, Sekar G, Source: **ORGANIC LETTERS** Volume: 11 Issue: 9 Pages: 1923-1926 Published: MAY 7 2009.
8. Title: An efficient intermolecular C(aryl)-S bond forming reaction catalyzed by BINAM-copper(II) complex Author(s): Prasad DJC, Naidu AB, Sekar G, Source: **TETRAHEDRON LETTERS** Volume: 50 Issue: 13 Pages: 1411-1415 Published: APR 1 2009.
9. Title: Galactose Oxidase Model: Biomimetic Enantiomer-Differentiating Oxidation of Alcohols by a Chiral Copper Complex, Author(s): Alamsetti SK, Mannam S, Mutupandi P, et al., Source: **CHEMISTRY-A EUROPEAN JOURNAL** Volume: 15 Issue: 5 Pages: 1086-1090 Published: 2009.

SELVAM, P.

1. Title: "Architecting mesoporous AISBA-15: An overview on the synthetic strategy.", Author(s): P. Selvam, N.V. Krishna, B. Viswanathan *J. Indian Inst. Sci.*, Published: 2010, 90, 1-5.
2. Title: "Probing the Fe(III) sites in Mesoporous FeMCM-41", Author(s): S.K. Badamali, P. Selvam *Catal. Today*, Published: 2009, 143, 103-108.
3. Title: "Hydrogenation of nitrobenzene over palladium supported catalysts" Effect of supports, Author(s): P Sangeetha, S. Ramesh, K.S.R. Rao, B Viswanathan, P Selvam *Appl. Catal. A (General)*, Published: 2009, 11, 337-346.
4. Title: "Platinum group metals substituted MCM-41 molecular sieves: Synthesis, Characterization and Application as novel catalysts for the reduction of NO by CO" Author(s): V. Ravat, D.B. Mantri, P. Selvam, P. Aghalayam *J. Mol. Catal. A (Chemical)*, Published: 2009, 314, 49-54.

GOSH, SUNDARGOPAL

1. Title: "Chemistry of Vanadaboranes: Synthesis, Structures and Characterization of Organovanadium sulfide Clusters with Disulfido linkage Bose", Author(s): S K.; Geetharani, K.; Ramkumar, V.; Varghese B.; Ghosh Sundargopal, Published: *Inorg. Chem.* 2010, 49, 2881.
2. Title: "Vertex-Fused Metallaborane Clusters: Synthesis, Characterization and Electronic Structure of $[(\eta^5\text{-C}_5\text{Me}_5\text{Mo})_3\text{MoB}_9\text{H}_{18}]$ " Author(s): Dhayal. R. S.; Sahoo. S.; Reddy. R. K.; Mobin. Sk. K.; Jemmis. E. D.; Ghosh. Sundargopal Published: *Inorg. Chem.* 2010, 49, 900.
3. Title: "Direct Insertion of Sulphur, Selenium and Tellurium atoms into Metallaborane Cages using Chalcogen Powders" Author(s): Sahoo, S.; Mobin, S.M.; Ghosh Sundargopal, Published: *J. Organomet. Chem.* 2010, 695, 945.
4. Title: "Synthesis of Mono and Doubly Alkynyl-Substituted Ferrocene and Its Crystal Engineering Using -C-H...O Supramolecular Synthons" Author(s): Thakur, A.; Adarsh. N. N.; Chakraborty, A.; Devi, M.; Ghosh, Sundargopal Published: *J. Organomet. Chem.* 2010, 695, 1059.
5. Title: "Fine-Tuning of Metallaborane Geometries: Chemistry of Metallaboranes of Early Transition Metals Derived from Metal Halides and Monoborane Reagents" Author(s): Bose, S. K.; Geetharani, K.; Ramkumar, V.; Mobin, S. K.; Ghosh, Sundargopal, Published: *Chem. Eur. J.* 2009, 15, 13483.
6. Title: "A new synthetic route to Lindqvist type clusters $[(n\text{-Bu}_4\text{N})_x][\text{M}'\text{M}_5\text{O}_{19}]$ [when $x = 2$, $\text{M}' = \text{M} = \text{Mo}$ or W ; $x = 3$, $\text{M}' = \text{Mo}$, $\text{M} = \text{W}$] from metal carbonyl precursors $[(\text{CO})_5\text{ML}]$ [$\text{M} = \text{Mo}$, W ; $\text{L} = \text{CO}$, $\text{C}(\text{Ome})(\text{Me})$]", Author(s): Thakur, A.; Chakraborty, A.; Ramkumar, V.; Ghosh, Sundargopal, Published: *Dalton Trans.* 2009, 7552.
7. Title: "Chlorinated Hypoelectronic Dimetallaborane Clusters: Synthesis, Characterization and Electronic Structures of $(\eta^5\text{-C}_5\text{Me}_5\text{W})_2\text{B}_5\text{H}_n\text{Cl}_m$ ($n = 7$, $m = 2$ and $n = 8$, $m = 1$)" Author(s): Sahoo, S.; Reddy. K. H. K.; Dhayal, R. S.; Mobin, S. K.; Ramkumar, V.; Jemmis, E. D.; Ghosh, Sundargopal, Published: *Inorg. Chem.* 2009, 48, 6509.

8. Title: "B-Alkylation and Arylation of $(\eta^5\text{-C}_5\text{Me}_5\text{Mo})_2\text{B}_5\text{H}_9$: Synthesis and Characterization of Isomeric $(\eta^5\text{-C}_5\text{Me}_5\text{Mo})_2\text{B}_5\text{H}_{9-n}\text{R}_n$ (When R = *n*-Bu, *n* = 2, 1; R = Ph, *n* = 2, 1)", Author(s): Dhayal, R. S.; Chakrahari, K. K. V.; Ramkumar, V.; Ghosh, Sundargopal, Published: *J. Cluster Sci.* **2009**, **20**, 565.
9. Title: "Borylene-based Direct Functionalization of Organic Substrates: Synthesis, Characterization and Photophysical Properties of σ -Conjugated Borirenes: Braunschweig", Author(s): H.; Herbst, T.; Rais, D.; Ghosh, Sundargopal; Kupfer, T.; Radacki, K.; Crawford, A.; Ward, R.; Marder, T.; Fernández, I.; Frenking, G. *J. Am. Chem. Soc.* Published: **2009**, **131**, 8989.

VARADARAJAN, T.K.

1. Title: Heterogeneous Wet Chemical Synthesis of Superlattice-Type Hierarchical ZnO Architectures for Concurrent H-2 Production and N-2 Reduction, Author(s): Janet CM, Navaladian S, Viswanathan B, et al. Source: *JOURNAL OF PHYSICAL CHEMISTRY C* Volume: 114 Pages: 2622-2632, 2010.
2. Title: Development of Carbon Materials for Energy and Environmental Applications, Author(s): Viswanathan B, Neel PI, Varadarajan TK, Source: *CATALYSIS SURVEYS FROM ASIA* Volume: 13 Issue: 3 Pages: 164-183, 2009.
3. Title: Photocatalytic behavior of CeO₂-TiO₂ system for the degradation of methylene blue, Author(s): Magesh G, Viswanathan B, Viswanath RP, et al., Source: *INDIAN JOURNAL OF CHEMISTRY SECTION A-INORGANIC BIO-INORGANIC PHYSICAL THEORETICAL & ANALYTICAL CHEMISTRY* Volume: 48 Issue: 4 Pages: 480-488 Published: APR 2009.
4. Title: Fabrication of Worm-Like Nanorods and Ultrafine Nanospheres of Silver Via Solid-State Photochemical Decomposition, Author(s): Navaladian S, Viswanathan B, Varadarajan TK, et al., Source: *NANOSCALE RESEARCH LETTERS* Volume: 4 Issue: 5 Pages: 471-479, 2009.

VARADARAJU U.V.

1. Title: Electrochemical Li insertion studies on WNb₁₂O₃₃-A shear ReO₃ type structure, Author(s): Saritha D, Pralong V, Varadaraju UV, et al., Source: *JOURNAL OF SOLID STATE CHEMISTRY* Volume: 183 Issue: 5 Pages: 988-993, Published: MAY 2010
2. Title: High temperature thermopower and electrical resistivity studies in the transparent conducting oxide Sn doped MgIn₂O₄, Author(s): Biswas K, Varadaraju UV, Source: *MATERIALS RESEARCH BULLETIN* Volume: 45 Issue: 5 Pages: 659-662 Published: MAY 2010
3. Title: Multiband orange-red photoluminescence of Eu³⁺ ions in new "114" LnBaZn(3)GaO(7) and LnBaZn(3)AlO(7) oxides, Author(s): Saradhi MP, Raveau B, Caignaert V, et al. Source: *JOURNAL OF SOLID STATE CHEMISTRY* Volume: 183 Issue: 2 Pages: 485-490 Published: FEB 2010.
4. Title: Effect of isovalent doping on the high temperature thermopower and resistivity properties of Ba₂BiInO₆ Author(s): Biswas K, Varadaraju UV, Source: *SOLID STATE COMMUNICATIONS* Volume: 149 Issue: 41-42 Pages: 1735-1738 Published: NOV 2009.
5. Title: Eu²⁺, Ce³⁺ Luminescence and Ce³⁺ → Eu²⁺ Energy-Transfer Studies on Sr₂LiSiO₄F: A White Light-Emitting Phosphor, Author(s): Sivakumar V, Varadaraju UV, Source: *JOURNAL OF THE ELECTROCHEMICAL SOCIETY* Volume: 156 Issue: 7 Pages: J179-J184 Published: 2009.
6. Title: Facile Chemical Insertion of Lithium in Eu_{0.33}Zr₂(PO₄)₃-An Elegant Approach for Tuning the Photoluminescence Properties, Author(s): Saradhi MP, Pralong V, Varadaraju UV, et al., Source: *CHEMISTRY OF MATERIALS* Volume: 21 Issue: 9 Pages: 1793-1795 Published: MAY 12 2009.
7. Title: Monoclinic iron hydroxy sulphate: A new route to electrode materials, Author(s): Reddy MA, Pralong V, Caignaert V, et al., Source: *ELECTROCHEMISTRY COMMUNICATIONS* Volume: 11 Issue: 9 Pages: 1807-1810 Published: SEP 2009.

Distinguished Visitors to the Department:

S.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Prof. Tarashankar Pal IIT Kharagpur	July 2009	Ph.D Examiner
2	Dr. Haribabu Arthanari Department of Biological Chemistry and Molecular Pharmacology, Harvard Medical School	08.01.2010	Seminar Presentation

3	Prof. Herbert Roesky University of Gottingen, Germany	18.01.2010	Seminar Presentation
4	Prof. R. Bruce King Emeritus Professor, University of Georgia Department of Chemistry, Athens	21.01.2010	Seminar Presentation
5	Prof. C. Segebarth Grenoble Institut des Neurosciences- INSERM U836, Grenoble, France	18.02.2010	Guest Lecture
6	Prof. Keisaku Kimura Hygo University, Japan	15.02.2010	Guest Lecture
7	Dr. K R SHAMASUNDAR University of Stuttgart, Germany	02.03.2010	Guest Lecture
8	Dr. DEBASIS SAMANTA, Department of Chemistry IACS, Kolkata	03.03.2010	Guest Lecture
9	Prof. P.K. BHARADWAJ IIT Kanpur	16.03.2010	Guest Lecture
10	Prof. RAINER STREUBEL Professor of Chemistry, Institute of Inorganic Chemistry University of BONN	17.03.2010	Guest Lecture
11	Prof. K.V. RAMANATHAN Chairman, NMR Research Center Indian Institute of Science, Bangalore	31.03.2010	Guest Lecture
12	Dr. KANNAN R KARUKURICHI	01.04.2010	Guest Lecture
13	SOURAV HALDAR Centre for Cellular & Molecular Biology Hyderabad	12.04.2010	Guest Lecture
14	Prof. DEEPAK MATHUR TIFR, MUMBAI	21.04.2010	Guest Lecture
15	STUDENTS University of Kerala	07.05.2010	Visit
16	Prof. Dr. PAOLO FORNASIERO	1-5 April 2009	Indo-Italian Project
17	Professor Tucker Carrington Distinguished Chair Professor in Theoretical Chemistry, Queen's University, Kingston, Canada	January 2010 for about a week	Interactions in research and in course content preparation for the NPTEL project as a subject expert

4.5.6 Other Activities of the Department/Centre:

S.No.	Particulars
1	Member of the DST-PAC (Organic Chemistry) during 2009-2010 (Prof. S. Sankararaman)
2	Functioned as a referee for "Tetrahedron" and "Tetrahedron Letters" – highly respected journals Published by Elsevier. (Prof. Santosh J Gharpure)
	Functioned as a referee for "Journal of chemical science" – a journal published by Indian Academy of Sciences and Spinger. (Prof. Santosh J Gharpure)
	Involved in teaching CY102 (Chemistry – II) for B. Tech. students of IIT – Hyderabad. (Prof. Santosh J Gharpure)
3	Member, Board of Studies (Chemistry), Goa University, Goa. (Dr. P. Selvam)
	Member, Board of Studies (Chemistry), Kalasalingam University, Krishnankoil. (Dr. P. Selvam)
	Member: Catalysis Society of India; Materials Research Society of India Indian Association of Solid State Chemists and Allied Scientists Chemical Research Society of India, The Royal Society of Chemistry (Dr. P. Selvam)
	Chaired a technical session, 19 th National Symposium on Catalysis, NCL, Pune, January 18-21, 2009. (Dr. P. Selvam)

	National Organizing Committee Member, 19 th National Symposium on Catalysis, NCL, Pune, January 18-21, 2009. (Dr. P. Selvam)
	Int. National Advisory Board Member, Int. Sym. On Zeolites and Microporous Crystals (ZMPC 2009), Tokyo, 2009. (Dr. P.Selvam)
	Editorial Board Member, Bulletin of the Catalysis Society of India. (Dr. P. Selvam)
	Editorial Board Member, The Open Catalysis Journal. (Dr. P.Selvam)
	Editorial Board Member, International Journal of Nanomaterials and Technology. (Dr. P. Selvam)
4	Participated in "Faculty Development Program" conducted by experts from <i>The Center for Teaching Excellence</i> , Texas A&M University and organized by CCE at IIT Madras : Dec 7 – Dec 9, 2009. <i>Courses taught</i> July – December 2009 a) CY 505 - Stereochemistry and Reaction Mechanisms (1.5 credits) b) CY 511 - Organic Chemistry Laboratory (6 credits) January – May 2010 a) CY 5540 – Introductory Biochemistry (1.5 credits) b) CY 1020 – Chemistry II (1.5 Credits) (Dr. Nandita Madhavan)

Results obtained in research work (from M.S. & Ph.D thesis) of the scholar/faculty:

- PH. D. THESIS Submitted: Mr. Atul Kumar, Quantum entanglement and information processing.

Inter disciplinary group achievements of the Department:

- Nanochemistry of porphyrin with gold cluster in collaboration with Prof. T. Pradeep (SAIF) IIT Madras.
- " Functionalized Au₂₂ clusters: synthesis, characterization and patterning" E.S. shibu, B. Radha, P.K. Verma, P. Bhyrappa, G. U. Kulkarni, S.K. Pal and T. Pradeep ACS Appl. Master. Interfaces **2009**, 1, 2199 – 2210.

International collaboration achievements by the Department

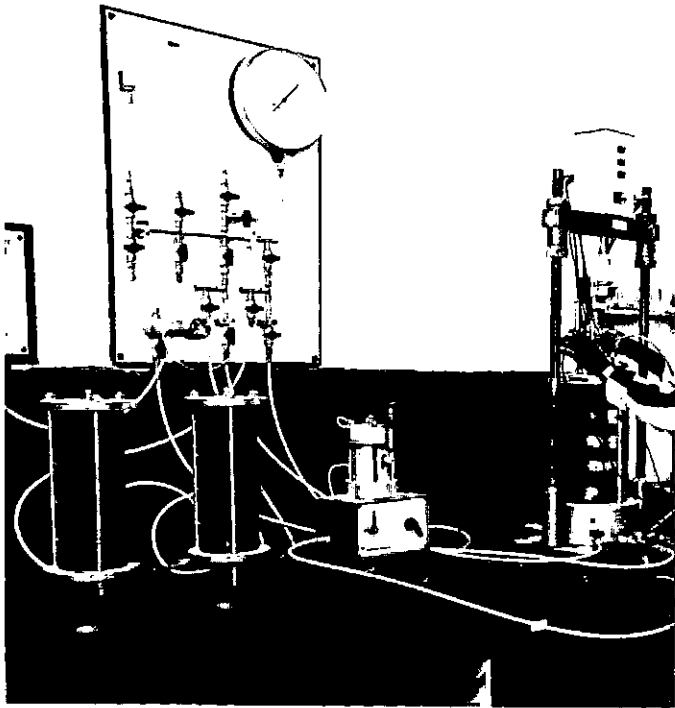
- **Student visit:** Indo-Hungary joint project (B. Kuppan)
- **Faculty visit :** Indo-Australian joint project (P. Selvam)
- Indo-Russian joint project (M V Sangaranarayanan)
- **Activities initiated:** Indo-Italian joint project (G Ranga Rao)
Indo-Taiwan project (P. Selvam)

Socially relevant activities carried out by the Department:

1. As a member of the Standing Committee in the National Mission on Education through ICT, a programme launched by the MHRD Prof. K. Mangala Sunder chaired more than ten project proposal meetings in New Delhi in the Ministry and have reviewed more than 200 projects submitted to the mission. The minutes of all these proceedings chaired by me are available from the Ministry's official web site, <http://www.sakshat.ac.in>.
2. As a member of the project monitoring and advisory committee of the E-learning Division of the Ministry of Communication and Information Technology, Prof. K. Mangala Sunder has been attending their review meetings in New Delhi and Hyderabad for the sanction of new projects in the field of e-learning and review of existing projects (six ongoing projects).
3. As a review committee member of the Project Monitoring and Advisory Committee of the World Bank funded National Agricultural Innovation Project on E-learning and e-content development for Agricultural University curriculum Prof. Mangala Sunder attended close to a dozen review meetings held in various parts of India throughout last year and continue to be on their advisory panel.
4. Several one-day NPTEL awareness workshops were conducted in the last year in various parts of India.

The number of public lectures Prof. K. Mangala Sunder given is quite numerous in the last year. Prof. Mangala Sunder included some of them under Seminar but will try and catalogue them in the next few weeks and update my profile in the website of the chemistry department.

CIVIL ENGINEERING



4.6 DEPARTMENT OF CIVIL ENGINEERING

4.6.1 Introduction:

The Department of Civil Engineering has been in existence since the inception of IIT Madras in 1959, and has grown into a full-fledged Department with specializations in all the major branches of Civil Engineering. The departmental activities embrace Planning, Design, Construction and Management. The academic programmes of the Department in B.Tech, Dual Degree, M.Tech, M.S. and Ph.D. are some of the best in the country, and perhaps, in the world. The faculty members have received advanced degrees and/or training from reputed Institutions in India, Germany, U.K., U.S.A., Canada, Netherlands, the former USSR, etc.

The activities of the Department are carried out under different disciplines, administratively organized into five Divisions. There are fourteen well-equipped laboratories attached to different divisions. Environmental and Water Resources Engineering and Structural Engineering Laboratories have received substantial initial funding from the Federal Republic of Germany.

4.6.2 Academic Programmes:

The Department provides training to students in both theoretical and practical aspects of Civil Engineering. The students are trained in the current state-of-the-art technologies to enable them to adapt themselves to fast changing technological developments in the world.

The Department has postgraduate programmes leading to Dual Degree, M.Tech., M.S., and Ph.D. degrees in various disciplines of Civil Engineering in addition to the undergraduate B.Tech. programme in Civil Engineering.

Establishment of Centre for Excellence

The following Centres of Excellence sponsored by Ministry of Urban Development have been set up in Department of Civil Engineering during the year 2009.

Name of the Faculty	Title
Dr. Ligy Philip Dr. Satyanarayana K N Dr. Ashwin Mahalingam Dr. Balaji Narasimhan Dr. Indumathi M Nambi Dr. Mohan S Dr. Murty B S Dr. Shiva Nagendra S M Dr. Srinivasan K Dr. Sudheer K P Dr. Suresh Kumar G Mr. Gopalakrishna K Dr. A. Thillai Rajan, Dept. of MS	Decentralized Wastewater Management and Public Private Partnerships
Dr. Sivanandan R Dr. Veeraragavan A Dr. Karthik K Srinivasan Dr. Lelitha Devi V	Centre of Excellence in the area of Urban Transport

Chair Position

Dr. T N Subba Rao – Brigade Group Chair position has been established on 25.11.2009. Initial grant of Rs.50 lakhs was made. Annual grant of Rs.5 lakhs per year will be made to meet the recurring expenses for five years. This Chair position will focus on teaching and research in the areas of Project Management, Construction Engineering and Mess Housing.

New Courses / Modification Introduced:

S. No.	Course No.	Title
1	CE 4420	Remote Sensing (Modified)
2	CE 5080	GIS in Civil Engg. (Modified)
3	CE 5960	Remote Sensing of Earth Resources (New Course)
4	CE 2020	Structural Analysis (Modified)
5	CE 3310	Advanced Structural Analysis (Modified)

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	54	39	39	36	6	174
Dual Degree	28	27	22	20	14	111
M.Tech.	83	77	2	-	-	162
M.S.	16	12	8	3	2	41
Ph.D.	35	10	19	13	42	119
Total	216	165	90	72	64	607

Names of Student/Scholar who attended Conference/ Seminar and Symposia Abroad/India:

S. No.	Name of the Student/Scholar	Category	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue
Abroad:				
1	Rajib Choudhury	Ph.D.	ICOSSAR '09	Sept. 13-20, 2009 Osaka, Japan
2	Bindhu V M	Ph.D.	Indian Society of Remote Sensing (ISRS) Symposium	Sept. 17-19, 2009 Nagpur
3	Maganti Janardhana	Ph.D.	International Conference on Advances in Concrete, Structures and Geotechnical Engg.	Oct. 25-27, 2009 BITS Pilani
4	Jayasree C	Ph.D.		
5	Rakesh G	MS		
6	Rajasekar E	Ph.D.	National Symposium on Acoustics (NSA), Hyderabad	Nov. 26-28, 2009
7	Kalaiselvi R	Ph.D.		
8	Dhivya G	Ph.D.	14 th International Conference on Transportation Studies – Transportation and Geography,	Dec. 10-12, 2009 Hong Kong
9	Rajib Chowdhury	Ph.D.	3 rd International Congress on Computational Mechanics and Simulation	Dec. 1-5, 2009 IIT Bombay,
10	Balu A S	Ph.D.	3 rd International Congress on Computational Mechanics and Simulation	
11	Sivakumar M V N	Ph.D.		
12	Mukherjee D	MS		
13	Rahima Shabeen S	Ph.D.	First International Conference on Ship and Offshore Technology	Dec. 10-11, 2009 IIT Kharagpur
14	Bhuvaneshwari S	Ph.D.	4 th Asia Pacific Conference on Unsaturated Soils	Nov. 23-25, 2009 Australia
15	Soundara B			

Names of students/scholars who won outside prizes and awards:

S.No.	Name of the Student/Scholar	Category	Name of Prize	Prize awarded by
1	Rajasekar E	Ph.D.	Best Paper Award	MIRC ASA
2	Srinivas S Arkatkar	Ph.D.	Bihar PWD Medal	Indian Road Congress
3	Bindhu V M	Ph.D.	Best Paper Award	Indian Society of Remote Sensing, Nagpur
4	Purnanandam K	Ph.D.	Best Paper Award	Indian Geotechnical Society, New Delhi

Name of Students/Scholars who won Institute Convocation/Institute Day Prize:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1	Srivatsan H S	CE05B039	L&T ECC Endowment Prize	Convocation
2	Aditi Vyas	CE04B051	Institute Merit Prize – Dual Degree	
3	Saravanan R	CE07M007	Valli Anantharamakrishnan Merit Prize	
4	Hazera Tahseen	CE07M122	K Devarajan Memorial Prize	
5	Ramaswamy K P	CE07M158	L&T Endowment Prize (CE-CT&M)	
6	Mini Remanan	CE04D003	Shree Gaayathree Devi Award	
7	Jaya V	CE05D026		
8	Phanisri Pradeep Pratapa	CE06B024	Institute Merit Prize	Institute Day
9	Srivatsan H S	CE05B039	Best Academic Record (B.Tech.)	
10	Aditi Vyas	CE04B051	Best Performance	
11	Ramaswamy K P	CE07M158	Best academic record (M.Tech.& CTM)	
12	Venkateswarlu Gandham	CE04S023	Sri K Sreeharsha Memorial Prize	

4.6.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major Area of Specialization
Professors:	
Dr.A.Boominathan, Ph.D. (Moscow)	Geotechnical Engineering
Dr.Devdas Menon, Ph.D. (IITM)	Structural Engineering
Dr.S.R.Gandhi, Ph.D. (IITM)	Geotechnical Engineering
Dr.V.Kalyanaraman, Ph.D. (Cornell)	Structural Engineering
Dr. Koshy Varghese, Ph.D. (Texas, Austin)	Building Technology and Construction Mgmt.
Dr.Ligy Philip (Ms.) Ph.D. (IIT Kanpur)	Environmental Engineering
Dr.M.S.Mathews, Ph.D. (IITM)	Building Technology and Construction Mgmt.
Dr.A.Meher Prasad, Ph.D. (RICE)	Structural Engineering
Dr.S.Mohan, Ph.D. (IISc., Bangalore)	Environmental & Water Resources Engineering
Dr. B.S.Murty, Ph.D. (Washington St)	Environmental & Water Resources Engineering
Dr.K.Rajagopal, Ph.D. (Florida)	Geotechnical Engineering
Dr.A.Ramachandraiah, Ph.D. (IITM)	Building Technology and Construction Mgmt.
Dr.K.Ramamurthy, Ph.D. (IITM)	Building Technology and Construction Mgmt.
Dr.Ravindra Gettu, Ph.D.(Northwestern)	Building Technology and Construction Mgmt.
Dr. K.N. Satyanarayana, Ph.D. (Clemson)	Building Technology and Construction Mgmt.
Dr. R.Sivanandan, Ph.D. (Virginia Tech.)	Transportation Engineering
Dr.K.Srinivasan, Ph.D. (IITM)	Water Resources Engineering
Dr. V.Thamizh Arasan Ph.D. (IITM)	Transportation Engineering
Dr. A. Veeraragavan Ph.D. (Bangalore University)	Transportation Engineering
Associate Professors:	
Dr. P.Alagusundaramoorthy Ph.D.(IITM)	Composite Technology
Dr. Amlan Kumar Sengupta Ph.D. (Univ. of Missouri)	Structural Engineering
Dr. K.Ananthanarayanan, Ph.D. (IITM)	Building Technology and Construction Mgmt.
Dr. G.Appa Rao Ph.D. (IISc. Bangalore)	Structural Engineering
Dr. Karthik K Srinivasan Ph.D. (Texas, Austin)	Transportation Engineering
Dr. Manu Santhanam Ph.D. (Purdue Univ.)	Building Technology and Construction Mgmt.
Dr. B. Nageswara Rao, Ph.D. (Iowa Univ.)	Structural Engineering
Dr.R.G.Robinson Ph.D. (IISc., Bangalore)	Geotechnical Engineering
Dr. S.R. Satish Kumar, D.Engg. (Nagoya Univ.)	Structural Engineering
Dr.K.P.Sudheer, Ph.D. (IIT Delhi)	Water Resources Engineering
Assistant Professors:	
Dr. Ashwin Mahalingam (Stanford Univ)	Building Technology and Construction Mgmt.
Dr. Balaji Narasimhan, Ph.D. (Texas A & M Univ.)	Water Resources Engineering
Dr. Dali Naidu Arnepalli, Ph.D. (IIT Bombay)	Geotechnical Engineering
Dr. G.R.Dodagoudar Ph.D. (IIT Bombay)	Geotechnical Engineering
Shri. K. Gopalakrishna, M.Tech. (IIT Kanpur)	Environmental Engineering
Dr. Indumathi M Nambi, Ph.D.(Clarkson Univ.)	Environmental Engineering
Dr. Lelitha Devi, Ph.D. (Texas A&M)	Transportation Engineering
Dr. J. Murali Krishnan, Ph.D (IIT Madras)	Transportation Engineering
Dr. S T G Raghukanth, Ph.D. (IISc Bangalore)	Structural Engineering
Dr. Rupen Goswami, Ph.D. (IIT Kanpur)	Structural Engineering
Dr. U. Saravanan, Ph.D. (Texas A&M)	Structural Engineering
Dr. S.M. Shiva Nagendra, Ph.D. (IIT Delhi)	Environmental Engineering
Dr. G. Suresh Kumar, Ph.D. (IISc Bangalore)	Water Resources Engineering
Dr. T. Thyagaraj, Ph.D. (IISc Bangalore)	Geotechnical Engineering
Dr. Vidya Bhushan Maji, Ph.D. (IISc Bangalore)	Geotechnical Engineering
Adjunct Faculty:	
Dr. A. Ramakrishna	Building Technology and Construction Mgmt.
Visiting Professor:	
Dr. N. Raghavan	Structural Engineering
Visiting Assistant Professor:	
Dr. Gitakrishnan Ramadurai, Ph.D.(Univ.of Rensselaer)	Transportation Engineering
Dr. Arun Menon, Ph.D.(Univ. of Pavia, Italy)	Structural Engineering

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Conferences:			
1	Koshy Varghese	Quantum GIS which is an Open Source GIS Package	April 8-9, 2009
2	Ravindra Gettu	Seventh International Symposium on Fibre Reinforced Concrete	September 17-19, 2009
3	Thamizh Arasan V	Modelling Modal Shift from Personal Vehicles to Bus on Introduction of Bus Priority Measure	Nov. 16-20, 2009
4	Sudheer K P	Perspective on Current & Future State of Water Resources and the Environment	Jan, 5-7, 2010
Seminars:			
1	Satish Kumar S R	Advances in Steel Structures	May 7-8, 2009
2	Manu Santhanam	Corrosion Protection of Steel Rebars in Concrete & Concrete Structures	Sept. 11-12, 2009
3	Ravindra Gettu	Innovations in Construction Materials	Jan. 28, 2010
Workshops:			
1	Shiva Nagendra S M	Urban Air Quality Management: Problems and Management Practices	April 28, 2009
2	Ligy Philip	Decentralized Wastewater Management	June 22-23, 2009
3	Ravindra Gettu	Self Compacting Concrete	July 17-18, 2009
4	Veeraragavan A	Indo-US workshop on *Highway and Airport Pavement Engineering	Aug. 7-8, 2009
5	Shiva Nagendra S M	Air Pollution Monitoring Instruments	Nov. 14, 2009
6	Balaji Narasimhan	Overview of Soil and Water Assessment Tool (SWAT) with particular reference to climate change prediction on water resources in India	Nov. 18, 2009
7	Lelitha Devi V	Emerging Trends in Intelligent Transportation Systems	Feb. 11-13, 2010
8	Ligy Philip Murty B S	Management and Remediation of Hazardous Waste Dump Sites, for officials of Pollution Control Boards	March 8-9, 2010
9	Indumathi M Nambi	Protecting Water Bodies of Chennai	March 22, 2010
Training Programmes:			
1	Satish Kumar S R	IS800-2007	May 14-16, 2009
2	Ligy Philip	Water Quality and Sanitation	June 8-20, 2009
3	Amlan K Sengupta	National Institute of Disaster Management, New Delhi	Nov. 4-6, 2009
4	Srinivasan K	Central Water Commission and Ministry of Water Resources Sponsored 7 th R&D Session of Indian National Committee on Hydrology (INCOH)	Feb. 10-12, 2010
Short Term Courses:			
1	Maiya M P Shiva Nagendra S M Tiwarei S	Air Delivery Systems and Indoor Airquality: An Engineering Perspective	July 13-18, 2009
2	Dali Naidu Arnepalli Rajagopal K	Role of Geo Synthetics in Civil Infrastructure and Geo Environmental Protection Projects	Aug. 10-14, 2009
3	Nageswara Rao B Devdas Menon	Basics of Matrix and Finite Element Analysis of Structures (BMFEAS 2009)	Oct. 5-10, 2009
4	Nageswara Rao B Dodagoudar G R Meher Prasad A	Finite Element Modelling of Concrete Structures (FEM Con 2009)	Oct. 12-16, 2009
5	Veeraragavan A Murali Krishnan J	Recent Advances in Bituminous Material Characterization & Evaluation	Dec. 7-12, 2009
6	Satish Kumar S R Rupen Goswami	Design of Steel Structures using IS 800:2007	Jan. 25-30, 2010
7	Appa Rao G	Fracture Mechanics of Concrete: Research and Application	March 22-26, 2010

Sl. No.	Coordinator(s)	Title	Period
Continuing Education Programmes:			
1	Dodagoudar G R	Fundamentals of Finite Element Analysis	May 26-02 Jun-09
2	Rajagopal K	Use of Finite Element Softwares for Geotechnical Designs	13-19 Jun 09
3	Maiya M P Shaligram Tiwari Shiva Nagendra S M	Air Delivery Systems and IAQ An Engineering Perspective	13-18 July 09
4	Veeraragavan A	Indo-US Workshop on Recent Advances in Highway and Airport Pavement Engineering	07-08 Aug 09
5	Meher Prasad A	Design and Construction of Rapid Wall Building System	03-06 Aug-09
6	Rajagopal K	Role of Geosynthetics in Civil Infrastructure and Geoenvironmental	08-14-Aug-09
7	Tamizh Arasan V	Sustainable Urban Transportation Planning	24-28 Aug 09
8	Gandhi S R Rajagopal K Boominathan A	Training for L&T Engineers at Powai Works	23-25 Sep 09
9	Nageswara Rao B Dodagoudar G R	Finite Element Modeling of Concrete Structures	12-16 Oct 09
10	Ananthanarayanan K Koshy Varghese Ashwin Mahalingam	State of Art Methods for Project Planning and Control	12-14 Nov 09
11	Murali Krishnan J Veeraragavan A	Recent Advances in Bituminous Material Characterization and Evaluation	7-12 Dec 09
12	Koshy Varghese	Construction Management For nagarjuna Construction	10-12 Jan 10
13	Koshy Varghese	Open Source Gram Panchayat QGIS	8-12 Feb 10
14	Satish kumar S R	Structural and Foundation Engineering for F L Smith Engineers	Dec 19 2009 - 30-Jun-10
15	Satish kumar S R Rupen Goswami	Design of Steel Structures Using IS 800	25-30 Jan-10
16	Murali Krishnan J	Unmodified and Modified Binder Chacerization	28- 30 Jan-10
17	Veeraragavan A	Road Safety Audit	Jan-10 - April-10
18	Ligy Philip Murty B S	HWDS and its remediation	8-9 Mar-10
19	Koshy Varghese	Open Source Geographic Information Systems	17-21 May 10

Short-term Courses/Workshops/Seminars/Symposia/Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:

S. No.	Name of faculty	Title	Institution	Period
Workshops:				
1	Kalyanaraman V	BIS & INSDAG on IS 800	BIS & INSDAG on IS 800 2007 at New Delhi	April 22-23, 2009
2	Satish Kumar S R			
3	Ravindra Gettu	Advances in Construction Materials	Govt. College of Tech. Coimbatore	Aug. 5, 2009
4	Ravindra Gettu	Retrofitting and Rehabilitation of Structures	IIT Bombay	Aug. 29-30, 2009
5	Satish Kumar S R	Structural Steel Design	M/s Tata Bluescope at Sriperumpudur	Sept. 10-13, 2009
6	Rupen Goswami			
7	Robinson R G	Forensic Geotechnical Engineering	IISc, Bangalore	Sept. 12, 2009
8	Shiva Nagendra S M	Development of Environmental Pollution Index (EPI) for Industrial Clusters / Areas	CPCB, New Delhi	Oct. 24, 2009
9	Ravindra Gettu		BITS Pilani	Oct. 25-27, 2009

S. No.	Name of faculty	Title	Institution	Period
10	Amlan K Sengupta	Fibre Bragg Grating Sensors	IPS, Chennai & M/s Hottinger Baldwin Messtechnik GmbH (HBM) Germany	Nov. 2, 2009
11	Manu Santhanam	NDT & Condition Assessment of Concrete Structures	Pondicherry Engg. College	Dec. 3, 2009
12	Shiva Nagendra S M	Comprehensive Environmental Pollution Index (EPI) for Industrial Clusters / Areas	CPCB, New Delhi	Dec. 12, 2009
13	Shiva Nagendra SM	Hazardous air pollutants monitoring, assessment and controls	CPCB Zonal office, Bangalore	Dec. 30 -31, 2009
14	Ravindra Gettu	Need for special concretes	Govt. College of Tech. Coimbatore	Jan. 9, 2010
15	Appa Rao G	Studies on Non Seismically Designed RC Beam-Column Joints under Seismic Loads	BARC, Mumbai	Feb. 18-19, 2010
16	Rupen Goswami	Earth Disasters and Mitigation	Bangalore Univ. of Tech.	March 12, 2010
Seminars:				
1	Rajagopal K	Retaining Structure	Institution of Engineers, Chennai	April 24, 2009
2	Rajagopal K	Retaining Structure	Institution of Engineers, Vijayawada	April 30, 2009
3	Rupen Goswami	Structural Steel for Civil Construction	Nepal	June 12, 2009
4	Amlan K Sengupta	Stainless Steel Reinforcing Bars	ICI, Chennai	Nov. 12, 2009
5	Ravindra Gettu	New Developments in Concrete Technology	Hyderabad	Jan. 18, 2010
Symposias:				
1	Manu Santhanam	Fourth National Frontiers of Engineering (NatFOE-4)	IGCAR Kalpakkam	Sept. 16, 2009
2	Balaji Narasimhan	Indian Society of Remote Sensing (ISRS) Symposium	Nagpur	Sept. 17-19, 2009
3	Ramachandraiah A	Acoustics – NSA 2009	Hyderabad	Nov. 26-28, 2009
4	Appa Rao G	Seismic behavior of reinforced concrete, Anchorages, Beam-Column Joints and Structures with Modeling Aspects	BARC Mumbai	Nov. 24-26, 2009
5	Robinson R G	Ground Improvement Technologies and Case Studies	Singapore	Dec. 9-11, 2009
Conferences:				
1	Satyanarayana K N	ASCE Construction Research Congress	Seattle, USA	April 4-7, 2009
2	Satish Kumar S R	Performance of Disaster Resistant Structures	Anna University, Chennai	May 7-8, 2009
3	Ravindra Gettu	International Conference on Advances in Concrete, Structures and Geotechnical Engg.	BITS Pilani	Oct. 25-27, 2009
4	Ravindra Gettu	Proceedings International Conference on Advances in Concrete, Structures and Geotechnical Engineering	BITS Pilani	Oct. 25-27, 2009
5	Murali Krishnan J			
6	Appa Rao G	ACI Fall Convention	New Orleans, USA	Nov. 8-12, 2009
7	Shiva Nagendra S M	4 th International Conference on Artificial Intelligence (IICAI-09)	Tumkur, Karnataka	Dec. 16-18, 2009
8	Manu Santhanam	Advances in Mechanical and Building Sciences	VIT, Vellore	Dec. 14-15, 2009
9	Nageswara Rao B	3 rd International Congress on Computational Mechanics and	IIT Bombay	Dec. 1-5, 2009

S. No.	Name of faculty	Title	Institution	Period
		Simulation (ICCMS-09)		
10	Alagusundaramoorthy P	First International Conference on Ship and Offshore Technology	IIT Kharagpur	Dec. 10-11, 2009
11	Sudheer K P	Food Security & Sustainable Environment	IIT Kharagpur	Dec. 16-18, 2009
12	Thamizh Arasan V	14 th International Conference of Hong Kong Society for Transportation Studies - Transportation and Geography	Hong Kong	Dec. 10-12, 2009
13	Nageswara Rao Satish Kumar S R	3 rd International Congress on Computational Mechanics and Simulation	IIT Bombay	Dec. 1-5, 2009
14	Meher Prasad A Nageswara Rao B			
15	Alagusundaramoorthy P	First International Conference on Ship and Offshore Technology	IIT Kharagpur	Dec. 10-11, 2009
16	Robinson R G	International Symposium on Ground Improvement Technologies and Case Histories	Singapore	Dec. 9-11, 2009
17	Robinson R G Gandhi S R	4 th Asia Pacific Conference on Unsaturated Soils	Australia	Nov. 23-25, 2009
18	Appa Rao	Bridges Asia 2010	Hong Kong	Feb. 2-6, 2010
19	Gandhi S R	Indian Geotechnical Conference	Guntur	Feb. 18, 2010
20	Devdas Menon	Recent Innovations in Technology-NCRIT 2010	Kottayam	March 5, 2010
21	Rajagopal K	International Conference for Civil Engineers - Reinforcement Innovations for Structural Pavement Design	Tel Aviv, Israel	March 15, 2010

Training:

1	Rupen Goswami	Design of Steel Structure IS 800	Kirby Buildings Systems India Ltd, Hyderabad	May 14-16, 2009
2	Satish Kumar S R			
3	Indumathi M. Nabi	Lsotope Tracer Techniques for Water Resources Development and Management	Kozhikode	June 15-20, 2009
4	Suresh Kumar G	Lsotope Tracer Techniques for Water Resources Development and Management	Kozhikode	June 15-20, 2009

Short Term Courses:

1	Satish Kumar S R	Design of Steel Structure	Kongu Engg. College, Erode	May 11-12, 2009
2	Satish Kumar S R	Structural Steel Design	NIT Kurukshetra	June 18-20, 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Gandhi S R	Geotechnical Failures in Kochi	Cochin University of Science & Technology, Kochi	April 25, 2009
2	Gandhi S R	Petroleum Engineering Course Curriculum	ONGC, Dehradun	April 20-21, 2009
3	Kalyanaraman V	Steel and Composite Structures	IRC, New Delhi	April 18, 2009
4	Gandhi S R	Foundation for Marine Structures and Techniques of land reclamation	Indian Naval Service, Vishakapatnam	May 9, 2009
5	Shiva Nagendra S M	Artificial Neural Network Applications in Environmental Engineering	NBKR Instt. Of Sci. & Tech. Vidyanagar, Nellore	May 6, 2009

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
6	Boominathan A	Seismic Microzonation Studies for Chennai City	Anna Institute of Management, Chennai and NIDM	June 9, 2009
7	Boominathan A	Geotechnical Aspects of Earthquake Engineering	Government of Kerala with UNDP, Cochin	June 25, 2009
8	Satish Kumar S R	<ol style="list-style-type: none"> 1. Design Philosophy & Introduction to limit state 2. Classifications of sections 3. Design of compression members by limit state method 4. Tutorial on design of compression members 5. Design of members subjected to bending I & II 6. Design of members subjected to combined forces 7. Tutorials on design of members subjected to bending and combined forces 8. Providing solutions to problems 	INSDAG, Kolkatta	June 3-5, 2009
9	Rajagopal K Gandhi S R	IGS Executive Committee Meeting	New Delhi	June 20, 2009
10	Ravindra Gettu	Need for Special Concretes	Indian Concrete Institute, Chennai	Aug. 13, 2009
11	Amlan K Sengupta	Evaluation of Reinforced Concrete Buildings for Seismic Forces	BMTPC, India Habitat Centre, New Delhi	Aug. 12, 2009
12	Amlan K Sengupta	Assessment of Buildings Seismic Retrofit of Buildings	Disaster Management and Mitigation Department, Chennai	Aug. 19, 2009
13	Rajagopal K	Engineering solutions to combat climate change	Sri Venkateswara College of Engg., Sri Perumpudur	Sept. 15, 2009
14	Rajagopal K	<ol style="list-style-type: none"> 1. Use of Geosynthetics for Ground Improvement Works 2. Analysis and Design of Shallow Foundations 3. Finite Element Methods for Geotechnical Designs 4. Deep Excavations and Soil Stabilization Techniques 	L&T Mumbai	Sept. 23, 2009
15	Gandhi S R	Densification of loose sand deposits using deep compaction technique	Anna University, Chennai	Sept. 17, 2009
16	Gandhi S R	Foundation Engineering	L&T Mumbai	Sept. 23, 2009
17	Boominathan A	<ol style="list-style-type: none"> 1. Field Measurements of Dynamic Soil Properties 2. Stiffness and Damping Constants of Shallow and Deep Foundations 3. Design of Machine Foundations 4. Liquefaction of Soils 	L&T Mumbai	Sept. 23, 2009
18	Robinson R G	Vacuum consolidation and Band Drains for High compressible clays	Anna University	Sept. 18, 2009

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
19	Satish Kumar S R	1. Limit State Method 2. Methods of Analysis 3. Column / Plate Buckling 4. Welded Connections 5. Compression Members 6. Tutorial on Compression Members 7. Beam-Columns 8. Tutorial on Beam- Columns 9. Design for Earthquake 10. Design for Fatigue	INSDAG at Kelambakkam	Sept. 8-9, 2009
20	Satish Kumar S R	Steel in Construction	Anna University	Sept. 18, 2009
21	Rajagopal K	Geosynthetic Encasement for Stronger and Stiffer Stone Columns	SV University, Tirupati	Nov. 27, 2009
22	Shiva Nagendra S M	Artificial Neural Network Applications in Environmental Engineering	S J College of Engg., Mysore	Dec. 2, 2009
23	Thamizh Arasan V	Micro-Simulation Study of Bus Priority on Roads Carrying Highly Heterogeneous Traffic	IISc, Bangalore	Dec. 7, 2009
		Study of the Effect of Traffic Volume and Road Width on PCU value of Vehicles Using Microscopic Simulation		
24	Amlan K Sengupta	Assessment of Buildings Seismic Retrofit of Buildings	College of Engg., Thiruvananthapuram	Dec. 14, 2009
25	Manu Santhanam	Non Structural Cracking in Concrete	Ultratech Cement, Tirupati	Dec. 12, 2009
26	Rajagopal K	Use of Geosynthetics for Infrastructure Projects in India	NIT, Surat	Jan. 6, 2010
27	Rajagopal K	Geosynthetics for High Quality and Expedient Roads	Hyderabad	Jan. 13, 2010
28	Nageswara Rao B	Finite Element Analysis	Vel Tech. University, Avadi	Jan. 7-9, 2010
29	Ravindra Gettu	Self compacting and Fibre Reinforced Concretes	Chennai, Trade Centre	Jan. 23, 2010
30	Satish Kumar S R	1. Torsion and Bending I & II 2. Portal Frames 3. Composite Columns 4. Steel Bridges I & II 5. Earthquake Resistant Design I & II	Manipal Institute of Technology	Jan. 8-9, 2010
31	Satish Kumar S R	An overview of IS 800	Building Association of India, Chennai	Jan. 22, 2010
32	Amlan K Sengupta	Concrete Jackeling of Members in Reinforced Concrete Structures	SGS Institute of Technology & Science, Indore	Feb. 5, 2010
33	Satish Kumar S R	Rigid Semi Rigid and flexible connection - worked out samples	Organized by INSDAG for M/s William Hare Pvt. Ltd., Chennai	Feb. 20, 2010
34	Satish Kumar S R	Structural Engg.	Sri Ram Engg. College,	Feb. 23, 2010
35	Rupen Goswami	1. Design of members subjected to bending (unrestrained beams) 2. Design of members subjected to bending worked out samples	Organized by INSDAG for M/s William Hare Pvt. Ltd., Chennai	Feb. 20, 2010

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1	Satyanarayana K N	USA	April 4-10, 2009	Attended & presented a paper at ASCE Construction Research Congress, Seattle
			July 20 – Dec. 12, 2009	Visiting Professorship at IOWA University
2	Veeraragavan A	Hungary	May 16-26, 2009	Indo-Hungarian Collaborative Research Project
3	Ramachandraiah A	USA	May 18-22, 2009	157 th Acoustical Society of America
4	Devdas Menon	Italy	May 18-26, 2009	Joint Research Project on 'Seismic Vulnerability of Historical Centres in India'
5	Meher Prasad A	Italy	May 18-26, 2009	
6	Sudheer K P	USA	May 9 – June 25, 2009	Annual International Meeting 2009 of 'American society of Agricultural and biological Engineers'
7	Rupen Goswami	Nepal	June 12, 2009	Proceedings of the First International seminar on 'Structural Steel for Civil Construction, Nepal
8	Veeraragavan A	USA	June 5 – July 3 2009	Indo-US Collaborative Research visit
9	Appa Rao G	Germany	May 5- June 20, 2009	Research stay at University of Stuttgart
10	Ligy Philip	Canada	June 29 – July 6, 2009	Alternative Water Treatment Technologies Project, Guelph University
11	Nageswara Rao B	Ottawa	July 12-17, 2009	12 th International conference on Fracture
12	Satyanarayana K N	Taiwan	July 14-17, 2009	Waste in Indian Building Construction Projects
13	Balaji Narasimhan	USA	June 29 – Aug. 11, 2009	Visiting Research Scholarship, Texas A&M University
			Aug. 5-7, 2009	5 th International SWAT conference University of Colorado Boulder
14	Thamizh Arasan V	China	July 20-22,2009	International Conference at Hong Kong
15	Sudheer K P	Singapore	Aug. 11-14, 2009	International Conference of the Asia Oceania Society
16	Shiva Nagendra S M	Singapore	Aug. 11-14, 2009	International Conference of the Asia Oceania Society
17	Sudheer K P	Singapore	Aug. 11-14, 2009	Paper presentation in an International Conference
18	Shiva Nagendra S M	Singapore	Aug. 11-14, 2009	Paper presentation in an International Conference
19	Saravanan U	USA	Sept. 10-20, 2009	Research Collaboration, IOWA State University
20	Sudheer K P	Germany	Sept. 15-30, 2009	Summer School 2009, Kiel University, Germany
21	Devdas Menon	Japan	Sept. 13-20, 2009	Conference 'ICOSSAR 2009 at Osaka
22	Meher Prasad A	Japan	Sept. 13-20, 2009	Conference 'ICOSSAR 2009 at Osaka
23	Satish Kumar S R	Malaysia	Sept. 27 – Oct. 2, 2009	Board of Studies Meeting
24	Alagusundaramoorthy P	Germany	Sept. 28-29, 2009	Project Review Meeting, Univ. of Karlsruhe
25	Alagusundaramoorthy P	Italy	Sept. 30 – Oct. 1, 2009	3 rd Year Project Review Meeting, Venice
26	Rajagopal K	Egypt	Oct. 5-9, 2009	ICSMGE Conference, Alexandria,
27	Boominathan A	Egypt	Oct. 1-9, 2009	1. TC4 Satellite Conference on Earthquake Geotechnical Engg. 2. ICSMGE Conference, Alexandria,
28	Gitakrishnan Ramadurai	USA	Oct. 11-14, 2009	To receive TSL Award at INFORMS 2009, San Diego
29	Thamizh Arasan V	Indonesia	Nov. 16-20, 2009	International Conference 'EASTS'
30	Appa Rao G	USA	Nov. 8-12, 2009	International Conference in New Orleans

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
31	Robinson R G	Singapore	Dec. 9-11, 2009	International Symposium on Ground Improvement Technologies and Case Studies
32	Koshy Varghese	USA	Dec. 1-3, 2009	Visited Autodesk University
33	Alagusundaramoorthy P	Germany	Dec. 19-24, 2009	EU Project 'POLYTECT' meeting.
34	Alagusundaramoorthy P	USA	Jan. 11, 2010	Annual TRB Meeting, Washington
35	Shiva Nagendra S M	UK	Jan. 22-31, 2010	Technical discussions of UKIERI Sponsored Project at Newcastle University
36	Alagusundaramoorthy P	USA	Jan. 9-22, 2010	Transportation Research Board Annual Meeting and Project visit to University of Kentucky, Lexington.
37	Appa Rao G	Hong Kong	Feb. 2-6, 2010	Bridges Asia 2010
38	Gandhi S R	Cambodia	March 11-14, 2010	ASI Project for the Restoration of TaPhrom Temple
39	Devdas Menon	Cambodia	March 11-14, 2010	
40	Meher Prasad A	Cambodia	March 11-14, 2010	
41	Arun Menon	Cambodia	March 11-14, 2010	
42	Satyanarayana K N	Cambodia	March 11-14, 2010	
43	Rajagopal K	Israel	March 15-18, 2010	Conference and Discussions in Tel Aviv

Honours and Awards obtained by faculty:

S. No.	Name of faculty	Name of Award	Awarded by	Date of award
Awards:				
1	Gitakrishnan Ramadurai	Best Dissertation Award	Transportation Science and Logistics Society at San Diego, USA	Oct. 11-14, 2009
2	Ramachandraiah A	Best Paper Award	MIRC ASA	Nov. 28, 2009
3	Thamizh Arasan V	Bihar PWD Medal	Indian Road Congress	Nov. 14, 2009
4	Balaji Narasimhan	Best Paper Award	Indian Society of Remote Sensing Annual Convention and Symposium at Nagpur	Sept. 19, 2009
5	Rajagopal K	Best Paper Award	Indian Geotechnical Society	Feb. 18, 2010

Books, Monographs authored/co-authored:

S. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1	Mathews M.S.	Ta Prohm Conservation Strategy	ASI, New Delhi	M.S. Mathews
2	Ravindra Gettu	Rheological characterization of self compacting concretes (In Spanish)	Universitat Politecnica de Catalunya, Barcelona, Spain	R. Zerbino, L. Agullo, B. I. arragán, T. Garcia, R. Gettu
3	Satish Kumar S R	CPWD Handbook on Seismic Retrofitting	CPWD New Delhi	Devdas Menon Satish Kumar S R
4	Satish Kumar S.R.	Designers Handbook for Steel Design as per revised IS 800	INSDAG	Kalyanaraman V Satish Kumar S R
5	Shiva Nagendra S M	Artificial neural networks in vehicular pollution modeling	Springer-Verlag	Mukesh Khare Shiva Nagendra S M
6	Murty Bondada V A Sivanandan R	Best Practices to Relieve Congestion on Mixed Traffic Urban Streets in Developing Countries	Allied Publishers, Chennai	Murty Bondada V A Sivanandan R

S. No.	Name of faculty	Title	Publisher	Author/ Co-author
7	Devdas Menon	Advanced Structural Analysis	Narosa Publishing House, New Delhi	Devdas Menon
8	Manu Santhanam Ravindra Gettu	ICE Manual of Construction Materials	Thomas Telford, UK	Manu Santhanam Ravindra Gettu
9	Veeraragavan A	Highway Material and Pavement Testing	Nem Chand & Bros., Roorkee	Veeraragavan A Khanna S K
10	Thamizh Arasan V	Concentration of Heterogeneous Road Traffic in the Book 'Advanced Technologies'	In-The, Croatia, Europe	Thamizh Arasan V Dhivya G

Fellowships of Academies and Professional Societies:

Fellowships	Name of faculty	Year of admission
Alexander Von Humboldt Fellowship	Dr. G. Appa Rao	2010
Others:		
Member, Project Management Committee of JIPMER	Rajagopal K	2009
Member, Indian National Committee	Gandhi S R	2009
National Consultant of Kalpasar Project in Gulf of Khambhat, Govt. of Gujarat	Gandhi S R	
Member International Society of Soil Mechanics and Geotechnical Engineering (ISSMG)	Boominathan A	2010-2014
Member, Board of Governing Body, Tontadarya College of Engg., Gadag, Karnataka	Dodagoudar G R	

Journal Editorial Boards:

S. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	Mohan S	Editorial Board Member	Environmental Pollution & Toxicology Journal
2	Rajagopal K	Editorial Board Member	Geotextiles and Geomembranes
3	Gopalakrishna K	Member of Jury	Expo on Drinking Water Purification Systems
4	Sudheer K P	Associate Editor	Journal of Hydrology, of Elsevier Publications
5	Rajagopal, K.	Editorial Member	Indian Geotechnical Journal
6	Murali Krishnan J	Editorial Board Member	International Journal of Engineering Science
			Road Materials and Pavement Design
			Mechanics of Multi-Component Materials
			International Journal of Pavement Research and Technology
			International Journal of Roads and Airports
7	Gandhi S R	Editor	Indian Geotechnical Journal
8	Sudheer K P	Associate Editor	ASCE Journal of Hydrologic Engineering

4.6.4 Design and Development Activities:

New facilities added or major equipment procured:

S.No.	Name of Equipment	Value (Rs.)
1	Cyclic triaxial apparatus	5,00,000
2	Rolling thin film oven	
3	Gyratory compactor	
4	Pressure aging vessel	
5	Bishop and Wesley stress path system	
6	Simple performance test equipment	
7	Automatic penetration testing equipment	
8	Servocontrolled 4-actuator testing system for cement & concrete	
9	Universal testing machine of 500 kN capacity	
10	Humidifier		16500

S.No.	Name of Equipment	Value (Rs.)
11	Hitachi LCD Projector	44000
12	2 KVA Numeric UPS	35000
13	spirit rule , cross staff, optical square	11000
14	vacuum impregnation unit	2,36065
15	Everflow Humidifier	16500
16	Intel core computer system	2,39100
17	Hitachi LCD Projector	26000
18	ETS rock triaxial apparatus	4,88900
19	Lliebert 600VA UPS	1971
20	2TR AC	28000
21	1.5TR AC	24290
22	Temperture controller	5063
23	Digital temperature controller	6,800
24	Sartorius Electronic balance	20000
25	Dual DC power supply	18200
26	Electronic weighing balance brand - CONTECH	14925
27	Pentium E2200 computer	32000
28	millipore water purifying system	4,95075
29	Pentium computer	46040
30	Heavy duty drilling machine	24731
31	Hitachi LCD Projector	31000
32	displacement transducer	3,93120
33	Multichannel portable read out unit	73125
34	MVD 2555 CF Amplifier	1,03680
35	yokogava portable data station	1,95310
36	gyratory compactor	76060
37	1 KVA ups	17608
38	1.5TR AC	24290
39	TC202D brookfied water bath	1,18000
40	Revolving chair	8100
41	Sony cybershot camera	8800
42	steel book case	7300
43	ring ball apparatus	9800
44	Vacuum desicator	17225
45	reverse flow viscometer tubes	34743
46	Intel core 920 systems	67670
47	8GB DDR3	3600
48	2 quaid Q9400 system	1,61650
49	hot plate with SS top	4050
50	fume hood	65520
51	water dispenser	8600
52	godrej 7lever navtal lock	4950
53	Hitachi 3010 LCD Projector	51000
54	LCD Projector	51000
55	Ahuja medium 60w amplifier	10668
56	studio master microphone	9107
57	Biometric finger attendance system	22364
58	intel E7500 computer	92280
59	Hp laserjet P2055DN printer	29600

S.No.	Name of Equipment	Value (Rs.)
60	Toshiba E studio 305 xerox machine	1,44000
61	Ahuja PA Amplifier	18233
62	Ahuja PA Amplifier	18233
63	LG Split Airconditioner	42180
64	HCL computer - visweswaraya hall	24768
65	Ahuja PA Amplifier (Room No.STR301)	19886
66	Ahuja PA amplifier (Seminar 31 & 32)	19886
67	Ahuja PA amplifier (TRN Room no.237)	19886
68	Digital vernier caliper	12300
69	Bosch power tools	64058
70	Bosch make planner	6823
71	Bandsaw blade butt welder	17120
72	Tilting indexing device	44204
73	3 Jaw self centering chuck	6141
74	Milling collet E40	12734
75	Solid carbide end mill 20mm	9473
76	Solid carbide end mill 25mm	12160

4.6.5 Research and Consultancy:

Sponsored Research Projects:

S.No.	Title	Duration	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
1	Highway & Airport Pavement Engineering	3 years	Indo-US Science & Technology Forum	10.55	Veeraragavan A
2	Spatio-temporal modeling of ground water quality using artificail neural network	3 years	Ministry of Water Resources	13.04	K P Sudheer
3	Investigations on vacuum consolidation of soft clay deposits	3 years	Department of Science & Technology	24.50	Rajagopal K Robinson R G
4	Development of probabilistic seismic hazard map of India	2 years	National Disaster Management Authority	16.08	Raghu Kanth S T G
5	Decentralized waste water management benchmarking of public utilities and PPP	2 ½ years	Ministry of Urban Development	379.60	Ligy Philip Satyanarayana K N Ashwin Mahalingam
6	Piloting community based water quality monitoring system through panchayat level convergence committee in child friendly villages of Krishagiri district	1 year	United Nations Children's Fund	9.46	Ligy Philip
7	Development of extended. finite element method (XFEM) software for fracture analysis of cracks	2 years	Board of Research in Nuclear Sciences	11.32	Nageswara Rao B
8	Centre of Excellence in the area of urban transport	4 years	Ministry of Urban Development	840.00	Sivanandan R Veeraragavan A Karthik K Srinivasan
9	Alternative water systems project	3 years	International Development Research Centre	80.53	Ligy Philip

S.No.	Title	Duration	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
10	Assessment of drinking water safety in Kerala	6 months	United Nations Children's Fund	7.05	Ligy Philip.
11	Performance testing and evaluation of sodium resistant concretes	2 years	Indira Gandhi Centre for Atomic Research	33.17	Manu Santhanam Sankaran S
12	Development of models for managing water quality in drinking water reservoirs	1 year	Department of Science & Technology	39.07	Murty B S Ligy Philip
13	Evaluation of quantitative dispersion models for urban air quality assessment	2 years 9 months	UK INDIA Education & Research Initiative	5.14	S M Shiva Nagendra
14	Development of structural health monitoring for civil infrastructure using smart sensing technologies	3 years	National Program on Micro and Smart Systems	231.52	Meher Prasad A Sivakumar M S Saravanan U
15	Advanced Traveler Information Systems (ATIS) for Indian Cities	3 years	Centre for Development of Advance Computing	385.00	Sivanandan R Leitha Devi V

Industrial consultancy Projects:

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
1.	Meher Prasad A	Testing of Anchorage	Utracon Structural System Pvt Ltd.,	0.84
2.	Alagusundaramoorthy P	Nondestructive tests, load tests and repair and retrofitting of bridges	Pishon Concrete Test	1.13
3.	Devdas Menon	Proof checking of Railway Birdge No.4, (Rail over flyover) on Bhadrak-Dhamra Rail Link	Scott Wilson Kirkpatrick(I) Pvt Ltd.,	0.56
4.	Devdas Menon	Testing of load transfer	Utracon Structural System Pvt Ltd.,	0.56
5.	Ligy Philip	Soil contamination analysis	Toshiba Corporation Power Systems Company	0.56
6.	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	1.00
7.	Boominathan A	Quality of compaction of Railway Embankment at Karaikal Port	Karaikal Port Pvt Ltd.,	2.07
8.	Alagusundaramoorthy P	Proof checking of design calculations of a building at HAL Sulur Project	Sijcon Consultants - Gujarat	1.12
9.	Alagusundaramoorthy P	Load bearing tests on cable routing boxes	Honey Well Electrucak Devices & Sstem India Ltd.,	0.25
10.	Meher Prasad A	Testing of elastomeric bearings	Karnataka Neeravari Nigam Ltd.,	0.28
11.	Appa Rao G	Site visit and assessment of quality of concrete and strength of RC towers	Sirpur Paper Mills Ltd	3.93
12.	Appa Rao G	Design of high performance concretes	NTPC Tamilnadu Energy Company Ltd.,	3.10
13.	Satish Kumar S R	Compression tests on uprights	Godrej & Boyces Manufacturing Co. Ltd.,	0.76
14.	Indumathi M Nambi	TWAD Board-Evaluation of turbidity kit payment	Tamil Nadu Water Supply and Drainage Board	0.06
15.	Rajagopal K	proof checking of reinforced soil retaining wal designs at Mangalore	IRCON International Ltd.,	3.99
16.	Gandhi S R	Shoring work at Chennai Airport	Airports Authority of India (Chennai Airport Expansion Proj.)	0.22

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
17.	Devdas Menon	Testing of anchorages	Technocast Foundry	8.43
18.	Robinson R G	Analysis of clay samples at Gummidipoondi	Tamil Nadu Waste Mangement Limited	0.51
19.	Thamizh Arasan V	Traffic and parking management plan for IT Park	Shriram Properties & Infrastructure Pvt. Ltd.,	3.40
20.	Thamizh Arasan V	Quality check for road works	Tamilnadu Road Development Company Ltd.,	0.83
21.	Appa Rao G	Design of concrete mixes for development of Kamaraj Domestic Terminal Phase - II	Airports Authority of India	2.80
22.	Meher Prasad A	Calibration Test	Common Code	1.00
23.	Devdas Menon	Proof checking of your design calculation for relocation of transmitter building at Pallavaram Cantonment for Chennai Airport Project	Yugasoft	0.50
24.	Ligy Philip	To assess the migration of organic components from different polyethylene terephthalate (PET) bottles to water under different environmental conditions	League for Education and Development (LEAD)	1.35
25.	Gandhi S R	Design of piles for jetty	Lanco Infratech Ltd.	1.12
26.	Rajagopal K Appa Rao G	Proof checking of ROB's for Hyderabad Growth Corridor	Hyderabad Growth Corridor Limited	3.42
27.	Thamizh Arasan V	Condition evaluation and improvement measures for flexible pavement	Consolidated Construction Consortium Ltd	0.90
28.	Devdas Menon	Testing of grouts	Pidilite Industries Ltd.,	6.45
29.	Satish Kumar S R	Calibration of Jacks	Reliance India Pvt. Ltd.,	0.76
30.	Ravindra Gettu	Development of pumpable concrete in a tsunami rehabilitation project	Tamilnadu Slum Clearance Board	0.60
31.	Satish Kumar S R	Testing of HT strands	Common Code	2.00
32.	Satish Kumar S R	Proof checking of transfer tower	Yugasoft	3.00
33.	Satish Kumar S R	Fabricating and testing of rectangular hollow section	Bharat Heavy Electricals Ltd., - Ranipet	1.10
34.	Satish Kumar S R	Optimization of weigh bridge	Strategic Weighing Systems Limited	0.30
35.	Meher Prasad A	Approval for design shelter drawings	Joflo Industries Pvt. Ltd.,	0.62
36.	Rajagopal K Dali Naidu Arnepalli	Recommendation of pull out design factors for reinforced soil retaining wall on ayodhya-Gorakhpur Road,	BSCPL Infrastructure Ltd.,	0.80
37.	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	1.00
38.	Robinson R G	Evaluation of design mix ratio for blanketing material	Southern Railway, Chennai	0.33
39.	Mohan S Veeraraghavan A	Development of policy framework for managing induced development of coastal road corridors in Tamil Nadu	Highways Department	24.64
40.	Boominathan A Gandhi S R	assessment of variation of filling by dredging	Cochin Port Trust	3.31
41.	Meher Prasad A	Design checking of square angular towers	Zeppelin Mobile Systems India Limited	1.71
42.	Gandhi S R Thyagaraj T	Design of foundation for oil storage tanks	Hindustan Petroleum Corporation Ltd.,	2.48
43.	Devdas Menon	Testing of load transfer test for 1906 lables	BBR (INDIA) LTD	0.55
44.	Manu Santhanam	Special concrete mixture designs	Consolidated Construction Consortium Ltd	1.60

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
45.	Manu Santhanam	Development of new polycarboxylate superplasticizers	Clariant Produkte GmbH, Germany	6.50
46.	Thamizh Arasan V	Planning for urban transport infrastructure projects	Municipal Corporation	22.00
47.	Gandhi S R	Foundation Advice for Ash Pond at Simhadri Power Plant	National Thermal Power Corporation Ltd.,	0.22
48.	Meher Prasad A	Calibration test	Common Code	1.00
49.	Rajagopal K	Recommendations on gabions for erosion control works	Gareware-Wall Ropes Ltd.,	2.28
50.	Devdas Menon	Proof checking of revised design of ROB at Km 165/14-5 between Adilabad -Pimpalkutti stations extended Kosai stadium	Erinco (India) Pvt. Ltd.	0.88
51.	Manu Santhanam	Performance Evaluation of Superplasticizers	Sika Technology AG	12.93
52.	Alagusundaramoorthy P	Analysis and testing of cable routing boxes	Honey Well Electrucak Devices & Sstem India Ltd.,	0.50
53.	Alagusundaramoorthy P	Characterization and analysis of geogrids for RE walls	Navayuga Engineering Company Limited	0.51
54.	Alagusundaramoorthy P	Proof load tests on new bridges in NH45	Afcons Infrastructure Ltd	1.38
55.	Gandhi S R Devdas Menon	Design of foundation for 45m high RCC lighthouse tower at sacramento	Directorate of Lighthouses & Lightships	1.32
56.	Meher Prasad A	Approval for design checking of square angular towers	Larsen and Toubro Limited	11.03
57.	Meher Prasad A	Anchorage efficiency test	VSL India Pvt Ltd	0.83
58.	Satish Kumar S R	Testing of HT strands	Common Code	2.00
59.	Thamizh Arasan V	Mix Design for Airport Pavement Works	Airports Authority of India	0.60
60.	Thamizh Arasan V	Evaluation of Pavement Materials	National Highways Authority of India	0.63
61.	Alagusundaramoorthy P	Assessment, repair and rehabilitation of fire affected building	Saravana Stores	2.21
62.	Boominathan A Alagusundaramoorthy P	Foundation Design for Wind Turbine	Winwind Power Energy (Pvt.) Ltd.,	2.21
63.	Devdas Menon	Proof-checking of structural design for group housing scheme	Archi - tec allied	1.54
64.	Robinson R G	Laboratory Testing and Analysis for the Soil Samples for Chennai Port	Coastal Marine Construction & Engg Ltd.	0.92
65.	G R Dodagoudar	Stabilization of slope using soil nailing technique	Shriram Properties & Infrastructure Pvt. Ltd.,	0.80
66.	G R Dodagoudar	Design verification of foundations of ESIC hospital	A.K. Associates	0.35
67.	S M Shiva Nagendra	Analysis of pH, TSS and TDS of two water samples	Ion Exchange India (Ltd)	0.03
68.	Devdas Menon	Testing of Compression test	VSL India Pvt Ltd	0.65
69.	Meher Prasad A	Jack Calibration Efficiency test	Utracon Structural System Pvt Ltd.,	0.44
70.	Meher Prasad A	Tensile Testing of Draft Gear	Escorts Limited	0.83
71.	Appa Rao G Rajagopal K	Proof checking of structural design	P Unnikrishan - Consultant	14.00
72.	Devdas Menon	Providing direct road connectivity to SEZ at Puthuvypeen	Charangat Engineering Construction Co. (p) Ltd	0.66
73.	Meher Prasad A	Calibration Test	Common Code	2.00
74.	Satish Kumar S R	Proof checking of analysis design & drawings of steel superstructure of 123 m and 64 m spans of Patna Rail cum Road Bridge MBG Loading	Construma Consultancy Pvt. Ltd.,	2.00

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
75.	Murty B S	Vetting of design report for water hammer control system	Saisanket Enterprises	0.22
76.	Devdas Menon	Testing of cementitious, high - precision grout Masterflow 928T	BASF Construction Chemicals	6.33
77.	Murty B S K P Sudheer	Vetting of design notes, Dehani LIS Project	Shree Consultants	16.55
78.	Gandhi S R	Pile Foundation Design for IOCL Refinery	Heurtey Petrochem	0.11
79.	Boominathan A Gandhi S R	Advice on soil investigation report and foundation recommendation	Nagarjuna Oil Corporation Limited	12.13
80.	Murty B S	Calibration of water current meters	Government of Andhra Pradesh	0.31
81.	Devdas Menon	Proof checking for Bridge Across Adyar River for Secondary Runway	Consolidated Construction Consortium Ltd	3.31
82.	Murty B S	River Diversion Studies	L & T Ramboll Consulting Engineers Ltd.,	2.21
83.	Ligy Philip	Validation of the design for the design adequacy	Hindustan Coca-Cola Beverages Pvt. Ltd	1.32
84.	Saravanan U	Proof checking of design calculation	Shriram Angerlehner Composites Pvt. Ltd.	0.40
85.	Ligy Philip	Design & performance evaluation of a pilot scale flue gas Desulphurization system	Hi-Tech Carbon	5.52
86.	Veeraraghavan A	Technical services to customize and implement a computerized Road Accident Data Management System (RADMS)	IBS Software Services Pvt. Ltd.	1.65
87.	Gandhi S R Sundaravadivelu R	Proof checking of Diaphragm wall design for Prestige Polygon	Prestige Construction Ventures Pvt. Ltd	3.86
88.	Rajagopal K Dali Naidu Arnepalli	Quality Testing of Geo-grids for Construction of Road Over-bridge	Kirloskar Contructions and Engineers Ltd	1.17
89.	Satish Kumar S R	Proof Checking of Tower Structure design	GTL Limited	0.60
90.	Devdas Menon	Testing of HT Strands	Common Code	1.00
91.	Rajagopal K Dali Naidu Arnepalli	Consultancy services for the construction of a MSW landfill at Jaipur	Gareware-Wall Ropes Ltd.,	1.12
92.	Gandhi S R V B Maji	Proof checking of foundation for the structures of GSRDC Road projects	Larsen and Toubro Limited	5.29
93.	Alagusundaramoorthy P	CFRP Composite Strengthening of ELCOT Building]	Prabal Enterprises Pvt. Ltd.,	1.38
94.	Appa Rao G Rajagopal K	Proof checking of RC structural designs of IT building at Technopark KOLLAM	P Unnikrishan - Consultant	6.53
95.	Meher Prasad A	Design approval of 90 m towers at Gogha and Alang	Aster Teleservices Pvt. Ltd.,	1.32
96.	Ravindra Gettu	Mix Designs and Inspection of Damages in Concrete Construction	Common Code	1.00
97.	Manu Santhanam	Magnesium Sulphate Attack	Building & Construction Research & Consultancy (BCRC) Pty Ltd	1.00
98.	Devdas Menon	Proof checking of the steel road cum rail bridge across ganga at Munger	L & T Ramboll Consulting Engineers Ltd.,	5.52
99.	Appa Rao G	"Site Visit, Supervision and Ultrasonic Testing on Turbine Generator Foundation Deck Concrete Structures at VTPP	National Thermal Power Corporation Ltd.,	7.01
100.	Ligy Philip	6 Samples of soil investigation	Toshiba Corporation Power Systems Company	1.43
101.	S M Shiva Nagendra	Analysis of two water samples	Ion Exchange India (Ltd)	0.03

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
102.	Boominathan A	Laboratory tests on soil samples to determine the shear strength parameters of borrow area soil	CR. 18G - BSCPL JOINT VENTURE	1.10
103.	Devdas Menon	Testing of anchorage efficiency test and load transfer test	Utracon Structural System Pvt Ltd.,	2.21
104.	Gandhi S R	Restoration of slope near MRPL	Mangalore Refinery & Petrochemicals Ltd.,	2.21
105.	Gandhi S R	Pile foundation for 2 x 150 MW plant at Taminnepatnam, Nellore	Thermax Ltd	1.10
106.	Dali Naidu Arnepalli Gandhi S R	Consultancy services for laying of Railway track from Tuticorin port's marshalling vard to Hare Island	Rites Limited	1.88
107.	Gandhi S R	Proof-checking of Geotechnical Design for Anpara-D TPP, UP	Larsen and Toubro Limited	2.54
108.	Veeraraghavan A	Assessment of quality of bitumen as per IS:73-2006	TechTrans Construction India Pvt. Ltd.,	0.28
109.	Meher Prasad A	Proof checking of design calculations for the proposed ROB	Soma Enterprise Limited	0.83
110.	Satish Kumar S R	Testing of HT strands	Common Code	2.00
111.	Devdas Menon	Testing of HT strands	Common Code	2.00
112.	Boominathan A	Dynamic pile testing at TG shop (Hazira)	Larsen and Toubro Limited	3.86
113.	Devdas Menon	Proof Checking of Design for Minor Bridge at km 4.850	GMR Projects Private Limited	1.65
114.	Ligy Philip	Preparation of report on short term measures to be taken to reduce pollution	Shasun Chemicals & Drugs Ltd.,	0.55
115.	Amlan K Sengupta	Load testing of reaction arm component	Sundaram-Clayton Limited	1.70
116.	Ligy Philip	Analysis of soil samples	Toshiba Corporation Power Systems Company	2.76
117.	Robinson R G Gandhi S R	Checking the Design and Monitoring of landfill at Gummidipoondi	Tamil Nadu Waste Mangement Limited	3.31
118.	Boominathan A	Helical pile foundation design for telecom structural towers	GTL Limited	1.10
119.	Appa Rao G Thyagaraj T	Design of Remedial System and Stability Analysis of Coke Oven RC Buttress Walls	SBQ Steels Ltd.,	5.00
120.	Devdas Menon	Anchorage Efficiency Test / Load Transfer Test	M/s Strongforce PT Systems (I) Pvt. Ltd.,	2.76
121.	Satish Kumar S R	Testing of HTS Wire	Public Works Department	0.85
122.	Gandhi S R	Ground Improvement at Bharati Shipyard	Bharathi Shipyard Limited	0.28
123.	Boominathan A V B Maji	Advice on Controlled blasting at Biocon Research Center	M/s Emas Engineers & Contractors Pvt. Ltd.,	1.21
124.	Devdas Menon	Proof checking of the structural design of a typical tower in our proposal residential development at medavakkam	Watermarke Residency Pvt. Ltd.\	5.52
125.	Gandhi S R Devdas Menon	Foundation design for construction of 30m RCC Lighthouse tower at Baruva	Directorate of Lighthouses & Lightships	1.10
126.	Gandhi S R Devdas Menon	Foundation design for construction of 30m FRP composite tower at Rava Port	Directorate of Lighthouses & Lightships	1.10
127.	Ligy Philip	Analysis of soil samples	Toshiba JSW Turbine & Generator Pvt. Ltd.	1.93
128.	Appa Rao G	Design of M25 grade pumpable concrete, APIIIT, R.K. Valley - Kadapa	East Coast Constructions and Industries Limited	0.35

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
129.	Appa Rao G	Proof checking of design of ROB No.563 at km 51/300-400 between Ramanagaram & Chennapatna Stations	South Western Railway Bangalore	1.50
130.	Devdas Menon	Testing of HT strands	Common Code	2.00
131.	Meher Prasad A	Testing of Fatigue and Static	Wheels India Ltd	7.50
132.	Ravindra Gettu	Development of fibre reinforced concrete for pavement applications	A-Fibres Technology Pvt. Ltd.	2.00
133.	Amlan K Sengupta	Testing of HT strands	Common Code	2.00
134.	Boominathan A	Recommendations on Foundation Stiffness of Mettur TPP structures	BGR Energy Systems Limited	2.21
135.	Rajagopal K	Proof checking of RE wall design for Trivandrum Airport	Airports Authority of India	1.38
136.	Meher Prasad A	Proof checking of temporary arrangements drawings (TAD) for works	M/s Continental Engineering Group	0.83
137.	Ligy Philip	Training on water quality analyses and water treatment	KINGSLEY Community Centre	1.10
138.	S M Shiva Nagendra Ravikrishna R	Monitoring and analysis of VOC concentration in the ambient air at two work places	Arkema Peroxides India Private Limited	0.72
139.	Rajagopal K Appa Rao G	Construction of Bridge across river Ariyankuppam	Public Works Department	6.62
140.	Devdas Menon	Testing of 3m Std Vertical 4mm Thick Load bearing capacity as a system tower	FEDDERS LLOYD CORPORATION LTD	0.75
141.	Gandhi S R	Foundation Problems for Glass Factory at Bharuch	Larsen and Toubro Limited	0.55
142.	Satish Kumar S R	Testing of HT strands	Common Code	2.00
143.	Devdas Menon Meher Prasad A	Proof checking of SILO construction and calculations	Takraf India Pvt. Ltd.,	7.17
144.	Gandhi S R	Design of ash dyke for Rajasthan Rajya Vidyut Nigam	BGR Energy Systems Limited	3.64
145.	Veeraraghavan A	Testing properties of quality of bitumen as per IS: 73-2006	TechTrans Construction India Pvt. Ltd.,	0.28
146.	Devdas Menon	Proof checking of design of Sub structure for Bridges	Rail Vikas Nigam Limited	5.96
147.	Satish Kumar S R	Proof checking of Airport Runway	Consolidated Construction Consortium Ltd	0.60
148.	Satish Kumar S R	Pull out capacity of drilling screw	Tata Blue Scope Steel	0.20
149.	Devdas Menon	Providing direct road connectivity to SEZ area at Puthavypun - Structural design proof checking	BASIL - CHARANGAT JV	0.66
150.	Devdas Menon	Proof checking consultancy for 34.92 m box girder and 2 HM box girder (Railway spans)	Rites Limited	2.65
151.	Satish Kumar S R	Testing of various types of MS pipes	Geodesic Techniques Pvt. Ltd.,	0.90
152.	Meher Prasad A	Calibration Test	Common Code	2.00
153.	Devdas Menon	Vetting of structural designs of ESIC Medical College	Ravi Associates	33.09
154.	G R Dodagoudar	Rock Testing and Design Recommendations for Bearing Capacity of Shallow and Deep Foundations. Defence Project. Visakhapatnam	RVR Projects (P) Ltd	2.00

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
155.	G R Dodagoudar	Soil Testing and Design Recommendations for Bearing Capacity of Shallow and Deep Foundation. Defence Project. Visakhapatnam.	RVR Projects (P) Ltd	1.25
156.	Satish Kumar S R	Design Optimisation of Electro-Static Precipitator	Bharat Heavy Electricals Ltd.,	11.03
157.	Appa Rao G	"Proof checking of structural design for construction of Pre-fabricated shed for storage of MRVC items in furnishing division at I.C.F. Chennai"	Railway Cofactor	0.25
158.	Devdas Menon	Testing of HT strands and Elastomeric bearings	Common Code	2.00
159.	Devdas Menon	Proof checking of DFCCIL Triangulated Steel Superstructure and PSC Box Girder Designs	L & T Ramboll Consulting Engineers Ltd.,	13.24
160.	Devdas Menon	Testing of anchorage efficiency test - HT Strand/Relaxation test	RITES - OCCL - PBI - SYSTRA	2.06
161.	Rajagopal K	Construction of reinforced soil retaining wall using fly ash as Backfill	ITD Cementation India Ltd.,	1.38
162.	Ligy Philip	Wetting of the design of proposed 2 MLD ETP for Chennai Airport	Consolidated Construction Consortium Ltd	2.21
163.	Devdas Menon	Load-testing at L & T formwork component	Larsen and Toubro Limited	5.50
164.	V B Maji Robinson R G	Pranahita Chevella Lift Irrigation Scheme - Physics - Mechanical Properties of core Samples, I & CADD, AP Govt.	Irrigation and CAD (Project Wing) Dept.	3.58
165.	Robinson R G	Soil Tests for NTECL work	Rites Limited	4.22
166.	Rajagopal K	Reinforced Soil Works	Common Code	5.00
167.	Meher Prasad A	Calibration Test	Common Code	2.00
168.	Satish Kumar S R	Proof Checking of Structural design	East Coast Constructions and Industries Limited	0.15
169.	Satish Kumar S R	Testing of antenna mount	Maruthi Engineering	0.40
170.	Satish Kumar S R	Vetting of 25mlr Microwave Tower	Airforce	0.35
171.	Ramachandraiah A	To study the severity of Noise and Vibration at a Construction Site	PSA Industries Pvt. Ltd.,	0.33
172.	Thyagaraj T Robinson R G	Vetting of Design Calculations and Drawings of 220 kV Tower and Equipment Structures Foundations	G.E.T. Power Pvt. Ltd.,	0.77
173.	Nageswara Rao B Amlan Sengupta	Testing of Biaxial Hollow Slab	Soundarya Decorators Pvt.. Ltd.,	6.62
174.	Manu Santhanam	Chennai Airport Concrete Quality Assurance	Consolidated Construction Consortium Ltd	1.50
175.	Devdas Menon	Proof checking - Proposed construction of 1.36.60m PSC 'U' girder	Cherian Varkey Construction Co.(P) Ltd.,	0.77
176.	Thamizh Arasan V	Mix Design for Highway Pavement Works	Highways Department	0.66
177.	Satish Kumar S R	Testing of steel Roofing sheet profiles	Centurywells Roofing India Pvt. Ltd.	1.96
178.	Veeraraghavan A	Karnataka State Highway Network Improvement Strategy	Scott Wilson Kirkpatrick(I) Pvt Ltd.,	3.31
179.	Boominathan A	Dynamic pile testing at Mangalore Refinery	Larsen and Toubro Limited	3.86
180.	Veeraraghavan A	Road Safety Assessment of the Upgraded Roads under TNRSP	Highways Department	8.26
181.	Devdas Menon	Conducting Load transfer test for 19 05 (19 T 13) PBL system	Tech9 Engineering Solutions Pvt. Ltd.,	0.55

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
182.	Boominathan A	Selection of Controlled fill for PA and FD Foundations of Mettur Thermal Power Project	BGR Energy Systems Limited	2.76
183.	Devdas Menon	Testing of HT strands and Elastomeric bearings	Common Code	2.00
184.	Ligy Philip	Analysis of Soil Samples	Toshiba JSW Turbine & Generator Pvt. Ltd.	1.93
185.	Devdas Menon	Proff checking of major vbridges and flyovers (2 Nos.)	L & T Ramboll Consulting Engineers Ltd.,	14.01
186.	Thyagaraj T Gandhi S R	Design of Pile Foundation for Coal Conveyor Bridge and CW Pipe Line for Vallur Thermal Power Project	Rites Limited	1.10
187.	Rajagopal K	Proof checking and laboratory testing of geogride panel/block connections	M/s Strata Geosystems (India) Pvt. Ltd.,	5.79
188.	Nageswara Rao B G R Dodagoudar	Proof Checking of Structural Drawings	Reva Project Engineers	0.30
189.	Satish Kumar S R	Testing of HT strands	Common Code	2.00
190.	Satish Kumar S R	Proof Checking of Structural Design	Common Code	3.00
191.	Meher Prasad A.	Development of KDT (Ph - II) Expansion of existing AIT and face - Lifting of existing terminal at Chennai Airport	Consolidated Construction Consortium Ltd	0.44
192.	Appa Rao G	Design of concrete mixes for Vallur Thermal Power Plants	NTPC Tamilnadu Energy Company Ltd.,	1.15
193.	Satish Kumar S R	Proof checking of structural design	Lloyd Insulations (India) Ltd.,	1.20
194.	Devdas Menon	Proof checking of gate house, SND office building warehouse (Foundation) and canteen building	Consolidated Construction Consortium Ltd	0.88
195.	Devdas Menon	Load transfer test for 1906 cables	BBR (INDIA) LTD	0.55
196.	Boominathan A	BVT Test at Sterlite, Tuticorin	Geotechnical Solutions	2.21
197.	Devdas Menon Meher Prasad A	Proof checking of our project Brigade North star at Brigade gateway	Brigade Enterprises Limited	26.47
198.	Robinson R G	Chennai Metro Rail Project, Phase I, Specialist Geotechnical Laboratory Tests	Egis India Consulting Engineers Pvt. Ltd.	3.09
199.	Robinson R G	Characterisation of Munnar Soil	Centre for Wireless Networks and Applications	0.22
200.	Appa Rao G	Proof checking of PSC box girder design	South Western Railway Bangalore	3.25
201.	Boominathan A Meher Prasad A	Recommendations for engine foundation	Luminou Teleinfra Limited	1.10
202.	Thyagaraj T Robinson R G	Suitability study of dumped ash for land filling and providing design parameters for foundation design	Neyveli Lignite Corporation Limited	2.21
203.	Robinson R G Gandhi S R	Technical clarification on grain size distribution	Southern Railway	0.11
204.	Devdas Menon	Testing of comparison of shrinkage/prestressing tendons for Chennai Airport Project	Consolidated Construction Consortium Ltd	1.65
205.	Devdas Menon	Load transfer & load efficiency test for our PT Anchorages	Stresstech Engineers P.Ltd.,	1.38
206.	Appa Rao G	Testing of non - shrink grout	Cera Chem Private Limited	1.25
207.	Nageswara Rao B	Assessment of strength of Dock Floor No.1 and issue of safety certificate	Cochin Shipyard Ltd.,	6.00
208.	Devdas Menon	Testing of HT strands and Elastomeric bearing	Common Code	2.00

S. No	Name of the Faculty	Title	Industry	Amount (Rs. In lakhs)
209.	Devdas Menon	Proof checking of design calculations and drawings construction of HLB on Upputeru at Chinnagollapalem Village	Government of Andhra Pradesh	1.99
210.	Thamizh Arasan V	Land Use Development Plan for Port Area	Tuticorin Port Trust	82.28
211.	Thamizh Arasan V	Evaluation of pavement materials & mix design	Airports Authority of India	1.21
212.	Gandhi S R	Foundation & ash dyke for Chitrangi Power Plant	Chitrangi Power Pvt. Ltd.,	5.52
213.	Gandhi S R	Wardha power plant foundation design	Wardha Power Company Limited	1.90
214.	Nageswara Rao B Meher Prasad A	FEA Validation of Display Booth	Silicon Valley Auto Components Pvt. Ltd.	0.55
215.	Ravindra Gettu	Mix Designs and Inspection of Damages in Concrete Construction	Common Code	2.00
216.	Alagusundaramoorthy P	Proof checking of design calculation for spider glazing supporting steel structures	Consolidated Construction Consortium Ltd	1.10
217.	Alagusundaramoorthy P	Proof checking of PAN OASIS project at Noida	Sijcon Consultants	4.96
218.	K P Sudheer	Calibration of water current meters	Common Code	1.00
219.	Robinson R G	Testing of sand - gravel mix for road work	Nagarjuna Construction Company Ltd.,	0.22
220.	Robinson R G Thyagaraj T	Characterisation of soil samples to evaluate its suitability as a fill material	Bharat Heavy Electricals Ltd.,	1.38
221.	Thamizh Arasan V	Road and service area design for Maruti - Zuzuki Project	Consolidated Construction Consortium Ltd	2.63
222.	Gandhi S R	Dewatering scheme for commercial complex	Divya Sree Infrastructure Developers P.Ltd.,	0.66

RBIC Projects:

S. No.	Name Of Faculty	Title	Industry	Amount (Rs. In lakhs)
1	Ashwin Mahaligam Satyanarayana K N	Case studies of the Alandur sewerage and Tirupur water supply projects	Institute of Water Policy (Lee Kuan Yew School of Public Policy)	1.30
2	Muralikrishnan J	Evaluation of Warm Mix Technologies for Indian Bituminous Mixture	Asphalt Innovations MWV	5.00
3	Murty B S	Study for modernizing the Thanneermukkom Bund and for improving the efficiency of Thottappally Spillway	Water Resources Department - GOI	35.00
4	Ligy Philip Murty B S	" Demonstration Project for the Bioremediation of Chromium contaminated soil and aquifer in Ranipet area"	Central Pollution Control Board	14.41
5	Rupen Goswami Satish Kumar S R	Industrial Storage Racks	Mangal Precision Products Limited	25.37
6	Murty B S Sudheer K P	" Model Testing for Construction of H.L.Bridge over river Koshi near Saharsa in the State of Bihar"	BIHAR RAJYA PUL NIRMAN NIGAM LTD - BRPNNL	69.49
7	Appa Rao G	"Studies on Relaxation Loss on Prestressing Strands at 60°C and 100°C Temperature for 1000 hours	Tata Steel	8.85

S. No.	Name Of Faculty	Title	Industry	Amount (Rs. In lakhs)
8	Ligy Philip Ramachandraiah A	Terrestrial Environmental Monitoring	Larsen & Toubro Shipbuilding Ltd.,	30.00
9	Alagusundaramoorthy P Sundaravadivelu R	Comprehensive study of Marine structures in JN Port	Jawaharlal Nehru Port Trust	32.37

Retainer Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs. In lakhs)
1	Boominathan A	Airports Authority of India	Airports Authority of India	2.81
2	Gandhi S R	Advise on a project-to-project basis	L & T Ramboll Consulting Engineers Ltd.,	1.10

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	--	56
Total No. of papers published in Refereed International Journals	--	90
Total No. of papers presented in National Conferences	--	29
Total No. of papers presented in International conferences	--	95

In Refereed National Journals:

1. A.Cinderla Devi and **K.Ananthanarayanan**, "The Development of Resource-Driven Scheduling Model for Mass Housing Construction Projects" NICMAR Journal Vol.XXIV April-June 2009.
2. **Sudheer, K. P.**, and Jain, A. (2009). Recent advances in knowledge extraction from artificial neural network based hydrologic models. ISH Journal of Hydraulic Engineering, Vol. 15(1): 75-83.
3. Jain, A., Maier, H. R., Dandy, G. C., and **Sudheer, K. P.** (2009). Rainfall runoff modelling using neural networks: state of art and future research needs. ISH Journal of Hydraulic Engineering, Vol. 15(1): 52-74.
4. Glory Joseph and **K Ramamurthy**, "Workability and Strength Behaviour of Concrete with Cold Bonded Fly Ash Aggregate" Materials and Structure, RILEM, Vol.42, No.2, March 2009, 151-160.
5. Glory Joseph and **K Ramamurthy**, "Influence of fly ash on strength and sorption characteristics of cold-bonded fly ash aggregate concrete", "Construction and Building Materials", vol.23, No.5, May 2009, 1862-1870.
6. J.Mora-Ruacho, **R Gettu** and A.Aguado, "Influence of Shrinkage-Reducing Admixtures on the Reduction of Plastic Shrinkage Cracking in Concrete" Cem. Concr. Res. V.39, 141-146 (2009).
7. Padmini, A.K., **Ramamurthy, K. and Mathews, M.S.** "Influence of parent concrete on the properties of recycled aggregate concrete" Construction and Building Materials, Vol.23, 2009, 829-836.
8. Ashok Kumar, S., and **Santhanam, M.**, "Damage of concrete in uniaxial compression - An evaluation using ultrasonic method and optical microscopy," Journal of Structural Engineering (SERC), Vol. 36, No. 1, 2009, pp. 22 - 28.
9. Prakash Nanthagopalan and **Manu Santhanam**, "A New Empirical Test Method for the Optimization of Viscosity Modifying Agent in Self Compacting Concrete", Materials and Structures, Vol.43, 2010, pp.203-210. Sengupta, A., and **Santhanam, M.**, "Influence of aggregate characteristics on uniformity of SCC," Indian Concrete Journal, Vol. 83, No. 6, 2009, pp. 50 - 60.
10. P. Harikrishna, N Lakshmanan and **Devdas Menon**, "Evaluation of force coefficients of 2-D square cylinder using unsteady nonlinear k-ε model", Journal of Wind and Engineering, Vol.6, No.1, pp 41-44, January 2009.
11. P Revathi and **Devdas Menon**, "Assessment of flexural strength of slender RC rectangular beams", Indian Concrete Journal, Vol.83, No.5, pp 15-24, May 2009.
12. Shivangi Gupta and **Veeraragavan A**, "Fatigue Behaviour of Polymer Modified Bituminous Concrete Mixes", Indian Roads Congress Journal, Vol. 70-1, 2009. pp 55-64
13. **Robinson, R. G.** and Soundara, B. (2009). Stress history of desiccated expansive soil. Indian Geotechnical Journal, 39(4), 387-398.

14. Suriya Prakash, S. and **Alagusundaramoorthy, P.** "Behaviour of Masonry Load Bearing Walls Retrofitted with GFRP Composites," *Journal of Structural Engineering*, SERC, India, 36, No.2 (2009), 397-405.
15. **Alagusundaramoorthy, P.** "Flexural Strengthening of Brick Masonry Walls Using Glass Fiber Fabric," *Journal of Institution of Engineers*, India, 89 (2009), 21-26.
16. Arun, O. C., **Rao, B.N.**, and Sivakumar, S.M., "Continuum Damage Growth Analysis Using Element Free Galerkin Method," *Sadhana*, 2010 (Accepted for Publication).
17. Rajesh, K.N., and **Rao, B.N.**, "Coupled Element Free Galerkin and Fractal Finite Element Method for Unbounded Problems," *Journal of Structural Engineering*, SERC, India, August–September 2010.
18. Rajesh, K.N., and **Rao, B.N.**, "Coupling of Fractal Finite Element Method and Meshfree MethodS for Mode I Crack Problems," *Journal of Structural Engineering*, SERC, India, Vol. 36, No. 6, pp. 409–424, February-March 2010.
19. Chowdhury, R., **Rao, B.N.**, and Prasad, A.M., "Stochastic Sensitivity Analysis Using HDMR and Score Function," *Sadhana*, Vol. 34, No. 6, pp. 967–986, December 2009.
20. Reddy, R.M., and **Rao, B.N.**, "Probabilistic Fracture Mechanics by Fractal Finite Element Method," *Journal of Structural Engineering*, SERC, India, Vol. 36, No. 3, pp. 212–225, August-September 2009.
21. Arun, O. C., **Rao, B.N.**, and Sivakumar, S.M., "On Material Discontinuity Modeling in Element Free Galerkin Method," *Journal of Structural Engineering*, SERC, India, Vol. 36, No. 3, pp. 182–194, August–September 2009.
22. **Sengupta A K** and Rao R M, "Qualification of Poisson's Effect in Reinforced Concrete Panels under In-plane Biaxial Tension – Compression" *Indian Concrete Journal*, The Associated Cement Companies Limited, Vol.83, No.1, pp. 25-32, January 2009.
23. Mamatha s and **Sengupta A K.** "Investigating the Effect of Site on Seismic Forces in Buildings", *Indian Concrete Journal*, The Associated Cement Companies Limited, Vol.83, No.5, pp 9-14, May 2009.
24. Gnanasekaran, K and **Sengupta A K,** "Seismic Retrofit of Columns in Buildings for Flexure using Concrete Jacket", *Journal of Earthquake Technology*, Indian Society of Earthquake Technology, Vol.46, No.2, June 2009
25. **Ramamurthy, K.** Nambiar, E.K.K. and Indu Sivaranjani, G. "A Classification of Studies on Properties of Foam Concrete" *Cement and concrete composites*, Volume 31, Issue 6, July 2009, 388-396.
26. Sengupta, A, and **Santhanam, M.**, "Influence of aggregate characteristics on uniformity of SCC", *Indian Concrete Journal*, Vol.83, No.6, 2009, pp.50-60.
27. A.Sreenivasa Rao, **G. Appa Rao,** "Fracture behavior and Toughness Indices of Fiber Reinforced Concrete under Mode II Loading", *JOSE; SERC, India*, 2009, V.36, No.2, pp.141-147.
28. **R. Gettu,** S.N. Shareef and K.J.D. Ernest, "Evaluation of the robustness of SCC", *Indian Concr J*, V.83, No.6, pp.13-19 (2009).
29. Glory Joseph and **K.Ramamurthy,** "Influence of fly ash on strength and sorption characteristics of cold-bonded fly ash aggregate concrete", *Construction and Building Materials*, vol.23, No.5, May 2009, 1862-1870.
30. Glory Joseph, and **Ramamurthy, K.** "Workability and Strength Behaviour of Concrete with Cold Bonded Fly Ash Aggregate" *Materials and Structures*, RILEM, Vol.42, No.2, March, 2009, 151-160.
31. Sridhanya, K V., **Rajagopal, K.** and Lakshmana Rao, C (2009), "Modelling of Degradation of Clayey Soils under Repeated Loading", *Indian Geotechnical Journal*, Vol.39, No.2, 39-152.
32. R.Zerbino, B.Barragan, T.Garcia, L.Agullo and **R Gettu,** "Workability Tests and Rheological Parameters in Self-Compacting Concrete", *Mater.Struct.*, V.42, pp.947-960 (2009).
33. Jaya, V., **Dodagoudar, G.R. and Boominathan, A,** "Seismic Response Analysis of Nuclear Island Building: A Case Study", *Journal of Structural Engineering*, Vol.36 (\$), pp.258-270, 2009.
34. Jaya, V., **Dodagoudar, G.R. and Boominathan, A,** "Seismic Soil-structure Interaction Analysis of Stack-Like Structure", *Indian Geotechnical Journal*, vol.39(1), pp.116-134, 2009.
35. Madheswaran, C.K. Sundaravadivelu, R., **Boominathan, A** and Natarajan, K., "Response of berthing structure due to underwater blasting for rock dredging", *Experimental Techniques*, Vol.33, No.3, pp.61-72, 2009.
36. Madheswaran, C.K., Sundaravadivelu, R.Natarajan, K. and **Boominathan,** "Effect of open and Concrete-Infilled Trenches on Screening Ground Vibration During Pile Driving", *Experimental Techniques*, vol.33, No.2, pp.43-51, 2009.
37. Chowdhury, R., and **Rao, B.N.**, "Assessment of High Dimensional Model Representation Techniques for Reliability Analysis," *Probabilistic Engineering Mechanics*, Vol. 24, No. 1, 2009, pp. 100–115

38. Chowdhury, R., and Rao, B.N., "Hybrid High Dimensional Model Representation for Reliability Analysis," *Computer Methods in Applied Mechanics and Engineering*, Vol. 198, 2009, pp.
39. Chowdhury, R., Rao, B.N., and Prasad, A.M., "High Dimensional Model Representation for Structural Reliability Analysis," *Communications in Numerical Methods in Engineering*, Vol. 25, No. 4, 2009, pp. 301–337.
40. Chowdhury, R., Rao, B.N., and Prasad, A.M., "Hybrid High Dimensional Model Representation for Failure Probability Estimation," *Journal of Structural Engineering*, SERC, India, August–September 2010.
41. Rao, B. N., Chowdhury, R., Prasad, A. M., Singh, R. K., and Kushwaha, H. S., "Probabilistic Characterization of AHWR Inner Containment using High Dimensional Model Representation," *Nuclear Engineering and Design*, Vol. 239, No. 6, 2009, pp. 1030-1041.
42. Rao, B.N., and Kuna, M., "Interaction Integrals for Thermal Fracture of Functionally Graded Piezoelectric Materials," *Engineering Fracture Mechanics*, Vol. 77, No. 1, 2010, pp. 37-50
43. Reddy, R.M., and Rao, B.N., "Fractal Finite Element Based Shape Sensitivity Analysis of Multiple Crack System," *Engineering Fracture Mechanics*, Vol. 76, No. 11, 2009, pp. 1636-1657
44. Pradip Sarkar, Maidhily Govind and Devdas Menon, "Estimation of short-term deflection in two-way RC slab", *Structural Engineering and Mechanics*, Vol. 31, No. 2, February 2009.
45. R. Elangovan, Ligy Philip (2009) Performance evaluation of various bioreactors for the removal of Cr(VI) and organic matter from industrial effluent. *Biochemical Engineering Journal* 44 Vol 2-3 (2009) 174-186
46. R. Elangovan, Ligy Phillip and K. Chandraraj (2009). Hexavalent Chromium Reduction by Free and Immobilized Cell-Free Extract of *Arthrobacter rhombi*-REo *Appl. Biochem. and Biotech* (Accepted)
47. R. Kerry Rowe, S. Rimal, D. N. Arnepalli, and R. J. Bathurst (2010). "Durability of Fluorinated High Density Polyethylene Geomembrane in the Arctic", *Geotextiles and Geomembrane* (In Press)
48. Ramakrishna and Ligy Philip (2009). Biodegradation of Mixed Pesticides by Mixed Pesticides Enriched Cultures. 1. *Env Sci and Health Part-B*, 44 (1), 1-13
49. Senthil Nathan and Ligy Philip (2009). Removal of Mixed Pesticides from Drinking Water System by Photodegradation using Suspend-d and Immobilized TiO₂. *J. Env Sci and Health Part-B*, 44 (3),
50. Anuj sharma, Lelitha Vanajakshi, Nageswara Rao, 'Effect of timers at signalized intersections under heterogeneous traffic conditions', *Journal of the Transportation Research Record* 2130, 2009, pp. 93-100
51. Gandhi P, Kumar S, Prasad A M and Murthy D S R (2009), "Fatigue Crack Growth and Fracture Studies on Straight pipes with circumferential surface notch", *Jnl of Struct. Engg.*, SERC, Vol. 35, No.5, pp 374-379.
52. Smitha M S and Kumar S (2009), "Semi-rigid Composite Flange Plate Connections", *Jnl of Struct. Engg.*, SERC, Vol. 36, No.4, pp.243-249.
53. John Albino and Indumathi M Nambi (2009), "Effect of biosurfactants on the aqueous solubility of PCE and TCE", *journal of Environmental Science and Health, Part A*, 44:14, 1565-1573.
54. John Albino and Indumathi M Nambi (2009), "Partial characterization of biosurfactant produced under anaerobic conditions by *Pseudomonas* sp ANBIOSURF" *Advanced Materials Research* Vols. 93-94 (2010) pp 623-632.
55. Uma Maheshwari, R, Boominathan A, and Dodagoudar G R (2010), "Use of surface waves in statistical correlations between shear wave velocity and standard penetration resistance of Chennai Soils," *Geotechnical and Geological Engineering Journal*, Vol.20, No.22, pp.119-137
56. Boominathan A and Krishnakumar K (2010), "A site specific study on evaluation of ground motion parameters", *International Journals of Geotechnical Earthquake Engineering*, Vol.,1, No.1, pp.1-24.

In Refereed International Journals:

1. Manu Santhanam and Pradeep Kumar, "Assessment of Concrete's Resistance to Chloride Penetration" *International Journal of 3R's*, Vol.1, No.1, 2010, pp.42-48.
2. Manikandan, R and Ramamurthy, K, "Influence of swelling characteristics of bentonite on pelletisation process and properties of flyash aggregates, *ASCE Journal of Materials in Civil Engineering*, Vol.21, No.10, October 2009, 578-586.
3. Nambiar, E.K.K. and Ramamurthy, K "Shrinkage behavior of foam concrete" *ASCE Journal of Materials in Civil Engineering*, Vol.21, No.11, November 2009, 631-636.
4. N.K. Rajan, V.Selvavathi, B.Sairam and J. Murali Krishnan, "Relationship between Gaestel Index and Rheology of Blended Bitumen", *International Journal of Pavement Research and Technology*, Accepted, 2010.

5. Venkaiah Chowdhary and **J. Murali Krishnan**, "A thermodynamic framework for modeling healing of asphalt mixtures", *International Journal of Pavement Research and Technology*, Accepted, 2010.
6. Murugesan, S and **Rajagopal, K** (2009) Shear Load Tests on Stone Columns With and Without Geosynthetic Encasement, *ASTM Geotechnical Journal*, vol.32, No.1, 76-85.
7. Murugesan, S and **Rajagopal, K** (2010) "Studies on the Behaviour of Single and Group of Geosynthetic Encased Stone Columns", *ASCE Journal of Geotechnical and Geoenvironmental Engineering*, vol.136, No.1, 1-11.
8. Parag Ravindran, **J. Murali Krishnan**, Eyad Masd and K.R. Rajagopal, "Modeling Sandasphalt Mixtures within a Thermodynamik Framework: Theory and Application to Torsion Experiments", *International Journal of Pavement Engineering*, 10 (2), 115-131, 2009.
9. Rao, S.M. and **Thyagaraj, T** (2010), "Single and double oedometer tests to estimate osmotic compression of clays", *International Journal of Geotechnical Engineering* (in press)
10. **Robinson, R G.** (2010) "Analysis of radial consolidation data using a log-log method", *Geotechnical Testing Journal*, ASTM (in press)
11. Soundara, B and **Robinson, R. G.** (2009), "Testing Method and swelling pressure of clays", *International Journal of Geotechnical Engineering, USA*, 3 (3), 439-444.
12. Venkaiah Chowdary and **J. Murali Krishnan**, "A thermodynamic framework for modeling healing of asphalt mixtures", *International Journal of Pavement Research and Technology* Accepted, 2010.
13. **Boominathan, A**, Rangaswamy, K. and **Rajagopal, K**, "Effect of Non-Plastic Fines on Liquefaction Resistance of Gujarat Sand", *International Journal of Geotechnical Engineering*, vol.4, No.2, pp.241-254, 2010.
14. Chandrasekaran S.S., **Boominathan A.**, and **Dodagoudar, G.R.**, "Group Interaction Effects on laterally loaded pile groups in clay, *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE, vol.136, No.4, pp.573-582, 2010.
15. Nambiar, E.K.K. and **Ramamurthy, K.** "Shrinkage behaviour of foam concrete" *ASCE Journal of Materials in Civil Engineering*, Vol.21, No.11, November 2009, 631-636.
16. Jayalekshmi, S. and **Rajagopal, K.** (2009) Modelling of geosynthetics using True Findley and Onaran and Findley models, *International Journal of Geotechnical Engineering*, J. Ross Publishing Inc., Vol. 3, No. 3, 405-415.
17. Madhavi Latha, G., Dash, S.K. and **Rajagopal, K.** (2009) Numerical Simulation of the Behaviour of Geocell Reinforced Sand in Foundations, accepted for publication in *ASCE International Journal of Geomechanics*, USA
18. Rajesh, K.N., and **Rao, B.N.**, "Coupled Meshfree and Fractal Finite Element Method for Mixed Mode Two-dimensional Crack Problems," *International Journal for Numerical Methods in Engineering*, DOI: 10.1002/nme.2910, 2010 (Accepted for Publication).
19. **Rao, B. N.**, Chowdhury, R., **Prasad, A. M.**, Singh, R. K., and Kushwaha, H. S., "Probabilistic Characterization of AHWR Inner Containment using High Dimensional Model Representation," *International Journal of Pressure Vessels and Piping*, doi:10.1016/j.ijpvp.2010.03.020, 2010 (Accepted for Publication).
20. **Rao, B.N.**, and Chowdhury, R., "Enhanced High Dimensional Model Representation for Reliability Analysis," *International Journal for Numerical Methods in Engineering*, Vol. 77, No. 5, 2009, pp. 719-750.
21. **Rao, B.N.**, and Kuna, M., "Erratum to Interaction integrals for fracture analysis of functionally graded piezoelectric materials", *International Journal of Solids and Structures*, doi.org/10.1016/j.ijsolstr.2010.01.001, 2010 (Accepted for Publication).
22. **Rao, B.N.**, and Kuna, M., "Erratum to: Interaction integrals for fracture analysis of functionally graded magnetoelastoelectroelastic materials", *International Journal of Fracture*, DOI 10.1007/s10704-010-9446-0, 2010 (Accepted for Publication).
23. Sajna, S., **Dodagoudar, G.** and **Rajagopal, K.** (2009) Random Field Modelling of Reinforced Retaining Walls, accepted for publication in the *International Journal of Geotechnical Engineering*, J. Ross Publishing Inc., USA.
24. Stratton, B. T., V. Sridhar, M. M. Gribb, J. P. McNamara and **B. Narasimhan.** 2009 Modelling the spatially varying water balance processes in a semiarid mountainous watershed of Idaho. *Journal of the American Water Resources Association*. 45(6): 1390-1408
25. R. Kerry Rowe, M. Z. Islam, R. W. I. Brachman and **D. N. Arnepalli** (2010). "Antioxidant Depletion from an HDPE Geomembrane under Simulated Landfill Conditions", *Journal of Geotechnical and Geoenvironmental Engineering*, ASCE (In Press).

26. Rao, S. M. and Thyagaraj, T. (2010). "Single and double oedometer tests to estimate osmotic compression of clays." *International Journal of Geotechnical Engineering*, (in press).
27. Ameena Salim, **Lelitha Vanajakshi** and Shankar Subramanian, 'Estimation of Average Space Headway under Heterogeneous Traffic Conditions, *International Journal of Recent Trends in Engineering*, 2010.
28. **Lelitha Vanajakshi**, Billy M. Williams, Laurence R. Rilett (2009), "An Improved Flow-Based Travel Time Estimation Method from Point Detector Data for freeways", *ASCE Journal of Transportation Engineering*, Vol. 135(1), pp. 26-36.
29. **Lelitha Vanajakshi**, Subramanian, S. C., and Sivanandan, R. (2009), "Travel time prediction under heterogeneous traffic conditions using GPS data from buses", *IET Journal on Intelligent Transportation Systems*, Vol. 3 (1), pp. 1-9.
30. Padmanaban, R.P.S., Divakar, **Lelitha Vanajakshi** And Subramanian, S.C., AN Automated Real Time Bus Arrival Time Prediction System Incorporating Delays, *IET Journal on Intelligent Transportation Systems*, Accepted for publication, 2010
31. **Manu Santhanam**, Y. Subba Rao, and Pradeep Kumar, "Performance Evaluation of Concrete Using Durability Indices," Keynote paper at International Conference on Advances in Materials and Techniques in Civil Engineering (ICAMAT 2010), VLB Janakiammal College of Engineering, Coimbatore, 7 - 9 January 2010
32. Stratton, Benjamin T., Venakataramana Sridhar, Molly M. Gribb, James P. McNamara, and **Balaji Narasimhan**, 2009. Modeling the Spatially Varying Water Balance Processes in a Semiarid Mountainous Watershed of Idaho. *Journal of the American Water Resources Association (JAWRA)* 45(6):1390-1408.
33. B.Kanagasabapathi, C.Rajendran, **K. Ananthanarayanan**, "Performance analysis of scheduling rules in resource-constrained multiple projects" *International Journal of Industrial and Systems Engineering*, Volume 4 - Issue 5 - 2009 pp 502- 535
34. R. Elangovan, **Ligy Philip** (2009) Performance evaluation of various bioreactors for the removal of Cr(VI) and organic matter from industrial effluent. *Biochemical Engineering Journal* 44,2-3 (2009) 174-186
35. R. Elangovan, **Ligy Philip** and K. Chandraraj (2009). Hexavalent Chromium Reduction by Free and Immobilized Cell-Free Extract of *Arthrobacter rhombi*-RE. *Appl. Biochem. and Biotech*, 160,1, 81-97
36. Ramakrishna and **Ligy Philip** (2009). Biodegradation of Mixed Pesticides by Mixed Pesticides Enriched Cultures. *J. Env Sci and Health Part-B*, 44 (1), 18-30
37. J. Senthil Nathan and **Ligy Philip** (2009). Removal of Mixed Pesticides from Drinking Water System by Photodegradation using Suspended and Immobilized TiO₂. *J. Env Sci and Health Part-B*, 44 (3), pp 262-270
38. Shihabudheen M. Maliyekkal, **Ligy Philip**, Predeep, T. (2009). As(III) Removal from Drinking Water Using Manganese Oxide-Coated-Alumina: Performance Evaluation and Mechanistic Details of Surface Binding. *Chemical Engineering journal*.153, 1-3, 101-107
39. S.I. Ali, K.R. Hall, K. Aronson, **Ligy Philip** (2009) Humanitarian Engineering in Mylai Balaji Nagar, Chennai, India: An Integrated Water, Environment, and Public Health Project for Slums of the Indian Subcontinent. *Desalination*, 248,1-3, 418-427
40. Somasundaram, V, **Ligy Philip**, Bhallamudi,S.M (2009). Experimental And Mathematical Modeling Studies on Cr(VI) Reduction by CRB, SRB and IRB, individually and in Combination. *Journal of Hazardous Materials*, 172, 2-3, 606-617
41. J. Senthil Nathan and **Ligy Philip** (2009). Removal of mixed pesticides from drinking water system using surfactant assisted nano TiO₂. *Air, water and Soil Pollution*. Doi: 10.1007/s11270-009-0230-6
42. R. Kerry Rowe, M. Z. Islam, R. W. I. Brachman and **D. N. Arnepalli** (2009). "Antioxidant Depletion from an HDPE Geomembrane under Simulated Landfill Conditions", *Journal of Geotechnical and Geoenvironmental Engineering*, *ASCE* (In Press).
43. R. Kerry Rowe, S. Rimal, **D. N. Arnepalli**, and R. J. Bathurst (2009). "Durability of Fluorinated High Density Polyethylene Geomembrane in the Arctic", *Geotextiles and Geomembrane* (In Press).
44. **D. N. Arnepalli**, B. Hanumantharao, S. Shanthakumar and D. N. Singh (2009). "Determination of Distribution Coefficient of Geomaterials and Immobilizing Agents", *Canadian Geotechnical Journal*, (In Press)
45. Soundhrajana, B. and **Sudheer, K. P.** (2009). Deficit Irrigation Management for Rice using Crop Growth Simulation Model in an Optimization Framework. *Paddy and Water Environment*, 7(3): 135-149.
46. **Goswami, R.**, and Murty, C.V.R., "Suitability of Tapered Flange I-Sections in Seismic Moment Resisting Frames," *Advanced Steel Construction— an International Journal*, Vol. 5, No. 3, September 2009, pp. 303-324.

47. Dinakar, P., Babu, K.G., and **Santhanam, M.**, "Corrosion resistance performance of high volume fly ash self compacting concretes," *Magazine of Concrete Research*, Vol. 61, No. 2, 2009, pp. 77 – 86.
48. Prakash Nanthagopalan and **Manu Santhanam**, "Experimental investigations on the influence of paste composition and content on the properties of Self-Compacting Concrete," *Construction & Building Materials*, Volume 23, No. 11, 2009, pp. 3443-3449.
49. Pradip Sarkar, Maidhily Govind and **Devdas Menon**, "Estimation of short-term deflection in two-way RC slab", *Structural Engineering and Mechanics*, Vol.31, No.2, February 2009
50. **S M Shiva Nagendra**, and Mukesh Khare (2009), Univariate stochastic model for predicting carbon monoxide on an urban roadway. *International Journal of Environmental Engineering* 2009 – Vol.1, No.3 pp 223-237
51. **Lelitha Vanajakshi**, Subramanian, S. C., and **Sivanandan, R.** (2009), "Travel time prediction under heterogeneous traffic conditions using GPS data from buses", *IET Journal on Intelligent Transportation Systems*, Vol. 3 (1), pp. 1-9.
52. **Lelitha Vanajakshi**, Billy M. Williams, Laurence R. Rilett (2009), "An Improved Flow-Based Travel Time Estimation Method from Point Detector Data for freeways", *ASCE Journal of Transportation Engineering*, Vol. 135(1), pp. 26-36.
53. Anuj sharma, **Lelitha Vanajakshi**, **Nageswara Rao**, 'Effect of timers at signalized intersections under heterogeneous traffic conditions', *Journal of the Transportation Research Record* 2130, 2009, pp. 93-100.
54. **Suresh Kumar G** (2009), 'Influence of Sorption Intensity on Solute Mobility in a Fractured Formation". *Journal of Environmental Engineering (ASCE)*, 135(1), pp 1-7.
55. Singh, L.B., and **Satyanarayana Kalidindi** (2009), "Desirability rating analysis for debt financing of public-private partnership road projects," *Construction Management and Economics*, (September 2009) Vol.27, pp.823-837.
56. Singh L.B., and **Satyanarayana Kalidindi**, (2009), "Criteria Influencing Debt Financing of Indian PPP Road Projects – a Case Study", *Journal of Financial Management of Property and Construction*, Vol.14, No.1, pp. 34-60.
57. Gaspar L, **Veeraragavan A** and Bako, A, "Comparison of road pavement performance modeling of India and Hungary", *Acta Technica Jaurinensis International Journal*, Hungary. Vol.2 No.1, 2009.
58. Anjan Kumar S, **Murali Krishnan J**, **Veeraragavan A**, "Steady Shear Properties of a Class of aged bitumens," *Efficient Transportation and Pavement Systems*, CRC Press, Tylor and Francis, 2009.
59. **Robinson, R. G.** (2009). Analysis of Radial Consolidation Test data Using a log-log method, *Geotechnical Testing Journal*, ASTM, 32(2), 119-125.
60. Soundara, B. and **Robinson, R. G.** (2009). Influence of Test method on swelling pressure of compacted soil, *International Journal of Geotechnical Engineering*, 3(3), 439-444.
61. Purushotham Reddy, B., **Alagusundaramoorthy, P.**, and Sundaravadivelu, R. "Retrofitting of RC Piles using GFRP Composites," *KSCE Journal of Civil Engineering*, 13(1), (2009) 39-47.
62. Suneel kumar M., **Alagusundaramoorthy, P.**, and Sundaravadivelu, R. "A Novel Setup for Testing of Ship Deck Stiffened Panels under Axial and Lateral Loads," *Journal of Testing and Evaluation*, 7, Nos. 2 (2009), 1-15.
63. Suneel kumar M., **Alagusundaramoorthy, P.**, and Sundaravadivelu, R. "Ultimate Strength of Stiffened Plates with a Square Opening under Axial and Out-of-Plane Loads," *Journal of Engineering Structures*, 31, (2009), 2568-2579.
64. Suneel kumar M., **Alagusundaramoorthy, P.**, and Sundaravadivelu, R. "Interaction Curves for Stiffened Panel with Circular Opening under Axial and Lateral Loads," *Journal of ship and Offshore Structures*, 4, No. 2 (2009), 133-143.
65. Suneel kumar M., Lavana Kumar, C., **Alagusundaramoorthy, P.**, and Sundaravadivelu, R. "Ultimate Strength of Orthogonal Stiffened Plates Subjected to Axial and Lateral Loads," *KSCE Journal of Civil Engineering*, Paper No. 12205 (2009)
66. **Rao, B. N.**, Chowdhury, R., **Prasad, A. M.**, Singh, R. K., and Kushwaha, H. S., "Probabilistic Characterization of AHWR Inner Containment using High Dimensional Model Representation," *International Journal of Pressure Vessels and Piping*, 2010 (Accepted for Publication).
67. Rajesh, K.N., and **Rao, B.N.**, "Coupled Meshfree and Fractal Finite Element Method for Mixed Mode Two-dimensional Crack Problems," *International Journal for Numerical Methods in Engineering*, 2010 (Accepted for Publication).

68. Chowdhury, R., Rao, B.N., and Prasad, A.M., "High Dimensional Model Representation for Structural Reliability Analysis: Authors' Reply to Comments by S. Rahman and H. Xu," *Communications in Numerical Methods in Engineering*, 2010 (Accepted for Publication).
69. Rao, B.N., and Kuna, M., "Erratum to Interaction integrals for fracture analysis of functionally graded piezoelectric materials", *International Journal of Solids and Structures*, doi.org/10.1016/j.ijsolstr.2010.01.001, 2010 (Accepted for Publication).
70. Rao, B.N., and Kuna, M., "Erratum to: Interaction integrals for fracture analysis of functionally graded magnetoelastoelectric materials", *International Journal of Fracture*, DOI 10.1007/s10704-010-9446-0, 2010 (Accepted for Publication).
71. Rao, B.N., and Kuna, M., "Interaction Integrals for Thermal Fracture of Functionally Graded Piezoelectric Materials," *Engineering Fracture Mechanics*, Vol. 77, No. 1, 2010, pp. 37-50.
72. Rao, B. N., Chowdhury, R., Prasad, A. M., Singh, R. K., and Kushwaha, H. S., "Probabilistic Characterization of AHWI Inner Containment using High Dimensional Model Representation," *Nuclear Engineering and Design*, Vol. 239, No. 6, 2009, pp. 1030-1041.
73. Reddy, R.M., and Rao, B.N., "Fractal Finite Element Based Shape Sensitivity Analysis of Multiple Crack System," *Engineering Fracture Mechanics*, Vol. 76, No. 11, 2009, pp. 1636-1657.
74. Gowri A, Venkatesan K, and Sivanandan R, "Object-Oriented Methodology for Intersection Simulation Model under Heterogeneous Traffic Conditions," *Advances in Engineering Software*, Vol.40, Issue 10, pp. 1000-1010, 2009
75. Sudheer K P, Gowda P H Chaubey I and Howell T A (2010), "Artificial Neural Network approach for mapping contrasting tillage practices, *Remote Sensing*, 2(2), 579-590, doi:10.3390/rs2020579.
76. Mohanty S, Jha M K, Kumar A and Sudheer K P, (2010), Artificial Neural Network Modeling for Groundwater Level Forecasting in Kathajodi River Basin of Orissa, India. *Water Resources Management*.
77. Cibin R, Sudheer K P and Chaubey I (2010), Sensitivity and Identifiability of stream flow generation parameters of the SWAT model. *Hydrological Processes*.
78. Maier H R, Jain A, Dandy G C and Sudheer K P (2010), "Methods used for the development of neural networks for the prediction of water resources variables in river systems: Surrent status and future directions. *Environmental Modeling and Software*.
79. Vedagiri P and Thamizh Arasan, "Modelling Modal Shift Due to the Enhanced Level of Bus Service," *Transport Journal*, Volume 24, No.2, pp 121-128, April-June 2009.
80. V Thamizh Arasan and G Dhivya, "Measuring Heterogeneous Traffic Density", *International Journal of Natural Sciences and Engineering*, Volume 1:2, Spring 2009, pp 70-74.
81. Goswami, R., and Murty, C.V.R., "Externally Reinforced Welded I-Beam-to-Box-Column Seismic Connection," *Journal of Engineering Mechanics*, ASCE, Vol. 136, No. 1, January 2010, pp. 23-30.
82. Senthilkumar V. & Varghese, K., Structured Methodology to Formulate Drawing Dependency Structure Matrix (DDSM) for Construction Projects *International Journal of Architectural and Design Management Volume 5, Number 4, 2009 , pp. 225-248(24) Earth Scan Publishers*.
83. C. Mallikarjuna and S. T.G. Raghū Kanth (2010), Forecasting the Air traffic for north-east Indian cities. *Advances in Adaptive Data Analysis*,2(1),81-96.
84. S. T. G. Raghū Kanth and R. N. Iyengar (2009), Engineering source model for simulating Strong Motion Accelerograms. *Soil Dynamics and Earthquake Engineering*, 29(3), 483-503.
85. S. T.G. Raghū Kanth, and S. N. Somala (2009), Modelling of strong motion data in northeastern India: Q, Stress drop and site amplification. *Bulletin of Seismological Society of America* ,99, 2A, 705-725.
86. S. T.G. Raghū Kanth, K. D. Singh and Pallav, K. (2009), Deterministic seismic scenarios for Imphal city. *Pure and Applied Geophysics*, 166,1-32.
87. S. T. G. Raghū Kanth and S. K. Dash (2010), Evaluation of seismic soil liquefaction at Guwahati city. *Environmental Earth sciences*, DOI 10.1007/s12665-009-0347-3.
88. S. T. G. Raghū Kanth and S. K. Dash (2010), Seismic scenarios for Northeastern India. *Journal of Seismology*, 14(2), 143-167.
89. S.T.G. Raghū Kanth (2010), Estimation of Seismicity parameters for India. *Seismological Research Letters*,82(2),207-217
90. R. N. Iyengar and S. T. G. Raghū Kanth (2009), Empirical forecasting of 2009, Indian Monsoon Rainfall, *Current Science*, 97(1).

In Proceedings of National Conferences:

1. S. Bhaskar, **R. Gettu**, B.H. Bharatkumar and M. Neelamegam, "Comparison of Corrosion in Reinforced Pre-cracked Members of OPC and PPC Concretes", *Proc. National Seminar on Advances in Construction Engineering Practice*, Dept. of Civil and Structural Engineering, Annamalai University, Annamalai Nagar, Tamil Nadu, India, pp. 71-78 (2010).
2. B. Eshete and **R. Gettu**, "Development of Economical Self-Compacting Concrete", *Proc. National Conf. on Advances in Steel, Concrete and Composite Structures*, Dept. of Civil Engng., Government College of Technology, Coimbatore, India, pp. B-38 – B-42 (2009).
3. **R. Gettu**, "Application of Self-Compacting Concrete", *Proc. National Conf. on Advances in Steel, Concrete and Composite Structures*, Dept. of Civil Engng., Government College of Technology, Coimbatore, India, pp. 1-6 (2009).
4. C. Jayasree and **R. Gettu**, "Study of the Flow Behaviour of Superplasticized Paste and Concrete", *Proc. National Conf. on Advances in Steel, Concrete and Composite Structures*, Dept. of Civil Engng., Government College of Technology, Coimbatore, India, pp. A-9 – A-13 (2009)
5. Nitya, M., Gandhi, S. R. and D. N. Arnepalli., "Effect of pH on Sorption Characteristics of Bentonite", Abstract Accepted for 6th ICEG2010. November 8 - 12, 2010, New Delhi, India
6. **Santhanam, M.**, "Ultrasonic Characterization of Damage in Concrete," Invited paper at the National Seminar on Frontiers of Engineering (NatFoE 2009), Kalpakkam, September 2009
7. M. Sivaprakasam, **R. Gettu** and **K. Varghese**, "Productivity Improvement in the Fabrication of Tunnel Lining Segments for the Tapovan Vishnugad Hydropower Project", *Proc. National Conf. on Advances in Steel, Concrete and Composite Structures*, Dept. of Civil Engng., Government College of Technology, Coimbatore, India, pp. A-4 – A-8 (2009).
8. Manju G Nair and **K.Ramamurthy**. "Influence of light pipes on interior daylight enhancement", Proceedings of the International conference on Sustainable Architecture, 9th to 11th January 2009, Trivandrum, Organised by the Indian Institute of Architects, Trivandrum centre, pp 36-43.
9. Bindhu, V. M. and **B. Narasimhan**. 2009. Sensitivity analysis of latent heat flux estimates to the selection of anchor pixels using SEBAL. Indian Society of Remote Sensing (ISRS) symposium, Sep.17-19, 2009, Nagpur
10. Bindhu, V. M. and **B. Narasimhan**. SENSITIVITY ANALYSIS OF LATENT HEAT FLUX ESTIMATES TO THE SELECTION OF ANCHOR PIXELS USING SEBAL. Indian Society of Remote Sensing (ISRS) symposium, Sep.17-19, 2009, Nagpur, INDIA.
11. **Santhanam, M.**, "Ultrasonic Characterization of Damage in Concrete," Invited paper at the National Seminar on Frontiers of Engineering (NatFoE 2009), Kalpakkam, September 2009.
12. Harikrishna, P., Lakshmanan N and **Devdas Menon**, "Experimental and Numerical Evaluation of Wind Induced Response of a square Building", proceedings of the 5th National Conference on Wind Engineering, Surat, India, 4th-6th November, pp.307 – 316.
13. E. Rajasekar and **A Ramachandraiah**, "Acoustical aspects of Green Buildings" Best Paper Award – Acoustical Society of India – November 2009.
14. R Kalai Selvi and **A. Ramachandraiah**, "Traffic estimation for elevated structures – National Symposium on Acoustics – November 2009
15. **Robinson, R. G.** (2009). Laboratory Tests in Forensic Investigations. Proc. Of the National Workshop on Forensic Geotechnical Engineering, IISc Bangalore, 12th September 2009.
16. Soundara, B. and **Robinson, R. G.** (2009). Uplift force on piles in expansive soils. Infrastructure Development on Expansive Soils. Index 2009, Hosur, 271-280.
17. Bushra, I. and **Robinson, R.G** (2009). Shear strength behaviour of cement treated marine clay at optimum total clay water content. International conference on Advances in Structural, Concrete and Geotechnical Engineering-2009, Oct 25-27, BITS Pilani, India, p.56.
18. Bushra, I. and **Robinson, R.G** (2009). Consolidation Behaviour of a cement stabilised marine soil- IGC -2009, Guntur, AP, 431-434.
19. **Sengupta A K**, "Retrofitting of Structures – principles and Applications", Proceedings of Abstracts, 2nd India Disaster Management Congress, National Institute of Disaster Management, New Delhi, November 4 to 6, 2009.
20. Mahajan M A, Appa Rao G and **Sengupta A K**, "Numerical Studies on Behaviour of Exterior RC Beam-Column Joints under Cyclic Loading", Proceedings of Abstracts, Student Symposium on Research in Civil Engineering, IIT Madras, March 5 to 6 2009, No. STR 68, pp 143-144.

21. Rajeevan B and **Sengupta A K**. "Modelling of Kinking Effect in Reinforced Concrete Panels under Uniaxial Tension", Proceedings National Conference on Trends and Challenges in Structural Engineering and Construction Technologies, Central Building Research Institute, Roorkee, February 11 to 12, 2009, pp. 46-55.
22. Anusha S P and **Sivanandan R**, "Effect of Vehicular Characteristics on Emissions under Heterogeneous Traffic Conditions," National Conference on Recent Innovations in Technology (NCRIT 09), Rajiv Gandhi Institute of Technology, Kottayam, Kerala, India 2009.
23. Jaya V, **Dodagoudar G R and Boominathan A** (2009), "Seismic Response Analysis of Nuclear Island Building", Proceedings of Indian Geotechnical Conference 2009
24. Rangaswamy K, **Boominathan A and Rajagopal K** (2009), "Comparative Study on Liquefaction Resistance of Sand and Silt Soil", Proceedings of Indian Geotechnical Conference 2009, Guntur, Andhra Pradesh, pp.536-540.
25. Ayothiraman R and **Boominathan A** (2009), "Equation for Effective Pile Length under Dynamic Lateral Loads", Proceedings of Indian Geotechnical Conference 2009, Guntur, Andhra Pradesh, pp.731-734.
26. Devasena M and **Indumathi M Nambi**, Subsurface Contamination by elemental mercury – *Student Symposium on "Research in Civil Engineering"*, 5-6 March, 2009, Indian Institute of Technology Madras, Chennai, India.
27. Devasena M and Indumathi M Nambi, **Influence of porous media and fluid properties on mercury entrapment in subsurface -Indo German Students Workshop on hydro-science and engineering, 11th March 2010, Indian Institute of Technology Madras, Chennai, India.**
28. Albino D J and **Nambi I M**, Biodegradation of tetrachloroethylene by cometabolic dechlorination under anaerobic conditions, *97th Indian Science congress*, 3-7th January, 2010, Thiruvananthapuram, Kerala, India. (Poster Presentation)
29. Albino D J and **Nambi I M**, Dechlorination of tetrachloroethylene by a contaminated groundwater enrichment, *Student Symposium on Research in Civil Engineering*, 5-6 March, 2009. Indian Institute of Technology Madras, Chennai, India.

In Proceedings of International Conferences:

1. Biswanath Saha, Sonal Maheswari, P. Senthivel, N. V. Choudury and **J. Murali Krishnan**, "Steady Shear Properties of Crumb Rubber Modified Bitumen", *Asphalt Rubber 2009*, 2 - 4, November 2009, Nanjing, China
2. C. Jayasree and **R. Gettu**, "Cement-Superplasticizer Interaction and Its Effect on the Flow Behaviour of Superplasticized Paste and Concrete", *Proc. 3rd Symp. on Chemical Admixtures for Concrete* (Ankara), Chamber of Civil Engineers, Ankara, Turkey, pp. 179-200 (2009).
3. Nitya, M., **Gandhi, S. R. and D. N. Arnepalli.**, "Determining the suitability of locally available soil as a linear material", Full length paper accepted for publication in *3rd International Perspective on Current and Future State of Water Resources & the Environment*, January 5-7, 2010 IIT Madras, Chennai, India.
4. Soundara, B. and **Robinson, R. G.** (2009). Consolidation behaviour of desiccated expansive soils. *4th Asia-Pacific Conference on Unsaturated Soils.*, 23-25 Nov. 2009, New Castle, Australia
5. **Devdas Menon** and D Navaneeth Kumar, "Reliability of water tank reinforced concrete elements under direct tension and flexure", Proceedings of the 10th International Conference on Structural Safety and Reliability (ICOSSAR 2009), Osaka, Japan, September 13 to 17, 2009, published by Taylor & Francis, pp. 3191 – 3198.
6. **Santhanam, M.** and Yeleti, S., "Advances in Ultrasonic Characterization of Concrete at IIT Madras," Invited paper at the International Conference on Advances in Mechanical and Building Sciences (ICAMB 2009), VIT Vellore, 14 - 16 Dec 2009.
7. M. K. Divya, P. S. Divya and **J. Murali Krishnan**, "Steady Shear Properties of Polymer Modified Binders", EM09-EM101-292, *4th International Conference on Experimental Mechanics*, 18 -- 20, November 2009, Singapore.
8. C. Jayasree, **J. Murali Krishnan** and **R. Gettu**, "On The Rheological Characterisation of Superplasticized Cement Paste", *Proc. International Conf. on Advances in Concrete, Structures and Geotechnical Engineering*, Birla Institute of Technology & Science, Pilani, Rajasthan, India, 12 p. (2009).
9. Santosh Kumar Reddy, Padma Rekha and **J. Murali Krishnan**, "Asphalt Transitions in the 20 - 90°C range", *The 6th International Conference on Maintenance and Rehabilitation of Pavement and Technological Control*, Politecnico di Torino, Torino Italy, July 8 - 10, 2009.
10. R.Gopinath and **R. Gettu**, "Effects of Chemical Admixtures on the Shrinkage of Cement Mortar", *Proc. International Conf. on Advances in Concrete, Structures and Geotechnical Engineering*, Birla Institute of Technology & Science, Pilani, Rajasthan, India, 7 p. (2009).

11. R. Gopinath and R. Gettu, "Influence of Shrinkage Reducing Admixtures on Restrained Shrinkage Cracking", *Proc. International Conf. on Advances in Materials and Techniques in Civil Engineering*, V.L.B.Janakiammal College of Engng. and Tech., Coimbatore, India, pp. 181-187 (2010).
12. Manu Santhanam, Y. Subba Rao, and Pradeep Kumar, "Performance Evaluation of Concrete Using Durability Indices," Keynote paper at International Conference on Advances in Materials and Techniques in Civil Engineering (ICAMAT 2010), VLB Janakiammal College of Engineering, Coimbatore, 7 - 9 January 2010
13. V. Ponmalar, K. Ganesh Babu and R. Gettu, "Strengthening of Structural Elements with Fiber Reinforced Polymer Laminates", *Proc. International Conf. on Advances in Concrete, Structures and Geotechnical Engineering*, Birla Institute of Technology & Science, Pilani, Rajasthan, India, 6 p. (2009).
14. V.V. Rambabu, Maganti Janardhana and R. Gettu, "Study of the Compatibility between a Superplasticizer and Portland Pozzolona Cements", *Proc. International Conf. on Advances in Concrete, Structures and Geotechnical Engineering*, Birla Institute of Technology & Science, Pilani, Rajasthan, India, 7 p. (2009).
15. Arun, O.C., Rao, B.N., and Sivakumar, S.M., "Statistical Moment Calculation in Elasto-Plastic Stochastic Damage Growth Analysis," African Conference on Computational Mechanics-An International Conference, Sun City, South Africa, January 07-11, 2009.
16. Balu, A.S., and Rao, B.N., "High Dimensional Model Representation Based Fuzzy Analysis," Third International Congress on Computational Mechanics and Simulation (ICCMS-09), 1-5 December 2009, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India.
17. Chowdhury, R., and Rao, B.N., "Probabilistic Stability Analyses of Earth Slopes," Third International Congress on Computational Mechanics and Simulation (ICCMS-09), 1-5 December 2009, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India.
18. Chowdhury, R., Rao, B.N., and Meher Prasad, A., "HDMR based Stochastic Finite Element Analysis for Random Field Problems," International Conference on Structural Safety and Reliability (ICOSSAR2009), Osaka, Japan, September 13-17, 2009
19. Chowdhury, R., Rao, B.N., and Meher Prasad, A., "Stochastic Finite Element Based Seismic Risk Analysis of Nonlinear Structures," SEI 2009 Structures Congress, Texas, Austin, USA, April 29-May 2, 2009.
20. Ghose, M.D., Lakshmana Rao, C., and Rao, B.N., "Numerical Modelling of Fracture in Particulate Concrete in Compression Using Unit Cell Approach," Third International Congress on Computational Mechanics and Simulation (ICCMS-09), 1-5 December 2009, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India.
21. Ghose, M.D., Lakshmana Rao, C., and Rao, B.N., "Numerical Modelling of Fracture in Concrete Using Unit Cell Approach," 2nd ECCOMAS Thematic Conference on the Mechanical Response of Composites (Composites2009), Imperial College London, UK, 1-3 April 2009
22. Mukherjee, D., Meher Prasad, A., and Rao, B.N., "Parametric Study of Unreinforced Masonry Under In-Plane Loading Using Mesoscale Approach," Third International Congress on Computational Mechanics and Simulation (ICCMS-09), 1-5 December 2009, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India
23. Rajesh, K.N., and Rao, B.N., "Coupled EFGM and FFEM for Fracture Analysis," African Conference on Computational Mechanics-An International Conference, Sun City, South Africa, January 07-11, 2009
24. Rao, B.N., "Interaction integrals for fracture analysis of functionally graded piezoelectric materials subject to thermo-electro-mechanical loads," Third International Congress on Computational Mechanics and Simulation (ICCMS-09), 1-5 December 2009, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India.
25. Rao, B.N., and Kuna, M., "Interaction Integrals for Cracks in Functionally Graded Magnetoelastoelectroelastic Materials," 12th International Conference on Fracture (ICF 12), July 12-17, 2009, Ottawa, ON, Canada.
26. Sivakumar, M. V. N., Rao, B. N., and Satishkumar, S. R., "Probabilistic Fracture Assessment of Through-Wall Cracked Pipes Using High Dimensional Model Representation and Strain-Based Approach," Third International Congress on Computational Mechanics and Simulation (ICCMS-09), 1-5 December 2009, Indian Institute of Technology Bombay, Powai, Mumbai-400 076, India.
27. V. T. Thushara and J. Murali Krishnan, "An Integrated Approach to Modeling Rutting in Flexible Pavements", 7th International RILEM Symposium on Advanced Testing and Characterization of Bituminous Materials (ATCBM09), 27 - 29, May 2009, Rhodes, Greece.
28. Devkar, G., Mahalingam, A., and Kalidindi, S. N., "Analyzing the Institutional Framework for Urban Public Private Partnerships in Indian States", ASCE 2009 Construction Research Congress, Seattle, USA, 5-7, April 2009.

29. Ramaswamy, K. P. and Kalidindi, S. N., "Waste in Indian Building Construction Projects," 17th International Group for Lean Construction Conference, Taipei, Taiwan, 15-17 July 2009
30. Bindhu, V. M. and B. Narasimhan. 2010. Sensitivity analysis of surface energy fluxes estimated by SEBAL. 3rd International Perspective on Current & Future State of Water Resources & the Environment
31. Narasimhan. B., P.M. Allen, J. G. Arnold and R. Srinivasan. 2009. Improved physically based approaches for channel erosion modelling in SWAT. 5th International SWAT conference, Aug.5-7, 2009, University of Colorado, Boulder, USA.
32. Narasimhan. B., R. Srinivasan, S. Bednarz, and M. Ernst. 2009. Hydrologic modeling of Cedar Creek Reservoir using SWAT. 5th International SWAT conference, Aug.5.7 2009, University of Colorado, Boulder, COLORADO
33. Narasimhan. B., P.M. Allen, M. Ernst, J. Dunbar, S. Bednarz, J. G. Arnold and R Srinivasan. 2009. Channel erosion and water quality modelling using SWAT. 5th International SWAT conference, Aug.5-7, 2009, University of Colorado, Boulder COLORADO
34. Ameen Padiath, Lelitha Vanajakshi and Shankar C. Subramanian, "Estimation of traffic density under Indian traffic conditions," Transportation Research Board, National Research Council, Washington, D. C., 2010
35. Kalidindi, S. N. and Singh, L. B., "Financing Road Projects in India using PPP Scheme", Mid Continent Transportation Research Symposium 2009, Iowa State University, Ames, Iowa, USA, 20-21, August 2009.
36. Lelitha Vanajakshi, Anuj sharma, Lakshmi, R., 'Red Light Violation Characteristics Under Heterogeneous Traffic Conditions', *Transportation Research Board*, National Research Council, Washington, D. C., 2010
37. Lee, T., Rister, M. E., Narasimhan, B., Srinivasan, R., Andrew, D., and Ernst, M. R. Spatially Distributed and Cost Effective BMP Analyses to Reduce Phosphorous Level in Cedar Creek Reservoir, TX. 5th International SWAT conference, Aug.5-7, 2009, University of Colorado, Boulder, COLORADO.
38. Senthilnathan J and Ligy Philip (2009). Investigation on Degradation of Methyl Parathion using Visible Light in the Presence of Cr³⁺ and N-Doped TiO₂. Semiconductor Photocatalyst. International Conference on Functionalized and Sensing Materials (FuSeM 2009), 7-9 December 2009 - Bangkok – Thailand.
39. Senthilnathan.J, and Ligy Philip (2009), Photocatalytic degradation of pesticide from drinking water system under visible and UV light: A comparative study. International conference on water harvesting, storage and conservation. 23-25, November, 2009. Indian Institute of Technology, Kanpur.
40. Balasubramaniam, V., Ligy Philip and Murty, B.S (2009). Biodegradability studies of VOC's from Pharmaceutical Industry
41. Nithya, K. M., Gandhi, S. R. and D. N. Amepalli., "Effect of pH on Sorption Characteristics of Bentonite", Full length paper submitted for 6th International Congress on Environmental Geotechnics (6th ICEG-2010), November 8 - 12, 2010, New Delhi, India.
42. Athira, P., Cibir, R., Sudheer, K. P. and Chaubey, I. (2009). "A multi-criterion based approach to quantify predictive uncertainty of distributed hydrologic models when applied to ungauged basins". AOGS-2009, Asia Oceania Geosciences Society Annual International Meeting, Singapore (August 11-15).
43. Athira, P., Sudheer, K. P. and Chaubey, I. (2009). "Regionalization of Parameter Probability Density Function of Distributed Watershed Models for their Application in Ungauged Basin Simulations." American Society of Agricultural and Biological Engineers Annual International Meeting, Reno, NV, USA (June 21-June 24).
44. Athira, P., Sudheer, K. P. and Chaubey, I. (2009). "Predictions in Ungauged Basins using Distributed Hydrologic Models: Regionalization of Parameters and Quantification of Predictive Uncertainty" American Geophysical Union Joint Assembly, Toronto, Canada (May 24-27). (Selected for AGU Berkner Fellowship).
45. Prakash O., Sudheer K. P., and Srinivasan, K. (2009). "Sequential Neural Network with Error updating for Improved Higher Lead time Flood Forecasts" Proceedings of the International Conference on Water, Environment, Energy and Society (WEES09), New Delhi, January 12-16, 2009, pp: 745-751.
46. Soundharajan, B and Sudheer, K. P. (2009). "Irrigation Water Management using a Dynamic Crop Growth Model" Proceedings of the International Conference on Water, Environment, Energy and Society (WEES09), New Delhi, January 12-16, 2009, pp: 1749-1754.
47. Goswami, R., "Steel Moment-Connections in High Seismic Regions," First International Seminar on Structural Steel for Civil Construction, 12 June 2009, Kathmandu, ToSE-Nepal, Vol. II, pp. 1-13.
48. Santhanam, M. and Yeleti, S., "Advances in Ultrasonic Characterization of Concrete at IIT Madras," Invited paper at the International Conference on Advances in Mechanical and Building Sciences (ICAMB 2009), VIT Vellore, 14 – 16 Dec 2009.

49. Devdas Menon and D Navaneeth Kumar, "Reliability of water tank reinforced concrete elements under direct tension and flexure", Proceedings of the 10th International Conference on Structural Safety and Reliability (ICOSSAR 2009), Osaka, Japan September 13 to 17, 2009 published by Taylor & Francis, pp. 3191-3198.
50. Shiva Nagendra S M and Deepa A, 2010. Statistical distribution models for residential air quality management. In proceedings of 6th Annual meeting of the Asia Oceania Geosciences Society (AOGS) held during 11th to 15th August 2009 in Singapore
51. Shiva Nagendra S M and Mukesh Khare, 2009. Comparative evaluation of Gaussian, Stochastic and artificial neural network based line source models. In Proceedings of the Fourth Indian International Conference on Artificial Intelligence (IICAI-2009), Siddaganga Institute of Technology, Tumkur (near Bangalore), Karnataka, December 16-18, 2009.
52. Padmanabhan, R.P.S., Lelitha Vanajakshi and Subramanian, S.C., 'Dwell Time Incorporated Bus Travel Time Prediction Model For APTS Applications', IEEE Intelligent vehicles symposium, China, 2009.
53. Ameena Padiath, Lelitha Vanajakshi, Shankar Subramanian and Harishreddy Manda, 'Prediction of Traffic Density for Congestion Analysis under Indian Traffic Conditions,' IEEE Intelligent Transportation Systems Conference, USA, 2009.
54. Padmanabhan, R.P.S., Lelitha Vanajakshi and Subramanian, S.C., 'Automated Delay Identification for Bus Travel Time Prediction towards APTS Applications', IEEE sponsored International Conference on Emerging Trends in Engineering & Technology, India, 2009.
55. Anuj sharma, Lelitha Vanajakshi, Nageswara Rao, 'Effect of timers at signalized intersections under heterogeneous traffic conditions', Journal of the Transportation Research Record 2130, 2009, pp. 93-100.
56. Hariharaputhiran, H., and Saravanan U, Experiments to find constitutive relation for materials undergoing large deformations, International Conference on Experimental Mechanics, Singapore, November 2009
57. Sreenath S, Saravanan U, and Kalyanaraman V, Ultimate Load Analysis of Structural Components Using Beam and Shell Elements, ICCMS, IIT Bombay, December 2009
58. Natarajan N and Suresh Kumar G, "Impact of fluid velocity on matrix diffusion in a fractured media", III WORLD AQUA CONGRESS, 2-4 December 2009, New Delhi, India
59. Kalidindi, S.N. and Singh L.B., "Financing Road Projects in India Using PPP Scheme", Mid Continent Transportation Research Symposium 2009, Iowa State University, Ames, Iowa, USA, 20-21, August 2009.
60. Ramaswamy K P and Kalidindi S.N., "Waste in Indian Building Construction Projects," 17th International Group for Lean Construction Conference, Taipei, Taiwan, 15-17, July 2009.
61. Devkar G., Mahalingam A., and Kalidindi S N., "Analyzing the Institutional Framework for Urban Public Private Partnerships in Indian States", ASCE 2009 Construction Research Congress, Seattle, USA 5-7, April 2009.
62. A Ramachandraiah and R K Selvi, "Noise radiation from elevated structures – Paper presented at Acoustical Society of America – Portland – June 2009.
63. Deepa, B. R. and Robinson, R. G. (2009). Deformation behaviour of Soil Under Vacuum Consolidation. Proc. International Symposium on Ground Improvement Technologies and Case Histories, Singapore, 475-482.
64. Bhuvaneshwari, S., Robinson, R. G and Gandhi, S. R (2009). Cyclic swell -shrink behaviour of lime column stabilised expansive soils. 4th Asia Pacific Conference on Unsaturated Soils, Newcastle Australia 23th-25th November 2009, pp. 427-432
65. Rao G A Mahajan M A and Sengupta A K, "Numerical Studies on Behaviour of RC Exterior Beam-Column Joints under Cyclic Loading", Spring Convention, American Concrete Institute, San Antonio, USA, March 15 to 19, 2009.
66. Venkatesan K and Sivanandan R, "Modelling Vehicular Merging Behavior Under Heterogeneous Traffic Conditions," Abstract Booklet, 8th International Conference on Traffic and Granular Flow, Shangai University, China, June 22-24, 2009.
67. Uma Maheswari R., Boominathan A and Dodagoudar G R (2009), "Measurement of Small Strain Measurement by Bender Elements", Proceedings of TC 4 Satellite Conference on Earthquake Geotechnical Engineering, Oct. 2-3, Alexandria, Egypt, Paper No.50
68. Boominathan, A (2009), "Seismic Microzonation for Disaster Mitigation", International Conference on Disaster Management and Mitigation, Dec. 16-18, PSNACET Dindigul, India.
69. Senthilkumar V and Varghese K, "Drawing DSM (DDSM) Implementation in Construction Design – Discussions on Applicability Proceedings of the 11th International DSM Conference in Greenville, SC (USA) 12 – 13, October 2009.

70. Senthilkumar V and Varghese K and Shivaji C Y, "Achieving Lean Design Using Design Interface Management Tool, Proceedings of IGLC 17, Taipei Taiwan 13-15 July 2009.
71. Venkateshwar Rao Surati, Varghese K and K Senthilnathan, "Computational Models for Reduction of Quarry Waste for Breakwater Construction Projects", Proceedings of 26th International Symposium on Automation and Robotics in Construction (ISARC 2009), Austin, Texas, USA, June 24-27, 2009.
72. Mirnalinee T T, Sukhendu Das and Varghese K, "Integration of Region and Edge-based information for efficient Road Extraction from High Resolution Satellite Imagery, IEEEICAPR 2009, Kolkata, India February 4-6, 2009, pp 373-376.
73. Athira P, Cibin, R, Sudheer K P and Chaubey I, (2009), "A Multi-Criterion based approach to quantify predictive uncertainty of distributed hydrologic models when applied to ungauged basins". AOGS-2009, Asia Oceania Geosciences Society Annual International Meeting, Singapore (August 11-15)
74. Athira, P., Sudheer, K. P. and Chaubey, I. (2009). "Regionalization of Parameter Probability Density Function of Distributed Watershed Models for their Application in Ungauged Basin Simulations." American Society of Agricultural and Biological Engineers Annual International Meeting, Reno, NV, USA (June 21-June 24).
75. Athira, P.⁴, Sudheer, K. P. and Chaubey, I. (2009). "Predictions in Ungauged Basins using Distributed Hydrologic Models: Regionalization of Parameters and Quantification of Predictive Uncertainty" American Geophysical Union Joint Assembly, Toronto, Canada (May 24-27).
76. Prakash, O.¹, Sudheer, K. P., and Srinivasan, K. (2009). "Sequential Neural Network with Error updating for Improved Higher Lead time Flood Forecasts" Proceedings of the International Conference on Water, Environment, Energy and Society (WEES09), New Delhi, January 12-16, 2009, pp: 745-751.
77. Soundharajan, B.², and Sudheer, K. P. (2009). "Irrigation Water Management using a Dynamic Crop Growth Model" Proceedings of the International Conference on Water, Environment, Energy and Society (WEES09), New Delhi, January 12-16, 2009, pp: 1749-1754.
78. Shriniwas S. Arkatkar and V. Thamizh Arasan, "Micro-Simulation Study of the Effect of Roadway Factors on Heterogeneous Traffic Flow on Intercity Roads" Proceedings of the International Scientific Conference on 'ITS for Larger Cities' 12-13 May, 2009, Munich, Germany. pp 1-12.
79. V. Thamizh Arasan and P. Vedagiri, "Study of the Impact of Exclusive Bus Lane under Highly Heterogeneous Traffic Condition" Proceedings of the 11th International Conference on Advanced Systems for Public Transport, July 20-22, 2009, Hong Kong. Paper No: MS 84, pp 1-23. (CD Rom).
80. G. Dhivya and V. Thamizh Arasan, "Level of Service Criteria for Multilane Highways Carrying Heterogeneous Traffic" Proceeding of the 14th Hong Kong Society for Transportation Studies (HKSTS) International Conference on Transportation and Geography, Dec 10 -10, 2009, Hong Kong, pp 357-366.
81. Goswami, R., "Steel Moment Connections in High Seismic Regions," First International Seminar on Structural Steel for Civil Construction, 12 June 2009, Kathmandu, ToSE-Nepal, Vol. II, pp. 1-13.
82. Devasena M and Indumathi M Nambi, Quantifying residual saturations of mercury entrapped in the subsurface – Symposium on Southeast Asian Water Environment, 24-27 October, 2008, Bandung, Indonesia.
83. Devasena M and Indumathi M Nambi, Transport of liquid mercury in the subsurface – Young Water Talent Symposium, Singapore International Water Week, 22, June 2009, Singapore.
84. Devasena M and Indumathi M Nambi, Pore Scale Analysis of Mercury entrapment by glass bead micromodel studies – Water- Harvesting, storage and conservation, 23-25 November 2009, IIT Kanpur, India.
85. Devasena M and Indumathi M Nambi, Micromodel Studies for Understanding Residual Mercury Entrapment in the Subsurface - 3rd International Perspective on Current & Future State of Water Resources & the Environment, EWRI-ASCE, 5-7 January 2010, IIT Madras, India.
86. Nambi I.M. "A new approach to quantifying Relative Permeability variations during NAPL dissolution from heterogeneous porous media" Presented at International perspectives on Water resources and environmental engineering conference organized by EWRE, American Society of Civil Engineers at Bangkok, 2009
87. Nambi I M, Jadhav S and Albino D J. Saline water intrusion and upconing during pumping from coastal collector well Water Harvesting Storage and Conservation, 23-25 November, 2009, Indian Institute of Technology Kanpur, Kanpur, India

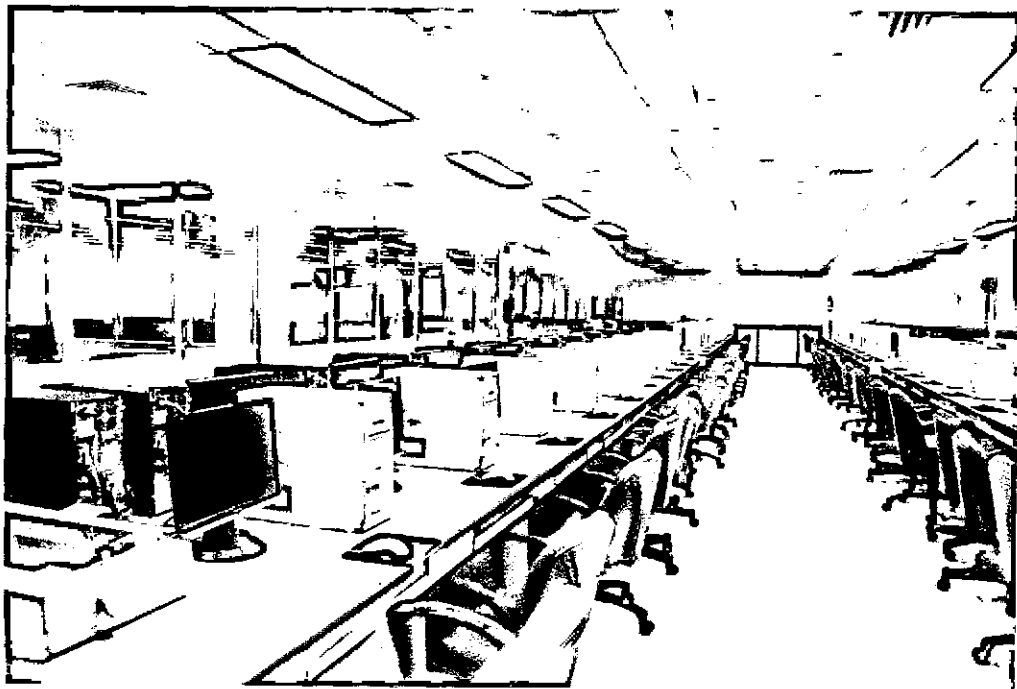
88. Albino D J and Nambi I M. Production of biosurfactants under anaerobic condition and simultaneous biodegradation of tetrachloroethylene. 3rd International Perspective on Current & Future State of Water Resources & the Environment (ASCE – EWRI & IITM), 5-7th January, 2010, Chennai, India
89. Albino D J and Nambi I M. Partial Characterization of Biosurfactant Produced under Anaerobic Conditions by Pseudomonas sp ANBIOSURF-1. Functionalised and Sensing Materials, 7-9th December, 2010, Bangkok, Thailand.
90. Albino D J and Nambi I M. Optimization of biosurfactant production by Pseudomonas sp (MTCC 10032) under anaerobic condition. Water Harvesting Storage and Conservation, 23-25 November, 2009, Indian Institute of Technology Kanpur, Kanpur, India
91. Albino D J and Nambi I M. A novel process for insitu remediation of subsurface environments contaminated with organic solvents. 7th International Symposium on Southeast Asian Water Environment, 28-30 October, 2009, Asian Institute of Technology, Bangkok, Thailand, Organized by the University of Tokyo.
92. Albino D J and Nambi I M. The role of substrates in biodegradation of Tetrachloroethylene. International Conference on Emerging Technologies in Environmental Science an Engineering, 26-28 October , 2009, Aligarh Muslim University, Aligarh, India.
93. Senthilkumar V., & Varghese, K., and Shivaji, C Y. Achieving Lean Design Using Design Interface Management Tool, Proceedings of IGLC 17, Taipei Taiwan 13th – 15th July, 2009.
94. Venkateshwar Rao Surati , Varghese, K. & K. Senthilnathan Computational Models for Reduction of Quarry Waste for Breakwater Construction Projects Proceedings of 26th International Symposium on Automation & Robotics in Construction (ISARC 2009), Austin, Texas, USA, June 24th-27th, 2009.
95. Mirnalinee, T. T., Sukhendu Das & Varghese, K., Integration of Region and Edge-based information for efficient Road Extraction from High Resolution Satellite Imagery, IEEE ICAPR 2009, Kolkata, India, February 4-6, 2009, pp 373-376.

Distinguished Visitors to the Department:

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Seven Member Delegation From National Tsing Hua Univ. Taiwan	April 1, 2009	Visited the Laboratory and had discussions with the faculty
2	Mr. Jan Rembowski, Director for International Affairs Mr. Jean DuMouza from Mines Paristech and Mr. Joan Thangaraj from Campus France	April 8, 2009	Visited the Laboratory and had discussions with the faculty
3	Prof. Richard H Scott, Durhan Univ. Prof. Simon J Wheeler, Univ. of Glasgow Prof. P A Muhammed Basheer, Queen's University	April 8, 2009	Visited the Laboratory and had discussions with the faculty
4	Five member delegation of Japan International Cooperation Agency (JICA)	May 29, 2009	Visited the Laboratory and had discussions with the faculty
5	Prof. Ronald E Yoder, Associate Director, Dept. of Biological Systems Engg., University of Nebraska, Lincoln, USA	Aug. 27, 2009	Visited the Laboratory and had discussions with the faculty
6	Dr. Arun Menon, Post Doctorate Fellow University of Pavia, Italy	Aug. 13, 2009	Delivered a lecture
7	Prof. (Ms) Margaret Bell and Dr. Anil Namdeo, Newcastle University, UK	Nov. 2 to 5, 2009	Research collaboration
8	Mr. Shakeel Akhther Additional Commissioner of Police Mr. Sunil Kumar Former, Addnl. Commissioner	Nov. 5, 2009	Delivered a lecture
9	Mr. Ramanujam, Retd. Supdt. Engineer, CPWD	Nov. 6, 2009	Delivered a lecture
10	Dr. Pascal Casanova Director of Research and Development, LAFARGE, France	Nov. 13, 2009	Research collaboration with construction materials group

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
11	Prof. Mario Chiorino Turin Instt. Of Tech.	Nov. 25-26, 2009	Delivered a lecture
12	Dr. T N Subba Rao Brigade Group Bangalore	Nov. 25, 2009	MoU
13	Dr. Laurent Perret, Associate Professor, Ecole Centrale de Nantes, France	Dec. 12, 2009	Delivered a lecture
14	Dr. Sulapha Peethambaram, Clarkson University	Dec. 18, 2009	Delivered a lecture
15	Prof. Michael Schneider Prof. Christoph Sprenger Univ. of Berlin, Germany	Dec. 21-23 2009	Explore the possibilities of collaborating in the area of Hydro- Geology
16	Mr. Subhadeep Banerjee, Univ. of Singapore	Jan. 1, 2010	Delivered a lecture
17	Dr. Pijush Ghosh, Baltimore, Maryland, USA	Jan. 15, 2010	Delivered a lecture
18	NTPC Officials	Jan. 15, 2010	Discussion
19	Jean-Marg Golberg, Director of Research, Lafarge Concrete, France	Jan. 27, 2010	Discussion with Faculty Members
20	Prof. G Van Huylenbroeck Prof. K Dewettinck Prof. F Tack, Prof. P Boeckx, Prof. B Sas and Mrs. H. Vandecasteele Ghent University, Belgium	Feb. 26, 2010	Collaboration
21	Mrs. Marie-Pierre Favre Mrs. Stephanie Piquet-Gauthier INSA Lyon, France	March 2, 2010	Discussions on Indo French Unit
22	V K Mathur, Head, Flu Ash Utilization Division, NTPC	March 4, 2010	Delivered a lecture
23	Col. S G Diwan, Jt. Project Manager, HCC, Mumbai	March 9, 2010	Delivered a lecture
24	Dr. David Grau, Univ. of Albarne	March 16, 2010	
25	Mr. Gilles Lacruix, Veolia Water Solutions & Technologies, France	March 25, 2010	Delivered a lecture
26	Dr. Joe Astroth, Autodesk Vice President of Learning and Education	March 26, 2010	
27	Prof. R N Iyyengar, Former Director CBRI, Roorkee	March 29, 2010	Delivered a lecture
28	Mr. Jean-Michel Glasman, Veolia Water Solutions & Tech, France	March 30, 2010	Discussion

COMPUTER SCIENCE AND ENGINEERING



4.7 DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

4.7.1 Introduction:

Started as Computer Center in 1973, the Department of Computer Science and Engineering was established as a full-fledged department in 1983. It currently offers B.Tech, Dual Degree, M.Tech., M.S. and Ph.D programmes. The Dept has the highest number of M.S. / Ph.D. scholars among all CS Depts. of like institutions in the country.

4.7.2 Academic Programmes:

New Courses introduced:

Sl.No	Course No.	Title
1	CS637	Digital Video Processing
2	CS685	Topics in Advanced Complexity Theory
3	CS686	Algorithms in Computational Biology

New Lab(s) established: Computer Vision Lab

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	27	25	20	26	6	104
Dual Degree	23	20	18	13	12	86
M.Tech.	63	52	0	0	0	115
M.S.	27	22	20	14	7	90
Ph.D.	16	14	7	5	28	70
Total	156	133	65	58	53	465

Names of Student/Scholar who attended Conference/ Seminar and Symposia Abroad/India:

Sl. No	Name of the Student/ Scholar	Name of the Conference/ Seminar / Symposia/ Workshop	Date and Venue
Abroad:			
1	Ashish Choudhary and Arpita Patra	28th Annual ACM SIGACT- SIGOPS Symposium On Principles of Distributed Computing (PODC2009)	10 th to 11 th Aug 2009, University of Calgary, Canada
2	Ashish Choudhary and Arpita Patra	Selected Areas in Cryptography (SAC 2009)	13 th to 14 th Aug 2009, University of Calgary, Canada
3	Ashish Choudhary and Arpita Patra	CRYPTO 2009	16 th to 20 th Aug 2009, University of Santa Barbara, USA
4	Dileep A. D.	International Conference on Cognitive and Neural Systems, ICCNS-2009	27 th to 30 th May 2009, Boston, USA
5	Veena T.	International Conference on Cognitive and Neural Systems, ICCNS-2009	27 th to 30 th May 2009, Boston, USA
6	Dileep A. D.	International Joint Conference on Neural Networks, IJCNN-2009	14 th to 19 th June 2009, Atlanta, USA
7	Arpita Patra	GHC 2009: Grace Hope Celebration of Women in Computing : GHC 2009	30 th Sep to 3 rd Oct 2009, Tucson, Arizona, U.S.A
8	Arpita Patra and Ashish Choudhary	The 4th International Conference on Information Theoretic Security (ICITS 2009)	3 rd Dec 2009, Shizuoka, Japan
9	R. Sharmila	Inscrypt 09	12 th to 15 th Dec 2009, Beijing, China
10	Karthik Raghavan	Architectural Support for Programming Languages and Operating Systems (ASPLOS 2010)	13 th to 17 th Mar 2010, Pittsburgh US

Sl. No	Name of the Student/ Scholar	Name of the Conference/ Seminar / Symposia/ Workshop	Date and Venue
India			
1	Ajeesh Ramanujan	Cryptography and Learning Theory (CALT) 2009	29 th Apr 2009, Chennai
2	S. Chandrakala	3rd International Conference on Pattern Recognition and Machine Intelligence (PReMI 2009)	16 th to 20 th Dec 2009, IIT Delhi
3	Abdul Nizar	15th International Conference on Management of Data (COMAD)	9 th to 12 th Dec 2009
4	Arpita Patra and Ashish Choudhary	10th International conference on Cryptology in India (IndCrypt 2009)	13 th to 16 th Dec 2009, New Delhi
5	Srinath Narasimha	16th Annual International Conference on High Performance Computing	16 th to 19 th Dec 2009, Kochi
6	Karthik Raghavan	VLSI Design 2010	5 th to 7 th Jan 2010, Bangalore
7	B.S.ShajeeMohan and Rajeswari N.	WiSSAP 2010 Workshop	12 th to 15 th Jan 2010, IIT Bombay
8	J C Kumar, R Janakiram, M.V. Vinodh, A. Bellur, K.B. Narayan, D.M. Thakare, A. Susan, N.M. Suthakar, K. Bommepally, T.K. Glisa, J.J. Prakash, S.R. Singh, M R Srikanth, A. Pradhan, S. Chevireddy, N Ranjan, S. Chandrakala, Veena T., Dileep A. D., B.S.Shajee Mohan, Rajeswari N and Vanniarajan	National Conference on Communications (NCC) 2010	29 th to 31 st Jan 2010, IIT Madras
9	Veena T., Dileep A. D., Swapna Raj. P, Yousuf Sait, Shivashankar S, Deepak R, Aashish Dattani and Karthick Rangadurai	The 2010 Winter School on Machine Learning and Computer Vision sponsored by Microsoft research	9 th to 17 th Jan 2010, IISc Bangalore

Names of students/scholars who won outside prizes and awards:

Sl No.	Name of the Student/Scholar	Name of Prize	Prize awarded by
1	Prashant Vasudevan First year B.Tech	Bronze medal at the International Olympiad in Informatics	The International Olympiad in Informatics (IOI) held at Plodiv, Bulgaria.
2	D. Vamsi Krishna, Pradee Kumar, Vikram Ram and Y. Madhavi	Aditya Birla Scholarship	Adiya Birla Group of Companies
3	A team from IITM consisted of Sriram Kalayanaraman (B. Tech) & Ashish Dattani (DD)	New York City Next Idea Business Plan Competition Conducted New York City's venture capital community	Devising a new system to store and distribute energy through remote sites safely and efficiently
4	M R Srikanth	Best paper	16 th National Conference on Communication held at IIT Madras

Honours and Awards obtained by faculty:

Sl. No	Name of faculty	Name of Award	Awarded by	Awarded for
Awards:				
1	The Semiconductor devices logic & circuits group. (Group comprising of Faculty from Depts of CSE & EE, IITM)	Techno shield award	Instituted by Indian Semiconductor Association	

Name of Students/Scholars who won Institute Convocation/Institute Day Prize:

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1	Srivatsan Narayanan	CS05B020	1. President of India Prize 2. Bharat Ratna M. Visvesvaraya Memorial Prize 3. B Ravichandran Memorial Prize	
2	Nimit Jain	CS04B034	Motorola Prize	
3	M. Vikramaditya	CS09B017	Alumni Association Prize	
4	Kate Kiran Appasaheb	CS07M010	CMC Prize	
5	N. Srinath & P. Uma Maheswari	CS07M035, CS07M040	Prof.H.N. Mahabala Endowment Prize (Joint winners)	

4.7.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization (only 3 areas)
Professor:	
Deepak Khemani, Ph.D (IIT Bombay)	Artificial Intelligence, Knowledge based systems, Natural Language Processing and Neural Networks.
Gonsalves T.A., Ph.D (Stanford)	Computer Networks, Distributed Systems, NMS, Operating Systems, Performance Evaluation, Telecom Software
Janakiram D, Ph.D (IIT Delhi)	Object Oriented Systems, Software Engineering, Parallel and Distributed Systems, Database Systems, Mobile Computing, Computing Education, Computing for Developing Regions, Mobile Telemedicine
Kalyana Krishnan.R, Ph.D (Yale)	Computer Architecture, Computer System Design, Microprocessors, Digital Electronic Systems, Computer Graphics, Statistical Signal Processing
Kamala Krithivasan, Ph.D (Madras)	Theoretical Computer Science, Computational Geometry, Languages and Automata Theory Formal Languages and Automata Algorithms, Molecular Computing.
Kamakoti V., Ph.D (IIT Madras)	Software for VLSI Design, Computational Geometry, High Performance Computing.
Krishna Moorthy Sivalingam., Ph.D (SUNY Buffalo)	Wireless Sensor Networks, Optical Networks
Sreenivasa Kumar P, Ph.D (IISc)	Graph Theory, Algorithms, Parallel Computations, Data Mining and Data Bases.
Hema A Murthy., Ph.D (IIT Madras)	Speech processing, Computer Graphics and Pattern Recognition.
Siva Ram Murthy C., Ph.D (IISc) [Head of the Department]	Parallel and Distributed Computing, Real-Time Systems, Lightwave Networks and Wireless Networks
Raghavan S.V., Ph.D (IIT, Madras)	Real-time Systems, Optical and Wireless Networks E-Banking E-Learning, Intelligent Search Engines, Multicasting, Multimedia Presentation Systems, Mobile Agents, Mobile Wireless Networks, Next Generation Web Browsers, Secure WAN Design in Heterogeneous Systems.
Pandu Rangan C., Ph.D (IISc.)	Algorithms, Parallel and VLSI Algorithms, Graph Theory, Computational Geometry, Randomized Algorithms, Computational Learning theory, Crypto-analysis

Associate Professor:

Anurag Mittal., Ph.D (University of Maryland)	Computer Visualization, Computer Graphics
Sukhendu Das, Ph.D (IIT Kharagpur)	Visual Perception - Computer Vision, Image processing and pattern recognition, Graphics, Neural Networks, Soft Computing
Chandra Sekhar C, Ph.D (IIT Madras)	Speech Recognition, Artificial Neural Networks, Kernel Methods.
Narayanaswamy N.S., Ph.D (IISc)	Algorithms and Complexity Theory.
Ravindran B., Ph.D (University of Massachusetts, Amherst)	Machine Learning, Reinforcement Learning, Data/Text Mining

Assistant Professor:

Shankar Balachandran., Ph.D (UT, Dallas)	CAD for VLSI, Reconfigurable Computing, Computer Architecture
Sutanu Chakraborti., Ph.D (Robert Gordon University, UK)	Information Retrieval, Memory-based reasoning and Machine learning.
Madhu Mutyam., Ph.D (IIT Madras)	Computer architecture and VLSI CAD

Visiting Faculty:

Shailesh Vaya., Ph.D (UCLA.)	Theoretical Computer Science (Distributed Computing, Foundations of cryptography and Computational complexity).
Gaurav Raina, Ph.D (Cambridge)	Communication and Transport Networks, Stochastic Processes, Congestion control
Ashish V. Tendulkar, Ph.D (IIT Bombay)	Computational Biology, Machine Learning (Graphical Models, Kernel Methods), Text mining in Biomedical Literature, Social Media Mining, Frequent Episode Mining

Faculty Activity:

- Gonsalves T.A. has been appointed as Director of the newly established IIT at Mandi in Himachal Pradesh.
- Siva Ram Murthy C., Ph.D (IISc) has been appointed as the new Head of the Department.
- Raghavan S.V., Ph.D (IIT, Madras) has been appointed as Scientific Secretary to the Principal Scientific Advisor, Government of India.

3.3 Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1	Prof. Kamala Krithivasan (Author of the Book)	Theory of Computation Book Promotion Workshop Organized by Pearson Education (Publishers of the book)	14 th Nov 2009, Lucknow
2	Prof. Hema A Murthy	Indo-Sweden Workshop on "Participatory Design of ICT: Opportunities and Challenges"	18 th & 19 th Feb 2010, Dept of CSE, IITM

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Dr. B. Ravindran	Efficiently finding and exploiting symmetries in Markov decision processes	University of Birmingham	27 th Apr 2009
2	Prof. Kamala Krithivasan	Inference of Grammars for Trees of Variable Arity	Cryptography and Learning Theory (CALT) 2009, Tambaram	29 th Apr 2009
3	Prof. D.Janakiram	A two layered architecture for peer-peer concept search	Trento, Italy	25 th May 2009
4	Prof. Hema A Murthy	Interactive Human Computer Technologies	IIT Delhi	24 th to 27 th May 2009
5	Prof. Kamala Krithivasan	Role of Mathematics in Career Prospectus	ISCKV Institution Kancheepuram	28 th June 2009
6	Prof. Krishna Moorthy Sivalingam	Energy-Efficient Mobile Data Collection in Wireless Sensor Networks	CREATENET Research Institute, Trento, Italy	14 th Sep 2009
7	Prof. Krishna Moorthy Sivalingam	Wireless Access Networks	Einstein College of Engineering, Tirunelveli	8 th Oct 2009
8	Prof. Kamala Krithivasan	Theory of Computation (for Staff Development Program)	Mookambikai College of Engg., Trichy	9 th to 11 th Nov 2009
9	Prof. Kamala Krithivasan	Theory of Computation (for Staff Development Program)	Saraswathi Thyagarajan Arts College, Pollachi	19 th Nov 2009
10	Prof. Krishna Moorthy Sivalingam	Mobile Ad Hoc Networks	Trivandrum, Kerala	11 th Nov 2009
11	Prof. Krishna Moorthy Sivalingam	Mobile Ad Hoc Networks	Salem	24 th Nov 2009
12	Prof. Kamala Krithivasan	Automata Theory	RSVCollege Coimbatore	8 th Dec 2009
13	Prof. Kamala Krithivasan	Plenary talk on membrane computing and participation in panel discussion	NaBIC 2009 Coimbatore	9 th to 10 th Dec 2009
14	Prof. Krishna Moorthy Sivalingam	Data Gathering in Wireless Sensor Networks using Mobile Nodes	VIT, Vellore	17 th Dec 2009
15	Prof. Kamala Krithivasan	Natural Computing	S.V. Engineering College , Chennai	11 th Feb 2010
16	Prof. Kamala Krithivasan	Theory of Computing	Noida	18 th Feb 2010
17	Prof. Kamala Krithivasan	Automata Theory	Biju patnaik Institute of Technology Bhubaneswar	17 th Mar 2010
18	Prof. D. Janakiram	Industrial Network Management (INM)	College of Engineering for Women Visakhapatnam	2 nd Mar 2010
19	Prof. D. Janakiram	Cloud Bursting Architectures Lecture and Discussion Series	IIT Bombay	6 th Mar 2010

3.6 Visits abroad:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1	Dr. B. Ravindran	University of Birmingham	20 th Apr to 1 st May 2009	In connection with a joint project with them titled Reinforcement Learning of Visual Routines, under the UKIERI scheme.
2	Prof. T.A.Gonsalves	Colombo, Srilanka	29 th Apr to 1 st May 2009	To attend and deliver a lecture in a 2 day workshop on Measuring Mobile Broadband Quality of Service Experience

3	Dr. Sutanu Chakraborti.	UK	June 1 st to 30 th 2009	To Robert Gordon University Aberdeen as part of an exchange programme under the British Council UKIERI project ("Knowledge Acquisition for Textual Case Based Reasoning")
4	Dr. B. Ravindran	Montreal, Canada	18 th to 19 th June 2009	To attend 26th International Conference on Machine Learning (ICML 2009) and also to present research papers at workshop.
5	Prof. Krishna Moorthy Sivalingam	University of California, San Diego,	June 30 th to July 1 st 2009	To attend Indo-US IUSSTF Joint Training Program on "Systems & Networks"
6	Prof. C. Pandu Rangan	University of California, USA	16 th to 20 th Aug 2009	To attend and present a paper in CRYPTO 2009
7	Prof. Kamala Krithivasan	University of Kebangsaan, Malaysia	16 th to 20 th Aug 2009	To attend and present a paper in ICTAC 2009
8	Prof. S.V. Raghavan	QUT Australia	24 th to 25 th Aug 2009	In connection with the ongoing collaborative Project
9	Prof. Hema A Murthy	Brighton, UK	7 th to 11 th Sep 2009	To attend and present a paper at INTERSPEECH 2009
10	Prof. D. Janakiram	Seattle, US	9 th to 11 th Sep 2009	To attend and present a paper at the IEEE P2 2009
11	Prof. Krishna Moorthy Sivalingam	Trento, Italy	14 th Sep 2009	To deliver a lecture on Wireless networks
12	Prof. Krishna Moorthy Sivalingam	Madrid, Spain	15 th to 16 th Sep 2009	To attend and present paper at ICST Broadnets 2009
13	Prof. T. A. Gonsalves	Blekinge Institute of Technology, Sweden	13 th to 16 th Oct 2009	To attend the technical discussions in connection with Indo-Sweden Project
14	Prof. C. Pandu Rangan	Toyama, Japan	24 th to 31 st Oct 2009	To attend and present a paper in IWSEC 2009
15	Dr. Sukhendu Das	Cairo, Egypt	7 th to 11 th Nov 2009	To attend and present a paper at the 2009 IEEE International Conference on Image Processing
16	Dr. B. Ravindran	Kista, Sweden	26 th Nov 2009	To attend and deliver a talk at the Ericsson Software Research Day
17	Prof. C. Pandu Rangan	Japan	4 th to 6 th Dec 2009	To attend International Conference On Information Security ICISC -2009
18	Prof. T.A. Gonsalves	Srilanka	9 th to 11 th Dec 2009	To attend the LIRNEasia's 5th Anniversary's
19	Prof. C. Pandu Rangan	China	11 th to 15 th Dec 2009	To attend and present papers in INSCRYPT 2009

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1	Prof. Kamala Krithivasan, CSE & Prof. Rama, MA (Maths)	Introduction to Formal Languages, Automata Theory and Computation	Pearson Education, India	-
2	Prof. C. Siva Ram Murthy (IITM) & Dr. T. Venkatesh, (IIT Guwahti)	An Analytical Approach to Optical Burst Switched Networks	Springer, USA	-

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
INAE:		
1	Prof. C. Siva Ram Murthy	2002
2	Prof. C Pandu Rangan	2006
3	Prof. Kamala Krithivasan	2007

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	Prof. C.Pandu Rangan	Member, Editorial Board	Lecture Notes in Computer Science, Springer
2	Prof. C. Siva Ram Murthy	Associate Editor	IEEE Transactions on Computers
3	Prof. C. Siva Ram Murthy	Subject Area Editor	Journal of Parallel and Distributed Computing
4	Prof. Krishna Moorthy Sivalingam	Editorial Board	ACM Wireless Networks Journal (WINET)
5	Prof. Krishna Moorthy Sivalingam	Editorial Board	Elsevier Optical Switching and Networking Journal (OSN)
6	Prof. Krishna Moorthy Sivalingam	Editorial Board	InderScience International Journal of Security and Networks (IJSN)
7	Prof. Krishna Moorthy Sivalingam	Editorial Board	Journal on Ad Hoc and Sensor Wireless Networks

4.7.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Text to Speech Synthesis in six Indian Languages	2 years	Department of Information Technology	243	Prof. Hema A Murthy
2	Cross-layer energy aware network management(IUATC)	2.5 years	DST (Indo-UK)	176	Prof. T.A. Gonsalves (C.I)
3	Rural / Distributed Services and applications (IUATC)	2.5 years	DST (Indo-UK)	107	Prof. T.A. Gonsalves (C.I)
4	Seamless mobility and provisioning of emergency Services(IUATC)	2.5 years	DST (Indo-UK)	81	Prof. T.A. Gonsalves (P.I)
5	Converged networks QoS frameworks (IUATC)	2.5 years	DST (Indo-UK)	93	Prof. Krishna Moorthy Sivalingam (P.I)
6	Basic computer training programme for visually challenged women	1.5 months	Rural Technology Action Group	2	Prof. Hema A Murthy
7	Programming Framework for data-parallel applications over peer -to-peer file systems	1 year	Yahoo Labs	4.6	Prof. D. Janakiram
8	Making sense of real world textual data	1 year	Yahoo Labs	4.7	Dr. B. Ravindran
9	Text analytics for Corporate Memory	3 years	New faculty Scheme	5	Dr. Sutanu Chakrobarti
10	On the capacity, routing and reliability issues in multi-hop wireless networks	3 years	Department of Science & Technology	23.8	Prof. C. Siva Ram Murthy
11	Service oriented architecture and its implementation for the linux kernel, middleware (NRCFOSS Phase II)	3 years	Department of Information Technology	103.92	Prof D. Janakiram & Dr. Sukhendu Das
12	Security and resilience monitoring for NGNs (IUATC)	2.5 years	Department of Science & Technology (Indo-UK)	122	Prof T A Gonsalves & Prof. Hema A Murthy
13	Energy Efficient Cache Architectures	3 years	Department of Science & Technology	22.22	Dr. Madhu Mutyam & Dr. Shankar Balachandran
14	Synthesizable models of digital design using the India VLSI design flow	1 year	Defence Research and Development Organisation	9.85	Dr. Kamakoti V
15	Functional genomics of orphan structural proteome	3 years	Department of Biotechnology	41	Dr. Ashish Tendulkar

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Narayanaswamy N S	Advice on nature of group Asia software	Office of Commissioner of Customs	0.4
2	Krishna Moorthy Sivalingam	Test and Technical Report of Imported CDs from Customs Office	Vuppalamritha Magnetic Components Ltd.,	0.2
3	Ravindran B	Consumer Behaviour at ED2 and IITM	Ericsson India Pvt. Ltd.,	30
4	Anurag Mittal	Development of a computer - vision based solution for wheel alignment	Manatec Electronics	1.5
5	Deepak Khemani and Narayanaswamy N S	Planning representations and methodologies to handle soft, temporal and trajectory constraints	Centre for Artificial Intelligence and Robotics	9.9
6	Sukhendu Das and Natarajan T S	Smart segmentation of objects in images	Centre for Artificial Intelligence and Robotics (DRDO)	9.9
7	Sreenivasa Kumar P	Information retrieval and knowledge management techniques in developing Bio-informatics tools.	Metaome Science Informatics (P) Ltd.	0.6

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Gonsalves T A	Appointment of Consultants for IT Related Activities in the Bank	Indian Overseas Bank	0.4 lakhs
2	Kamakoti V	Engagement of your services as external consultant for information technology (IT) related activities in the Bank	Indian Overseas Bank	0.4 lakhs

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	... 1
Total No. of papers published in Refereed International Journals	... 34
Total No. of papers presented in National Conferences	... 10
Total No. of papers presented in International conferences	... 42

In Refereed National Journals:

1	G L Sarada, A Lakshmi, Hema A Murthy and T Nagarajan	"Automatic Transcription of Continuous Speech into Syllable-like units for Indian Languages"	Sadhana, Indian Academy of Sciences vol. 34, Part 2, pp. 221-233, April 2009
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In Refereed International Journals:

1	V.V. George Kurien, Narayana Rao, Virendra Patidhar, Dr. V. Kamakoti and Srivaths Ravi	"An integrated SCR and TVR Technique for shift power reduction on Linear and Double-Tree Scan architectures"	Journal of Low Power Electronics, vol. 5, pp. 58-68, 2009
2	K. Kunal, K. George, Satya Gautam and Dr. V. Kamakoti	"HTM Design Spaces: Complete Decoupling From Caches and Achieving Highly Concurrent Transactions"	ACM SIGOPS Operating Systems Review, vol. 43 (2), pp. 98-99, 2009
3	Dr. Gaurav Raina	"Stability analysis of a max-min fair Rate Control Protocol (RCP) in a small buffer regime"	IEEE Transactions on Automatic Control, vol. 54, no. 8, pp. 1908-1913, 2009
4	A.Choudhary and Prof. Kamala Krithivasan	"Breaking DES Using Networks of Evolutionary Processors with Parallel String Rewriting rules"	IJCM, vol. 86, Issue 4, pp. 567-576, April 2009

5	Santosh Pandey, Shaoqiang Dong, Prathima Agrawal and Krishna Moorthy Sivalingam	"On Performance of Node Placement Approaches for Hierarchical Heterogeneous Sensor Networks"	ACM/Springer Mobile Networks and Applications, vol. 14, pp. 401-414, April 2009.
6	M. Saravanan, B. Ravindran, and S. Raman	"Improving Legal Information Retrieval Using Ontological Framework"	In Artificial Intelligence and Law, vol. 17, Issue 2 , pp 101-124, 14 May 2009.
7	Madhu Mutyam	"Selective shielding technique to eliminate crosstalk transitions"	ACM Transactions on Design Automation of Electronic Systems, 14(3), Article No. 43, 20 pages, May 2009
8	B. Yegnanarayana and Sri Rama Murty K	"Event-Based Instantaneous Fundamental Frequency Estimation From Speech Signals"	IEEE Trans. Audio, Speech and Language Processing, vol. 17, no. 4, pp. 614-624, May 2009.
9	Kiran K. Rachuri, and C. Siva Ram Murthy	"Energy Efficient and Scalable Search in Dense Wireless Sensor Networks"	IEEE Transactions on Computers, vol. 58, no. 6, pp. 812-826, 2009.
10	Sunando Sengupta and Sukhendu Das	"Design of an improved framework for stratified 3-D reconstruction from a pair of images, with reduced ambiguity"	International Journal of Computer Mathematics, June 2009
11	Sri Rama Murty K., B. Yegnanarayana and Anand Joseph	"Characterization of Glottal Activity From Speech Signals"	IEEE Signal Processing Letters, vol. 16, no. 6, pp. 469-472, June 2009.
12	A. Dyana and Sukhendu Das	"Trajectory Representation using Gabor Features for Motion-Based Video Retrieval"	Pattern Recognition Letters, vol. 30, no. 10, pp. 877-892, July 2009
13	Adi Mallikarjuna Reddy V, AVU Phani Kumar, D Janakiram, and G Ashok Kumar	"Wireless Sensor Network Operating Systems: A Survey"	International Journal of Sensor Networks (IJSNet), vol. 5, no. 4, pp. 236-255, 2009
14	Vijay Srinivas and D Janakiram	"Node Capability Aware Replica Management for Peer-to-Peer Grids"	IEEE Transactions on Systems, Man, and Cybernetics Part A: Systems and Humans, vol. 39, no. 4, pp. 807-818., July 2009
15	Anil Kumar Sao and B. Yegnanarayana	"On the use of phase of the Fourier transform for face recognition under variations in illumination"	Signal, Image and Video Processing, July 2009.
16	B. Yegnanarayana, R. Kumara Swamy and Sri Rama Murty K	"Determining Mixing Parameters From Multispeaker Data Using Speech-Specific Information"	IEEE Trans. Audio, Speech and Language Processing, vol. 17, no. 6, pp. 1196-1207, Aug. 2009.
17	Madhu Mutyam and F. Wang and K. Ramakrishnan and N. Vijaykrishnan and M. Kandemir and Y. Xie and M J. Irwin	"Process variation aware adaptive cache architecture and management"	IEEE Transactions on Computers, vol 58, no. 7, pp. 865-877, July, 2009.
18	N. Satyanarayana, A. Vinaya Babu, Madhu Mutyam.	"Delay-efficient bus encoding techniques. Microprocessors and Microsystems"	Microprocessors and Microsystems – Embedded Hardware Design, vol. 33, no. 5-6, pp. 365-373, 2009
19	A. Antony Franklin, Vibhav Bukkapatanam, C. Siva Ram Murthy,	"Impact of Multiple Channels and Radios on the Performance of a TDMA based Wireless Mesh Network"	Computer Networks, vol. 53, no. 12, pp. 2208-2224, 2009.
20	Uthara Gosa Mangai, Suranjana Samanta, Sukhendu Das and Pinaki Roy Chowdhury	"A Survey of Decision Fusion and Feature Fusion Strategies for Pattern Classification"	IETE Technical Review, vol. 27, Issue 4, pp. 293-307, Oct 2009
21	Guruprasad S. and B. Yegnanarayana	"Perceived loudness of speech based on the characteristics of glottal excitation source"	Journal of the Acoustical Society of America, vol. 126, no. 4, pp. 2061-2071, Oct 2009.

22	Ashish Choudhary, Kamala Krithivasan	"Breaking the data Encryption standard using networks of evolutionary processes with parallel string rewriting rules"	International Journal of Computer Mathematics vol. 86, no. 4, pp. 567-576, 2009
23	Sookyong Lee, Krishna Moorthy Sivalingam	"An efficient One-Time Password authentication scheme using a smart card"	International Journal of Security and Networks, vol. 4, no.3, pp. 145 - 152, 2009
24	N.S. Narayanaswamy, N. Sadagopan, and L. Sunil Chandran.	On the Structure of Contractible Edges in k-connected Partial k-trees.	Graphs and Combinatorics, vol. 25, no. 4, pp. 557-569, Nov 2009
25	N.S. Narayanaswamy and N. Sadagopan.	On the Structure of Contractible Vertex Pairs in Chordal Graphs	Electronic Notes in Discrete Mathematics, vol. 33, pp.29-36, 1 April 2009
26	N.S. Narayanaswamy and R. Subhashini.	A New Characterization of Matrices with the Consecutive Ones Property.	Discrete Applied Mathematics, vol. 157, Issue 18, pp. 3721-3727, Nov. 2009
27	K. Shyamala, J. Vimalkumar, & Dr. V. Kamakoti	"Novel SAT-Based Peak Dynamic Power Estimation for Digital Circuits"	Journal of Low Power Electronics, pp. 429- 438, Dec 2009
28	Sk. Noor Mahammad & Dr. V Kamakoti	"Constructing Online Testable Circuits Using Reversible Logic"	IEEE Transactions On Instrumentation and Measurement, vol. 59, no. 1, pp. 101-109, Jan 2010
29	Thomas Greiner, Shivani G Rao and Sukhendu Das	"Estimation of Orientation of a Textured Planar Surface using Projective Equations and Separable Analysis with M-Channel Wavelet Decomposition"	Pattern Recognition , vol. 43(1), pp. 230-243, Jan 2010
30	A. Dyana and Sukhendu Das	"MST-CSS (Multi-spectro-temporal Curvature Scale Space), a novel spatio-temporal representation for content-based video retrieval"	IEEE Transactions on Circuits and Systems for Video Technology, Mar 2010
31	Sriram Kailasam, Santosh. Kumar Konduru, and D Janakiram	"Arogyasree: An enhanced grid-based approach to mobile telemedicine"	International Journal of Telemedicine and Applications (IJTA), Article ID 536237, 11 pages, 2010
32	Venkata Padmavati Metta, Kamala Krithivasan, Deepak Garg	"Protocol Modeling in spiking Neural P systems and Petri Nets"	International Journal of Computer Application IJCA, vol. 1, no. 24, pp. 69-74, Mar 2010
33	Dhananjaya N. and B. Yegnanarayana	"Voiced/nonvoiced detection based on robustness of voiced epochs"	IEEE Signal Processing Letters, vol. 17, no. 3, pp.273-276, Mar 2010.
34	S. Chandrakala and C. Chandra Sekhar	"Classification of varying length multivariate time series using Gaussian mixture models and support vector machines"	International Journal on Data Mining, Modelling and Management, vol.2, no.3, pp. 268-287, Inderscience Publishers, Switzerland, 2010

In Proceedings of National Conferences:

1	Ajeesh Ramanujan	"Ambiguity in hexagonal array contextual grammars"	CALT 2009, Chennai, Apr 2009
2	Himanshu Prakash jain, Sukhendu Das, Anurag Mittal and Binay Raj	"Human Motion Tracking and Pose Estimation in varying Illumination Conditions using Single View"	National Conference on Computer Vision, Pattern Recognition, Image processing and Graphics (NCVPRIPG 2010) Jaipur, Jan 15 th to 17 th 2010

3	J C Kumar, R Janakiram, and Hema A Murthy	"KL divergence based feature switching in the linguistic search space for automatic speech recognition"	National Conference on Communications (NCC), IIT Madras, 29 th to 31 st Jan 2010
4	M.V. Vinodh, A. Bellur, K.B. Narayan, D.M. Thakare, A. Susan, N.M. Suthakar and Hema A Murthy	"Using polysyllabic units for text to speech synthesis in Indian languages"	
5	R Janakiram, J C Kumar, and Hema A Murthy	"Robust syllable segmentation and its application to syllable-centric continuous speech recognition"	
6	K. Bommepally, T.K. Glisa, J.J. Prakash, S.R. Singh and Hema A Murthy	"Internet activity analysis through proxy log"	National Conference on Communications (NCC), IIT Madras, 29 th to 31 st Jan 2010
7	M R Srikanth and Hema A Murthy	"Discriminative training of Gaussian mixture speaker models: A new approach"	
8	A. Pradhan, S. Chevireddy, and Hema A Murthy	"A low-bit rate segment vocoder using minimum residual energy criteria"	
9	N Ranjan, Hema A Murthy, and T.A. Gonsalves	"Detection of SYN flooding attacks using generalized autoregressive conditional heteroskedasticity (GARCH) modeling technique"	
10	Vanniarajan and Kamala Krithivasan	"Network topology inference based on Prufer sequence"	

In Proceedings of International Conferences:

1	C. R. Chowdary and P. Sreenivasa Kumar	"ESUM: An Efficient System for Query-specific Multi-document Summarization"	31st European Conference on Information Retrieval(ECIR) Toulouse, France, 6 to 9th Apr 2009
2	A. D. Dileep and C. Chandra Sekhar	"Combining Representation and Feature Selection using Multiple Kernel Learning"	International Conference on Cognitive and Neural Systems, ICCNS-2009, Boston, USA, 27 th to 30 th May 2009.
3	T. Veena and C. Chandra Sekhar	"Concept Saliency Score Estimation for Content Based Image Retrieval"	International Conference on Cognitive and Neural Systems, ICCNS-2009, Boston, USA, 27 th to 30 th May 2009.
4	A. D. Dileep and C. Chandra Sekhar	"Representation and Feature Selection using Multiple Kernel Learning"	International Joint Conference on Neural Networks, IJCNN-2009, Atlanta, USA, 14 th to 19 th June 2009
5	Y V. Kiran and T. Venkatesh and C. Siva Ram Murthy	"Joint Path and Wavelength Selection Using Q-learning in Optical Burst Switching Networks"	International Conference on Communication , Dresden, Germany, 14 th to 18 th June 2009
6	Rachuri, Kiran Kumar and C. Siva Ram Murthy	"Level Biased Random Walk for Information Discovery in Wireless Sensor Networks"	International Conference on Communication , Dresden, Germany, 14 th to 18 th June 2009
7	B. Vibhav and A. Antony Franklin and C. Siva Ram Murthy	"Using Partially Overlapped Channels for End-to-End Flow Allocation and Channel Assignment in Wireless Mesh Networks"	International Conference on Communication , Dresden, Germany, 14 th to 18 th June 2009
8	Uthara Gosa Mangai and Sukhendu Das	"A Novel method of Supervised Edge detection for identifying Boundaries of Texture Regions"	International Conference on Innovative Technologies (ICIT-09), Research and Development in Science, Technology and Management, Bahadurgarh, India, June 18 th to 19 th 2009

9	S.Chandrakala and C.Chandra Sekhar	"Combination of generative models and SVM based classifier for speech emotion recognition"	International Joint Conference on Neural Networks, Atlanta, USA, pp.497-502, June, 2009
10	Ashish Choudhary, Arpita Patra and C. Pandu Rangan	"Simple and efficient asynchronous byzantine agreement with optimal resilience"	28th Annual ACM SIGACT-SIGOPS Symp. on Principles of Distributed Computing (PODC2009), University of Calgary Canada, 10 th to 11 th Aug 2009
11	Ashish Choudhary, Arpita Patra and C. Pandu Rangan	"Information Theoretically Secure Multi Party Set Intersection Re-Visited"	Selected Areas in Cryptography 2009 (SAC 2009), University of Calgary, Canada, 13 th to 14 th Aug 2009
12	Ashish Choudhary, Arpita Patra and C. Pandu Rangan	"The Round Complexity of Verifiable Secret Sharing Revisited"	CRYPTO 2009, University of Santa Barbara, USA, 16 th to 20 th Aug 2009
13	J. Bahuguna , K M. Krishna and B. Ravindran	"MDP based Active Localization for Multiple Robots"	5 th Annual IEEE Conference on Automation Science and Engineering (CASE), Bangalore, 22 nd to 25 th Aug 2009
14	Lakshmanan K. and Kamala Krithivasan	"On the relative expressive power of contextual grammar with maximal and depth first derivation"	International Colloquium on Theoretical Aspects of Computing (ICTAC 2009), LNCS 5684, pp. 246-260, Kualalampur, Malaysia, Aug 2009
15	Mohamed, M., Chakravarthy, V. S., Subramanian, D., and Ravindran, B.	"The Role of Basal Ganglia in Performing Simple Reaching Movements: A Computational Model"	14th Conference of the International Graphonomics Society (IGS09), 2009
16	Kevin Yang and Krishna Moorthy Sivalingam	"Routing in SONET/VCAT based Optical WDM Networks"	ICST International Conference on Broadband Communications and Networks (BROADNETS) Madrid, Spain, Sep 2009.
17	Kovendhan Ponnaivaikko, D. Janakiram	"SyMon: Defending Large Structured P2P Systems Against Sybil Attack"	In the Proceedings of International Workshop on Mobilizing Health Information to Support Healthcare-related Knowledge Work , 2009, Portugal
18	P. Gireesan Namboothiri and Krishna Moorthy Sivalingam	"Performance of a multi-channel MAC protocol based on IEEE"	IEEE Conference on Local Computer Networks, Zurich, Switzerland, Oct 2009.
19	Suranjana Samanta and Sukhendu Das	"Unsupervised Texture Segmentation Using Feature Selection And Fusion"	IEEE Conference on Image processing (ICIP '09), 7 to 11, Nov 2009
20	Ashish Choudhary, Arpita Patra and C. Pandu Rangan	"Efficient Statistical Asynchronous Verifiable Secret Sharing with Optimal Resilience"	The 4th International Conference on Information Theoretic Security (ICITS 2009) , Shizuoka, Japan, 3 rd Dec 2009
21	Kiran, Kate and B.Ravindran	"Epsilon Equitable Partition: A Positional Analysis Method for Large Social Networks"	5th International Conference on Management of Data (COMAD), Mysore, 9 th to 12 th Dec 2009
22	Abdul Nizar, Suresh Babu G and P. Sreenivasa Kumar	"SFilter: A simple and scalable Filter for XML streams"	5th International Conference on Management of Data (COMAD), Mysore, 9 th to 12 th Dec 2009
23	Ashish Choudhary, Arpita Patra and C. Pandu Rangan	"Round Efficient Unconditionally Secure MPC and Multiparty Set Intersection with Optimal Resilience"	10th International conference on Cryptology in India (IndoCrypt 2009), New Delhi , 13 th to 16 th Dec 2009
24	S. Sharmila Deva Selvi, S. Sree Vivek, C. Pandu Rangan	"Cryptanalysis of Certificateless Signcryption Schemes and an Efficient Construction Without Pairing"	Inscript 09, Beijing, China, 12 th to 5 th Dec 2009
25	S. Chandrakala and C Chandra Sekhar	"Classification of Multi-variate Varying Length Time Series Using Descriptive Statistical Features"	3rd International Conference on Pattern Recognition and Machine Intelligence (PReMI 2009), IIT Delhi, 16 th to 20 th Dec 2009

26	Suranjana Samanta and Sukhendu Das	"A Fast Supervised Method of Feature Ranking and Selection For Pattern Classification"	3rd International Conference on Pattern Recognition and Machine Intelligence (PReMI 2009) ,IIT Delhi, 16 th to 20 th Dec 2009
27	Saamaja Vupputuri, Kiran Rachuri, and C. Siva Ram Murthy	"On Providing Event Reliability and Maximizing Network Lifetime Using Mobile Data-Collectors in Wireless Sensor Networks"	International Conference on High Performance Computing (HiPC 2009), Kochi, India, 16 th to 19 th , Dec 2009
28	Athula Balachandran, A. Antony Franklin, and C. Siva Ram Murthy,	"Integrating Traffic Estimation and Dynamic Channel Reconfiguration in Wireless Mesh Networks"	International Conference on High Performance Computing (HiPC 2009), Kochi, India, 16 th to 19 th , Dec 2009
29	Ved Prakash Sahu, Harendra Kumar Mishra and C.Chandra Sekhar	"Variational Bayes adapted GMM based models for audio clip classification"	International Conference on Pattern Recognition and Machine Intelligence (PReMI'09), New Delhi, pp.513-518, Dec, 2009.
30	Venkata Padmavathi Metta, Kamala Krithivasan, Deepak Garg	"Modeling Spiking Neural P systems using timed Petri Nets"	Nature and Biologically Inspired Computing (NaBIC) 2009, pp. 25-30, Coimbatore, Dec. 2009
31	Vasanth K., R., Chakraborti, S., and Massie, S.	"Modeling Documents as Cases: A CBR Perspective to IR "	4th UKCBR Workshop Cambridge, 2009
32	M.A. Raghunandan, S. Chakraborti, and D. Khemani	"Robust Measures of Complexity in TCBR"	8th International Conference on Case-based Reasoning, 2009
33	S. Chakraborti	"Memory Based Reasoning: A Dynamical Systems Perspective"	Proceedings of the Workshop on Uncertainty, Knowledge Discovery and Similarity in CBR, Seattle, 2009
34	P. Rajan, R. M. Hegde, and Hema A Murthy	"Dynamic selection of magnitude and phase based acoustic feature streams for speaker verification"	European Signal Process. Conference, pp. 1244–1247, Glasgow, Scotland, 2009
35	P. Rajan, S. H. K. Parthasarathi, and Hema A Murthy	"Robustness of phase based features for speaker recognition"	Interspeech, pp. 2355–2358., Brighton, England, 2009
36	I. Murugeswari, N. S. Narayanaswamy.	Tuning Search Heuristics for Classical Planning with Macro Actions.	In the 22nd International FLAIRS Conferences, May 19-22 nd , 2009, Florida
37	Saurabh Kejriwal and N. S. Narayanaswamy.	TRANS: Schema-Aware Mapping of OWL Ontologies into Relational Databases	In the 15 th International Conference on Management of Data (COMAD 2009), December 9-12, 2009, Mysore, India.
38	Srinath Narasimha and Krishna Moorthy Sivalingam	"Improved Opportunistic Scheduling Algorithms for WiMAX Mobile Multihop Relay Networks"	Sixteenth Annual International Conference on High Performance Computing Kochi, India
39	Arun K. Kumar and Krishna Moorthy Sivalingam	"Energy-Efficient Mobile Data Collection in Wireless Sensor Networks with Delay Reduction using Wireless Communication"	Second International Conference on COMmunication Systems and NETworkS (COMSNETS), Bangalore, Jan 2010.
40	S. Chandrakala, Veena T. and C. Chandra Sekhar	"Gaussian Mixture Model based Posterior Probability Support Vector Machines for Speech Emotion Recognition and Image Classification"	International Conference on Intelligent Human Computer Interaction, (Allahabad, India), pp 85-99, Jan 2010.
41	Karthik Raghavan	"ROSY: A Fully-Software Solution to Recover from Hard Errors"	ASPLOS 2010, Pittsburgh US, 13 th to 17 th March 2010
42	Karthik Jayanthi, Sutanu Chakraborti and Stewart Massie	"Introspective Knowledge Revision in Case-Based Reasoning"	International Conference on Case-Based Reasoning, ICCBR, Italy, 2010

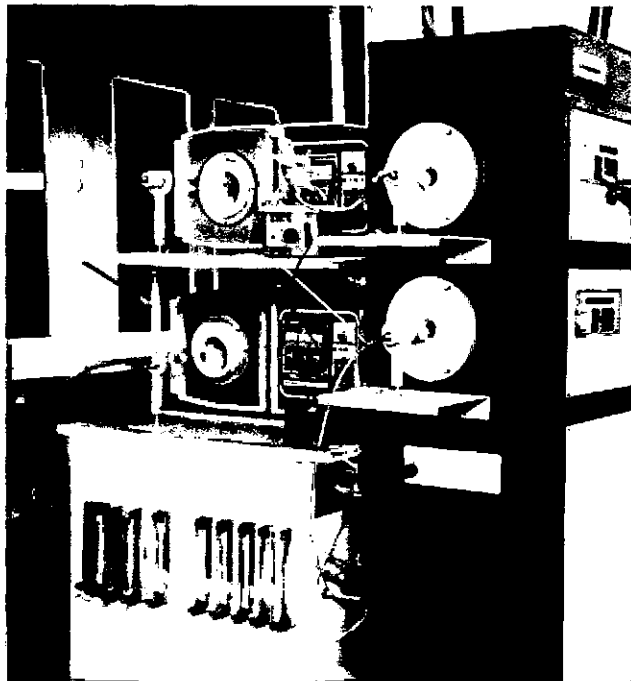
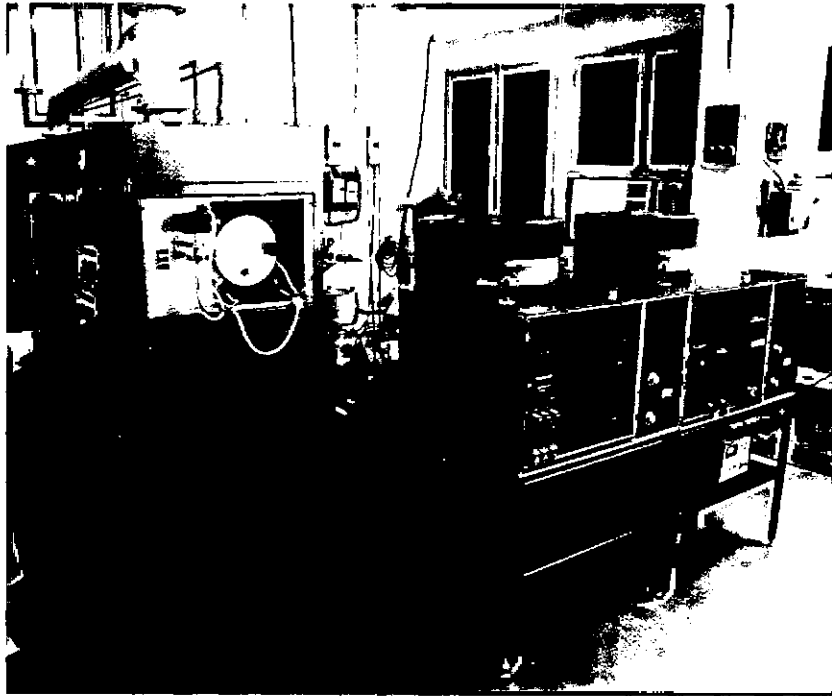
Book Chapters

1	Shivashankar, S., Ravindran, B., and Srinivasa Raghavan, N. R.	Text mining of internet content: The bridge connecting product research with customers in the digital era	In Product Research: The Art and Science Behind Successful Product Launches, Srinivasa Raghavan, N.R. and Cafeo, J. A. (Eds.), Nov. 2009. Springer.
2	Arun Asok, Krishna Moorthy Sivalingam and P. Agrawal	Mobility in Wireless Sensor Networks	In Encyclopedia of Ad Hoc and Ubiquitous Computing, (edited by Dharma Agrawal and Bin Xie), World Scientific Press, Singapore, Sep. 2009
3	Sai Suhas K., Sai Rupak M, K. V. Sridharan and Krishna Moorthy Sivalingam	Scheduling Algorithms for WiMAX Networks: Simulator Development and Performance Study	In Emerging Wireless LANs, Wireless PANs, and Wireless MANs, (edited by Yang Xiao and Yi Pan), Wiley, 2009
4	Kiran K., Srinath Narasimha and Krishna Moorthy Sivalingam	QoS Issues and Challenges in WiMax and WiMax MMR Networks	In WiMAX Security and Quality of Service: Providing an End to End Explanation, (Edited by Seok-Yee Tang, Hamid Sharif, and Peter Mueller), Wiley, 2010

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Prof. Sunita Sarawagi, Department of Computer Science, IIT Bombay.	7 th Dec 2009	Machine Learning Seminar Series
2	Prof. Andy Barto, Department of Computer Science, University of Massachusetts Amherst	16 th Dec 2009	Machine Learning Seminar Series
3	Martin Wainwright, Department of Electrical Engineering and Computer Sciences, University of California Berkeley	15 th Jan 2010	Machine Learning Seminar Series
4	Professor Giacometti, HOD of Computer Science Department and Vice-President of the Office of International Relations of University of Tours	13 th Jan 2010	Department Visit
5	Dr. Nirmalie Wiratunga & Dr. Robert Lothian The School of Computing, The Robert Gordon University, Aberdeen	08 th Jan to 07 th Mar 2010	As part of the British Council UK-India Education and Research Initiative (UKIERI) standard award project to establish a series of research exchanges between IIT Madras and RGU.
6	Dr. Juan A. Recio Garcia , School of Computer Science Complutense University of Madrid	08 th Jan to 07 th Mar 2010	As part of the British Council UK-India Education and Research Initiative (UKIERI) standard award project to establish a series of research exchanges between IIT Madras and RGU.
7	Dr. Thomas O'Toole, Director WIT Business School	3 rd Feb 2010	To develop upon the MOU agreement
8	Dr. Frank Kelly, Professor of the Mathematics of Systems, University of Cambridge	11 th to 12 th Feb 2010	Department Seminars
9	Dr Heather Wallace , Dr Yaji Sripada Miss Llinos Wyn Jones University of Aberdeen	18 th Feb 2010	To discuss join collaborative activity
10	Prof. Susan Craw , Director DEAS Research, The Robert Gordon University	22 nd Feb to 7 th Mar 2010	As part of the British Council UK-India Education and Research Initiative (UKIERI)
11	Prof. Susan Craw School of Computing, Robert Gordon university	16 th Mar 2010	Under UKIERI Project
12	Dr. Rohit Lotlikar, Research Staff Member IBM India Research Lab Bangalore	19 th Mar 2010	To deliver Guest Lecture
13	Chiranjeeb Bhattacharyya Associate Professor Dept of CSA, IISC, Bangalore	25 th Mar 2010	Machine Learning Seminar Series

ELECTRICAL ENGINEERING



New Courses introduced:

Sl.No.	Course No.	Title
1	EE 4001	Electronic and Photonic nano structure devices
2	EE 5010	Wave propagation for communications
3	EE 5241	Robust Optimal Control
4	EE 5420	Introduction to Photonics
5	EE 5471	Computer Methods in Electrical Engineering
6	EE 5491	Wave gates, microwave circuits and antennas
7	EE 5530	Biomedical Electronic Systems
8	EE 6001	Stochastic Modeling and Theory of Queues
9	EE 6002	Multi-career communications
10	EE 6003	Multi-antenna digital communications

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	44	40	43	45	6	178
Dual Degree	58	53	46	47	51	255
M.Tech.	58	50	7	0	0	115
M.S.	38	21	22	10	6	97
Ph.D.	22	15	23	8	33	101
Total	220	179	141	110	96	746

Names of Student/Scholar who attended Conference/Seminar and Symposia Abroad/India:

S.No	Name of the faculty	Title	Institution	Period
Abroad:				
1	Jaibir Sharma	International Conference on Materials for Advanced	Singapore	28.06.09
2	G.S.Jayadeva	International Conference on Materials for Advanced	Singapore	28.06.09
3	Narayanan Bhagirath Thota	International Conference ICMAT 2009 & IUMRS – ICA 2009	Singapore	01.07.09
4	Ms.M.Bama	12 th Wireless Personal Multimedia Communications (WPMC 2009)	Sendai, Japan	09.09.09
5	Mr.J.Oliver	15 th IEEE Asia-Pacific Conference on Communications (APCC 2009)	Shangai, China	08.10.09 to 10.10.09
6	Mr.Anil Kumar Chorppath	47th Annual Allerton International Conference on Communication	Allerton Center, Monticello, Illinois, USA	01.10.09
India:				
1	Mr. T. R. Ramya	WISARD 2010 (part of IEEE COMSNETS 2010)	Bangalore	05.01.10
2	Mr.S. Mohanasundaram V.	IWPSD 2009	Delhi	18.12.09
3	Mr.P. Kanakasabapathy	International Conference on Power Systems (ICPS 20)	IIT Kharagpur	28.12.09
4	Ms. E. Angeline	International Conference on Power Systems	IIT Kharagpur	28.12.09
5	Ms.K. Jamuna	International Conference on Power Systems (ICPS 20)	IIT Kharagpur	28.12.09
6	Mr.S. Sivasubramani	International Conference on Power Systems (ICPS 20)	IIT Kharagpur	28.12.09
7	Ms. Angeline Ezhilarasi	17th International Conference on Advanced Computing	Indian Institute of Science Bangalore	17.12.09

Names of students/scholars who won outside prizes and awards:

S.No	Name of the Student	Name of the award	Awarded by	Date of award
1	Mr.Jabir Sharma	Best Poster Award	ICMAT 2009	3 rd July 2009
2.	Mr.Karthikeyan Reddy	Techno Inventor	Indian Semiconductor Association	2009

4.8.3 Faculty and their activities:

Name and Qualification	Areas of specialization
Professors	
Ashok Jhunjhunwala, Ph.D (Maine)	Communication Networks, Fibre optics, Surface Acoustic Wave Devices
Amitava Dasgupta, Ph.D (IIT Kharagpur)	Si and GaAs Devices, Technology and Simulation
Anil Prabakar, Ph.D (Carnegie Mellon)	Electromagnetic fields, Optical Networks
Aravind R., Ph.D (California)	Image Processing and Compression
Bhaskar Ramamurthi, Ph.D (California)	Digital Communication and Communication networks, Signal Processing.
David Koil Pillai, Ph.D (Cal Tech)	Cellular systems, Wireless communication and signal processing
Devendra jalihal, Ph.D (Duke)	Statistical Signal Processing
Enakshi Bhattacharya, Ph.D (TIFR Bombay)	Semiconductor materials and Devices. Biosensors and MEMS
Giridhar K., Ph.D (California)	Communication Systems and Signal Processing.
Harishankar Ramachandran Ph.D (California)	Electromagnetic Fields, Optical Networks
Jagadeesh Kumar V., Ph.D (IIT Madras) (HEAD)	Measurements, Instrumentation
Janakiraman P.A., Ph.D (IIT Madras)	Robotics, Control Systems, Instrumentation
Jayashankar V., Ph.D (Anna)	Instrumentation and Measurement for high voltage applications
Krishna Vasudevan, Ph.D (IIT Madras)	Power Electronics
Maheshkumar Ph.D (IIT Kanpur)	Power systems
Nandita Dasgupta, Ph.D (IIT Madras)	Si and III-V Semiconductor Devices, Tech, and Simulation
Prabhu K.M.M., Ph.D (IIT Madras)	Signal Processing
Rajagopalan A.N., Ph.D (IIT Bombay)	Image Processing and Computer Vision
Sarathi R., Ph.D.(IISc Bangalore)	High voltage Engineering
Shanthi Pavan Y., D.Sc (Columbia)	VLSI Design
Shreepad Karmalkar, Ph.D. (IIT Madras)	Semiconductor Device Modeling and Technology
Sridharan K., Ph.D (RPI, New York)	Robotics, Graphics, Web Programming
Srinivasan S., Ph.D(IIT Madras)	Digital Design, DSP Architecture and applications, VLSI Design.
Swarup K.S., PhD (IISc Bangalore)	Power systems, ANN, Distribution Automation

Vinita Vasudeven, Ph.D (IIT Bombay)

Umesh S., Ph.D., Rhode Island Univ.

Associate Professors

Andrew Thangaraj, Ph.D (Georgia Tech)

Ramalingam C. S., Ph.D (Rhode Island)

Srikrishna B., Ph.D (Rice)

Assistant Professors

Anjan Chakravarthy, Ph.D (IIT Kharagpur)

Arun Mahindrakar, PhD (IIT Bombay)

Balaji Srinivasan, PhD (New Mexico)

Bijoy Krishna Das, (Germany)

Kalyankumar B., PhD (IIT Kanpur)

Mathiazhagan C., Ph.D (California)

Nagendra Krishnapura, Ph.D (Columbia)

Nitin Chandrhoodan, Ph.D (Maryland)

Manivasakan R., Ph.D (IIT Bombay)

Shanthy Bhattacharya PhD (IIT Madras)

Venkatesh T.G., Ph.D.(IISc Bangalore)

Bharath Bhikkaji, Ph.D (Uppsala)

Sivaprakasam M., Ph.D (California)

Krishna S., Ph.D (IISc Bangalore)

Srinivas S., Ph.D (NIT Warangal)

Visiting Asst. Professor

Arun Pachai Kannu , Ph.D., Ohio State University

Deepa Venkitesh, Ph.D., IIT Bombay

Lakshmi Narasamma, Ph.D., I.I.Sc., Bangalore

Mohanasankar S, Ph.D., University of California Santa Cruz

Venkatesh Ramaiyan, Ph.D., I.I.Sc., Bangalore

Adjunct Faculty

Ravikumar CP, Ph.D., Univ. of Southern California

Ravishankar A., Ph.D., Carnegie Mellon Univ.

Kiran Kuchi, Ph.D., Univ. of Texas

CAD for VLSI, VLSI Design

Image Processing

Information theory, Error control coding

Digital Signal Processing, Speech Recognition and Speech Coding

Wireless Communication, Information Theory

Modeling of semiconductor devices

Nonlinear and optimal Control Engineering

Fiber Optic Engineering

Optoelectronics devices and circuits

Power system stability

RF, Analog Circuits for Telematics.

nonlinear analog signal processing

Digital Systems, Microprocessors, VLSI design

Communication Networks.

Optical MEMS for telecommunication

Computer Architecture and Networks.

Control of Mechatronic systems, Control Systems Design and Signal Processing.

Biomedical engineering system

Power System Stability Analysis and Control. Flexible AC Transmission System (FACTS) Controllers.

Power Electronics & Machine Drives

Wireless Networks

Photonics

Power Electronics & Drives

Biomedical Electronics

Modeling & optimization of wireless Networks

VLSI Design

VLSI Design and Digital Circuits

Cellular Wireless Networks

Scientific Officers Gr I

Ponnuraju K., Ph.D (IIT Madras)

Solid State Electronic Devices, Semiconductor Technology.

Prabhakara Rao P., M.S (IIT Madras)

Communications

Short term courses/workshops/seminars/symposia/conference organized by the faculty members:

S.No	Coordinators	Title	Place	Date
Workshop:				
1.	Dr.Ashok Jhunjunwala	Drafting the future of low cost broadband access and infrastructure	Kampala,Uganda	04.05.09 to 05.05.09
2.	Dr.B.Srikrishna	JTG Summer School 2009	IISc. Bangalore	19.05.09 to 22.05.09
3.	Dr.Enakshi Bhattacharya	Nanomechanical Cantilever Sensors	Jeju,Korea	20.05.09 to 22.05.09
4.	Dr.B.Srikrishna	IEEE International symposium on Information Theory (ISIT 2009)	Seoul South Korea	28.06.09 to 03.07.09
5.	Dr.Andrew Thangaraj	IEEE International symposium on Information Theory (ISIT 2009)	Seoul South Korea	28.06.09 to 03.07.09
Short term course				
1.	Dr. Ashok Jhunjunwala	Digital Signal Processor and Applications	IIT Madras	04-05-09 to 16-05-09
2.	Dr. Ashok Jhunjunwala	Digital Signal Processor and Applications	IIT Madras	20-05-09 to 02-06-09
3.	Dr. Ashok Jhunjunwala	Digital Signal Processor and Applications	IIT Madras	05-06-09 to 18-06-09
4.	Dr. Krishna Vasudevan	CEP course for CVRDE on DC Drives	IIT Madras	22.07.09 to 24.07.09,30.07.09, 01.08.09
5.	Dr.Enakshi Bhattacharya and Dr. Nandida Das Gupta	Photovoltaics	IIT Madras	30.07.09 to 04.08.09
6.	Dr.Shanthi Bhattacharya	Optical Engineering: From Devices to Networking	IIT Madras	23.11.09 to 28.11.09
7.	Dr. Shanti Swarup Dr. Srikrishna B	ACE Program for Diploma Engineers	IIT Madras	August 2009 July 2011
8.	Dr.Shanthi Swarup K Dr. Mahesh Kumar	A Short Term Course on Modern Power Systems	IIT Madras	03-08-09 08-09-09
9.	Dr. Sarathi R	Development of National Implimentation plan on POPS-PCB	IIT Madras	20-08-09
10.	Dr. Srikrishna. B	Training in Wireless Technology	IIT Madras	7-10-09
11.	Dr. Sarathi R	Recent Trends in condition monitoring of Power Apparatus and Systems	IIT Madras	26-10t-09 30-10-09
12.	Dr. Ashok Jhunjunwala	Digital Signal Processor and Applications	IIT Madras	7-12-09 19-12-09
13.	Dr.Ashok Jhunjunwala	Digital Signal Processor and	IIT Madras	22-12-09

		Application		6-01-10
14.	Dr. Shanthi Bhattacharya Dr. Manivasakan R	Optical Engineering: From Devices to Networking	IIT Madras	23-11-09 to 28-11-09
15.	Dr. V. Jagadeesh Kumar Dr. S. Mohana Shanka	Biomedical Instrumentation	IIT Madras	15-03-10 20-03-10

Short term courses/workshops/seminars/symposia/conference attended by the faculty members in academic institutions and public sector undertakings:

S.No	Name of the faculty	Title	Place	Duration	
				From	To
Workshop / Seminars/Symposia					
1.	Dr.Ashok Jhunjunwala	Drafting the future of low-cost broadband access and infrastructure	Kampala, Uganda	04.05.09	05.05.09
2.	Dr.B.Srikrishna	JTG Symmer School 2009	IISc.,Bangalore	19.05.09	22.05.09
3.	Dr.Enakshi Bhattacharya	Nanomechanical Cantilever Sensors 2009	Jeju, Korea	20.05.09	22.05.09
4.	Dr.Nagendra Krishnapura	International Symposium on Circuits and Systems (ISCAS 2009)	Taipei,Taiwan	24.05.09	27.05.09
5.	Dr.Shanthi Pavan	International Symposium on Circuits and Systems (ISCAS 2009)	Taipei,Taiwan	24.05.09	27.05.09
6.	Dr.Ashok Jhunjunwala	EPSRC-DST Project Kick-off Workshop India-UK Centre of Excellence in NextGeneration Networks (IU-ATC).	BT Labs, Antares Building, Alan Rudge Theatre, London.	11.06.09	12.06.09
7.	Dr.Andrew Thangaraj	IEEE International Symp on Information Theory(ISIT 2009)	Seoul, Korea	28.06.09	03.07.09
8.	Dr.Anil Prabhakar	Workshop on Magnonics at Max Plank Institute	Dresden, Germany	03.08.09	08.08.09
9.	Dr.Enakshi Bhattacharya	India- Japan Workshop On Biomolecular Electronics & Organic Nanotechnology	NPL New Delhi	17.12.09	19.12.09
10.	Dr.Srinivasan.S	IS&T/SPIE Symposium on Electronic Imaging 2010	San Jose, California, USA	17.01.10	21.01.10
11.	Dr.B.Srikrishna	WISARD 2010 (part of IEEE COMSNETS 2010)	Bangalore	05.01.10	06.01.10
Conferences attended in abroad:					
1.	Dr.Devendra Jalihal	IEEE 69 th Vehicular Technology conference(IEEE VTC 2009)	Barcelona, Spain	26.04.09	29.04.09
2.	Dr.Ashok Jhunjunwala	IST-Africa 2009 Conference	Kampala	04.05.09	05.05.09
3.	Dr.S.Karmalkar	IEEE Photovoltaic Socialist Conference	Philadelphia, USA	07.06.09	12.06.09
4.	Dr.K.Giridhar	IEEE International Conference on Communications	Dresden, Germany	13.06.09	19.06.09
5.	Dr.B.Srikrishna	IEEE International Symposium on Information Theory 2009	Seoul, Korea	28.06.09	03.07.09

S.No	Name of the faculty	Title	Place	Duration	
				From	To
6.	Dr.Bhaskar Ramamurthi	IEEE International Conference on Communications	Dresden, Germany	14.06.09	19.06.09
7.	Dr.A.N.Rajagopalan	British Machine Vision Conference 2009 (BMVC 2009)	Queen Mary University of London,UK	07.09.09	10.09.09
8.	Dr.Shanthi Pavan	European Solid State Circuits Conference (ESSCIRC 2009)	Athens, Greece	14.09.09	18.09.09
Conferences attended by faculty in India:					
9.	Dr.K.S.Swarup	Session Chair, Restructuring of Electricity Markets , International Conference on Power Systems (ICPS 2009), 28-29 December 2009	IIT Kharagpur	27.12.09	29.12.09
10.	Dr.Enakshi Bhattacharya	Photonics West, San Francisco	SPIE	23.01.10	28.01.10
Meetings attended in abroad:					
1.	Dr.Bhaskar Ramamurthi	Third Generation Partnership Project 2 or 3 GPP2	Vancouver BC, Canada	11.05.09	15.05.09
2.	Dr. Ashok Jhunjunwala	Kick-off Technical Meeting	BT Research Lab in UK.	10.06.09	12.06.09
3.	Dr.K.Giridhar	Next Generation Communications Networks	London ,UK	10.06.09	12.06.09
4.	Dr.David Koilpillai	Next Generation Communications Networks	Indo-UK	10.06.09	12.06.09
5.	Dr.Anil Prabhakar	Indo-EU Project on Magnonics	UK	14.06.09	21.06.09
Meetings attended in India:					
6.	Dr. Ashok Jhunjunwala	ERP Review Committee Meeting	IGNOU , New Delhi	14.04.09	
7.	Dr. Ashok Jhunjunwala	ICT Meeting	Concord Hall, Hotel Atria, Bangalore	17.04.09	
8.	Dr. Ashok Jhunjunwala	AU-KBC Research Centre, 9th Governing Council Meeting	Anna University, Chennai	28.04.09	
9.	Dr. Ashok Jhunjunwala	Banking Technology Excellence Awards 2008	IDRBT, Hyderabad	18.05.09	
10.	Dr. Ashok Jhunjunwala	1st Meeting of CAR Panel on Automotive Electronics	TIFAC, New Delhi.	23.06.09	

Special Lectures delivered by the faculty in other institutions:

S.No	Name of the faculty	Topic of the lecture	Date	Institution
Abroad:				
1.	Dr.Enakshi Bhattacharya	Silicon Based Capacitive and for Microcantilever Biosensors Detection of Triglyceride and Urea.	03.07.09	University of Bologna,Italy
2.	Dr.Enakshi Bhattacharya	Silicon Based Capacitive and for Microcantilever Biosensors Detection of Triglyceride and Urea.	08.07.09	EPFL,Switzerland

3.	Dr.Shanti Bhattacharya	Fibre Interferometry	09.07.09	EPFL,Neuchatel, Sitzerland
4.	Dr.Shanti Bhattacharya	Fibre Interferometry	16.07.09	POF,Institute of Applied Science,Nuenrnberg, Germany.
5.	Dr.Enakshi Bhattacharya	Silicon based Capacitive and Microcantilever Biosensors	20.01.10	Oak Ridge National Laboratory, USA
India				
6.	Dr.Mahesh Kumar	'Design and Dynamics of voltage source inverter used for DSTATCOM Applications'	06.04.09	Electrical Engineering Department, IIT Kanpur
7.	Dr.Arun D Mahindrakar	Lecture on Nonlinear controllability and sliding mode control	14.05.09	IISc.Bangalore
8.	Dr.Enakshi Bhattacharya	Silicon based MEMS for Biosensors	16.06.09	Rajagiri School of Engineering & Technology, Kochi
9.	Dr.Enakshi Bhattacharya	Bio MEMS	12.08.09	AIT , Bangalore
10.	Dr.Enakshi Bhattacharya	Bio MEMS	04.09.09	Rajalakshmi Engg. College Chennai
11.	Dr.k.S.Swarup	Power System Security Assessment : Techniques and Tools	14.09.09	Osmania University,Hyderabad
12.	Dr.Enakshi Bhattacharya	Bio MEMS	19.09.09	SSN College of Engg.Kanchipuram
13.	Dr. K.S. Swarup	"Intelligent Automation in Power Systems", AICTE sponsored workshop on Recent Advances in Power Components & Systems	10.12.09 to 11.12.09	Dept of EEE, Vigyan University, AP.
14.	Dr. K.S. Swarup	"AI Techniques in Automation, Deregulation and Restructuring of Power Systems", MHRD sponsored Workshop on Soft Computing Applications to Power Systems, 12-19 Dec 2009	12.12.09 to 19.12.09	Dept of EE, National Institute of Technology, Warangal,
15.	Dr.Karmalkar.S	High frequency devices - History, Physics, Technology and Applications	18.01.10	Solid State Physics Laboratory (SSPL), New Delhi
16.	Dr.Nandita DasGupta	Some Challenges in the Fabrication of GaN-based Devices	Dec 2009	15th International workshop on the Physics of Semiconductor Devices (IWPSD2009), Delhi

Visits abroad by Faculty:

S.No	Name of the faculty	Country visited	Purpose of visit	Date	
				From	To
1.	Dr.Ashok Jhunjunwala	Uganda	To attend Conference on IST-Africa 2009	03.05.09	05.05.09
2.	Dr.David Koilpillai	San Francisco,USA	To attend the meeting in connection with CEWIT's	04.05.09	08.05.09

3.	Dr.Nitin Chandrachoodan	Germany	DAAD research study fellowship	11.05.09	14.05.09
4.	Dr.Ashok Jhunjunwala	Portland	Intel	13.05.09	14.05.09
5.	Dr.Ashok Jhunjunwala	USA	To attend the board meeting of Polaris Software Lab Ltd.	15.05.09	19.05.09
6.	Dr.David Koilpillai	London,UK	Attend Indo-UK Project meeting on " Next Generation Communications Networks"	11.06.09	12.06.09
7.	Dr.Anil Prabhakar	UK	Kick –off meeting of Indo –EU project on Magnonics	15.06.09	17.06.09
8.	Dr. Enakshi Bhattacharya	Italy	Collaborative work at ARCES University of Bologna	04.07.09	05.07.09
9.	Dr. Enakshi Bhattacharya	Switzerland	Indo-Swiss Project	06.07.09	13.07.09
10.	Dr.Shanti Bhattacharya	University of Nuernberg,Germany	Fibre Interferometry for metrology	13.07.09	17.07.09
11.	Dr.Ashok Jhunjunwala	Cairo,Egypt	To attend the Event " The Imagine Cup 2009"	03.07.09	07.07.09
12.	Dr.Ashok Jhunjunwala	Cairo,Egypt	As a Judge in the event titled "The Imagine Cup 2009"	05.07.09	07.07.09
13.	Dr.Anil Prabhakar	Germany	Workshop, Max Planck Institute for Complex Systems	04.08.09	09.08.09
14.	Dr.Ashok Jhunwala	London,UK	To attend special audit committee meeting	24.08.09	25.08.09
15.	Dr.Ashok Jhunjunwala	Belgium	Keynote speaker on the final event of the Digital World Forum Project	29.09.09	02.10.09
16.	Dr.K.Sridharan	Malaysia	To present papers at ISIEA 2009	04.10.09	06.10.09
17.	Dr. K. Sridharan	Malaysia	Visiting Professor in Nanyang Technological University	05.10.09	30.11.09
18.	Dr.K.Sridharan	Singapore	Presented a paper at IEEE TENCON, 2009	November 2009	
19.	Dr.Andrew Thangaraj	France	Research work in Georgia Tech Lorraine	07.10.09	11.10.09
20.	Dr.Andrew Thangaraj	Italy	To attend IEEE Information Theory Workshop 2009	12.10.09	17.10.09
21.	Dr.Bhaskar Ramamurthi	Chicago,USA	To attend PAN IIT 2009	08.10.09	12.10.09
22.	Dr.Shanti Bhattacharya	San Francisco, California, USA	Paper presentation at International Conference of SPIE Photonic West 2010	23.01.10	28.01.10
23.	Dr. Enakshi Bhattacharya	San Francisco, California, USA	Paper presentation at SPIE Photonic West 2010: MEMS-MOEMS Conference	23.01.10	28.01.10
24.	Dr.Shanthi Pavan	Malaysia	Retainer consultancy assignment for M/s. Dreamcatcher Asia	25.01.10	29.01.10
25.	Dr.Nandida Das Gupta	Xi'an, China	To attend the II International Conference on Semiconductor Technology for Ultra Large Scale Integrated Circuits and Thin Film Transistors	05-7-2009	10-07-09

Honours and awards obtained by Faculty/Laboratory:

S.No	Name of the faculty/ laboratory	Name of the award	Awarded by	Date of award
1.	Dr. Ashok Jhunjhunwala	2009 Bernard Iohn'42 humanitarian Award	University of Maine.	July 09 report
2.	Dr. Rajalakshmi Dr. Ashok Jhunjhunwala	IETE- M N Saha Memorial Award	IETE	July 09 report

Books, Monographs authored / co-authored:

S.No	Name of faculty	Title	Publisher	Author / Co-author
1	Anil Prabhakar	Spin waves: theory and Applications	Springer	Daniel D Stancil

4.8.4 Design and Development Activities:

Brief and specific details of Process / Instruments / Equipment / Software designed and developed:

No	Name of Faculty	Title	Date
1	Dr. Ani Prabhakar	ADITI-non contact switch for kinds with cerebral palsy	2008 June 09 report

Patents:

Patents Filed:

S.No	Title	Inventor(s)	Date of Filing
1.	An Optimized Manufacturing Process for Stable Fiber Bragg Gratings Provisional Specification filed,	B. Srinivasan and Nirmal K Viswanathan	January 2009.

4.8.5 Research and Consultancy:

Sponsored research Projects:

S.No	Name of the faculty	Title	Industry	Amount (Rupees)
1.	Dr. AMITAVA DAS GUPTA	Optimization of processes for the fabrication of nitride based heterostructure devices. July 09 to July 12	DST	3,57,52,000
2.	Dr. NITIN CHANDRACHODAN	KAVI - for CP children 4/24/2009 to 4/23/2010	The National Trust	9,82,000
3.	Dr. ANIL PRABHAKAR	DYNAMAG: Advanced computational studies of dynamic phenomena in magnetic nano-materials June 09 to May 12	DST	22,03,200
4.	Dr. ASHOK JHUNJHUNWALA	India-UK Advanced Technology Centre (IU-ATC) of excellence in next generation networks systems and services. Jan 09 to Nov 11	DST	35,00,000
5.	Dr. ANDREW THANGARAJ	Physical layer security primitives for wireless communication systems July 09 to July 11	Telecom Centre of Excellence	10,00,000
6.	Dr. ASHOK JHUNJHUNWALA	Rural/Distributed services and applications (IUATC) June 09 to Nov 11	Department of Science & Technology (Indo-UK)	1,07,80,000

7.	Dr.BHASKAR RAMMURTHY	End-to-end UK-India transnational wireless testbed (IUAATC) June 09 to Nov 11	Department of Science & Technology (Indo-UK)	1,42,60,000
8.	Dr.DEVENDRA JALIHAI	Cross-layer energy aware network management (IUATC) June 09 to Nov 11	Department of Science & Technology (Indo-UK)	1,76,00,000
9.	Dr.GIRIDHAR K	Advanced air interface techniques: OFDM, MIMO, and co-operative communications (IUATC) June 09 to Nov 11	Department of Science & Technology (Indo-UK)	1,36,30,000
10.	Dr.DAVID KOILPILLAI	Cognitive Radio (IUATC) June 09 to Nov 11	Department of Science & Technology (Indo-UK)	51,64,000
11.	Dr.UMESH S	Linear transformation approach to vocal-tract length normalisation for computationally efficient speaker-normalisation and rapid adaptation in automatic speech recognition Aug 09 to Aug 12	DST	30,96,000
12.	Dr.SARATHI R	Generation and characterization of stainless steel nano powder by wire explosion process and its use as coating material	IGCAR	11,04,000
13.	Dr.BHARATH BHIKKAJI	Identification and control of active collocated structures	DST	14,33,000
14.	Dr.SHANTHI PAVAN	Ultrawide band circuits and systems in silicon (Swarnajayanti Fellowship) April 10 to April 15	DST	1,92,10,000
15.	Dr.SRIRAMA SRINIVAS	Studies on bearing current and shaft voltage in modern industrial drives April 10 to April 13	DST	15,90,000
16.	Dr.BALAJI SRINIVASAN	Distributed strain & temperature sensing using inelastic processes in optical fibers March 10 to Sept 13	DST	72,74,000
17.	Dr.ASHOK JHUNJHUNWALA	CSTRI Center - IIT Madras (SEED Division) March 10 to March 11		12,00,000
18.	Dr.KRISHNA VASUDEVAN	Modelling and analysis of subsea drive systems	NIOT	39,59,600

Industrial Consultancy Projects:

S.No	Name of the faculty	Title	Industry	Amount (Rupees)
1.	Dr. SARATHI R	Impulse voltage with stand study and testing of power transformers	Powergear Ltd.	53,000
2.	Dr.SARATHI R	Impulse voltage with stand study and testing of power transformers	On Load Gears	82,000

3.	Dr.SARATHI R	Impulse voltage with stand study and testing of power transformer	Powergear Ltd.	50,000
4.	Dr. ANDREW THANGARAJ	Analysis of LDPC codes	ORB Analytics	1,84,000
5.	Dr. JAYASHANKAR V	Testing of 31.5 MVA 66/11KV power Transformer	Victory Electronics Limited	30,000
6.	Dr. JAYASHANKAR V	Testing of 16 MVA 110/33-11 KV Power Transformer D298	Indo Tech Transformers Limited	20000
7.	Dr.JAYASHANKAR V	Testing of 12.5 MVA 16/11 Kv power transformer	Victory Electronics Limited	20,000
8.	Dr.JAYASHANKAR V	Testing of 12.5 MVA 16/11 kv power transformer	Victory Electronics Limited	20,000
9.	Dr.JAYASHANKAR V	Testing of 8 MVA 33/11 KV Power Transformer	Venkateswara Electrical Industries (P) Ltd.	20,000
10.	Dr.JAYASHANKAR V	Testing of 100 MVA 230/110/11 KV Auto Transformer	Victory Electronics Limited	20,000
11.	Dr.JAYASHANKAR V	Testing of 8 MVA 33/11 KV Power Transformer D189	Indo Tech Transformers Limited	20,000
12.	Dr.KRISHNA VASUDEVAN	Testing of UPS	M/s Intelizon Energy Pvt. Ltd.,	15,000
13.	Dr.SARATHI R	Impulse voltage with stand study and testing of power transformers	Venkateswara Electrical Industries (P) Ltd.	20,00,000
14.	Dr.JAYASHANKAR V	Testing of 16 MVA 110/33-11 KV Power Transformer	Victory Electronics Limited	15,000
15.	Dr.SARATHI R	Conducting impulse test on our Transformer	Common Code	1,00,000
16.	Dr.JAYASHANKAR V	Testing of 8 MVA 33-aa kv power transformer	Victory Electronics Limited	15,000
17.	Dr.SARATHI R	Impulse voltage with stand study and testing of power transformers	Siemens India Ltd.,	29,000
18.	Dr.JAGADEESH KUMAR V	Testing of core loss measurement & mapping of B-H curve	Areva T & D India Ltd	7000
19.	Dr.JAGADEESH KUMAR V	Testing of Stator Segment	Leitner Shriram Manufacturing LTD	7000

20.	Dr.KALYANKUMAR B	400 KV line reactor and reactor NGR sizing calculation analysis for Maithan thermal power project	Larsen and Toubro Limited	66,180
21.	Dr.SARATHI R	Impulse voltage with stand study and testing of power transformers	Victory Electronics Limited	10,00,000
22.	Dr.JAGADEESH KUMAR V	Testing of 16 MVA 110/33 -11 KV power transformer	Venkateswara Electrical Industries (P) Ltd.	15,000
23.	Dr.ANDREW THANGARAJ	Design and Development of LPDC Codes	Defence Electronics Research Laboratory	4,98,000
24.	Dr.SRIRAMA SRINIVAS	Development of Prototype for IGBT based High Frequency HVR	Bharat Heavy Electricals Ltd.,	19,69,318
25.	Dr.ANIL PRABHAKAR	Optical time based reflectometer	Vision One Sdn Bhd	7,00,000
26.	Dr.KALYANKUMAR B	Study of micro-grid for Neemrana industrial park , Rajasthan	IIT Hyderabad - IITH	55,25,000
27.	Dr.MAHESH KUMAR	Theoretical and Design Aspects of Reference Current Generation	Industrial Controls & Drives (India) Pvt. Ltd.	1,10,300
28.	Dr.NITIN CHANDRACHODAN	Developing of a Laser Tracker	Research Centre Imarat	9,90,000
29.	Dr.RAJAGOPALAN A N	Enabling Efficient Design for Manufacturing (EEDFM) in Semiconductor Industry	DFMSim Software India Pvt. Ltd.,	13,75,000
30.	Dr.ANIL PRABHAKAR	Carbon dioxide soil measurement	Sense Air	5,98,000
31.	Dr.RAJAGOPALAN A N	Research guidance for implementing computer vision algorithms	Stony Brook University	95,000
32.	Dr.KRISHNA VASUDEVAN	Design and analysis of multistage brushless DC generator	Combat Vehicles Research & Development Establishment	9,59,000
33.	Dr.SHANTHI PAVAN	Analog Integrated Circuit Design	Research Centre Imarat	2,69,000
34.	Dr.NAGENDRA KRISHNAPURA	Sensor Interface Analog Integrated Circuit - Phase 1	Dream Catcher Consulting Sdn Bhd.,	42,000
35.	Dr.NAGENDRA KRISHNAPURA	Analog IC design	Cosmic Circuits Pvt. Ltd.,	2,75,750
36.	Dr.SHANTHI PAVAN	Analog Integrated Circuit Design	Dream Catcher Consulting Sdn Bhd.,	10,12,000
37.	Dr.ANIL PRABHAKAR	Method Electronics inc.	Method Electronics inc.	95,000

Research Publications of the faculty members & research scholars:

Total no. of papers presented in national Journals	: 11
Total no. of papers published in refereed international journals	: 37
Total no. of papers presented in national conferences	: 26
Total no. of papers presented in international conferences	: 14

Referred National Journals:

Sl. No.	Authors	Title	Publisher
1	Dr.K.S. Swarup, and P Kanakasabapathy	Three -tier Market Model for Restructuring Indian Power Sector	Institution of Engineers (India) journal - EL Volume 89, March 2009
2	Leena Vachhani, K. Sridharan and Pramod K. Meher,	Efficient FPGA realization of CORDIC with application to robotic exploration, .	IEEE Transactions on Industrial Electronics, Vol. 56No. 12, December 2009, pp. 4915-4929
3	P.K. Meher, Javier Valls, Tso-Bing Juang, K. Sridharan and K. Maharatna,	50 Years of CORDIC: Algorithms, Architectures and Applications	IEEE Transactions on Circuits and Systems - Part I: Regular Papers, Vol. 56, No. 9, September 2009, pp. 1893-1907
4	Dr.Anil Prabhakar	Multiwavelength Erdoped Fiber Lasers	Optics Communication
5	Dr.S.Karmalkar	An Analytical Method to Extract the Physical Parameters of a Solar Cell From Four Points on the Illumiated J-V Curve	IEEE Electron Device Lett.Vol.30,no.4 April 2009
6	Dr.K.S.Swarup and Mr.Manoj Kumar Mr.Maharana	Power system identification and operation under emergencies	Electrical India Vol.49,No.5.May 2009,pp 82-87
7	Dr.K.S.Swarup and Mr.Z.H.K.Murtaza	Optimal Economic Dispatch using Ant Colony Optimization	Institute of Engineers(India)Electrical Vol.36,pages 1-6,Sep 2009
8	Dr.K.S.Swarup and Ayshwarya Venkatraman	Coordination of multi-vendor Relays with Intelligent Agents in JADE Environment	Electrical India Magazine, Vol. 49, No. 12, December 2009, pages 102- 107.
9	Dr. K.S. Swarup Rohit Malpani and Zaheer Abbas	Wide Area Measurements in Power System Monitoring, Protection and Control	Electrical India Magazine, Vol. 50, No. 1, Jan 2010, pp. 130-143.
10	Dr.K. S. Swarup S. Kalyani	Classifier design for static security assessment using particle swarm optimization December 2009	Journal of Applied Soft Computing
11	Dr.K. Shanti Swarup P. Kanakasabapathy	Bidding Strategies for Pumped Storage Plant in Pool-Based Electricity Market,	International Journal on Energy Conversion and Management, Volume 51, Issue 3, March 2010, Pages Pages 572-579

Refereed International Journals:

S.No	Authotrs	Title	Publisher	Co-author(s)
1.	Dr. K.M.M. Prabhu	Fast Exact Multi-channel FSLMS Algorithm for Active Noise Control	European Journal of Signal Processing, Vol. 89, pp. 952-956, April12, 2009.	E.P. Reddy, D.P. Das
2.	Dr.Nandita Dasgupta	Reduced charge trapping in GaN MIS using Novel Gate Oxide Deposition Tecnique	Electronics Letters	Mr.T.Sreenidhi, Mr.K.Bhaskar Dr. Amitava Das Gupta
3.	Dr.Mahesh Kumar	An optimization based algorithm for shunt active filter under distorted supply voltages	IEEE Trans.on Power electronics,Vol.24.no.5. May 2009,pp1223-1232	Mr.Koteswara Rao Mr.A.Ghosh

4.	Dr.K.S.Swarup	High-Speed Fault Classification in Power	IEEE Trans. On Industrial Electronics, Vol 56, No.5, May 2009,pp 1793-1800	Mrs.Simi.P.Valsan
5.	Dr.K. S. Swarup,	Optimization based Graph Theoretic Approach for Corrective Control Strategies to Mitigate Overloads	European Transaction on Electrical Power, Available Online, 30-Jun-2009, DOI: 10.1002/etep.381.	Manoj Kumar Maharana
6.	Dr. K.S.Swarup	Market Operations in Future Indian Restructured Power System Scenario	International Journal of Energy Technology and Policy, Vol.7 No.1, pp.78-94, February 2009	P. Kanakasabapathy
7.	Dr.Shanthi Pavan	Automatic Tuning of Time constants in single bit delta sigma converters	International Symposium on Circuits and Systems	Mr.Saurabh Saxena Mr.Prabhu Sankar
8.	Dr.Enakshi Battacharya	Novel Applications of Silicon and Porous Silicon Based EISCAP Biosensors	Phys.Status Solidi A206,no.6 1369 1373 (2009)	Mr.A.Mathew Mr.G.Pandian Mr.A.Chadha
9.	Dr.Harishankar Ramachandran	Space charge effects in RF TRPS: Ponderomotive concept and stroboscopic analysis	Physics of Plasma	Mr.Kushal Shah
10.	Dr.Amitava Das Gupta	Compact Model of short channel MOSFETs considering quantum mechanical effects	Solid State Electronics,Vol.53, pp 649-657	Mr.G.S.Jayadeva
11.	Dr.Enakshi Battacharya	Porous Silicon /Polysilicon for improved sensitivity pressure sensors	Physics Status Solidi C6,No.7,pp1759-1762	Ms.L.Sujatha
12.	Dr.K.S.Swarup	Local Optimization Based Corrective Control Strategies for mitigation of Overloads using Direct Acyclic Graph	International journal of Electrical &Power Engineering Vol.3,No.4,July 2009,pp198-207	Mr.Manoj kumar Maharanan
13.	Dr.Amitava Das Gupta	Fabrication of reliable RF MEMS switches in CPW configuration	Advanced materials Research Vol.74,pp259-263,2009	Mr.Jabir Sharma
14.	Dr.B.Srikrishna	Co-ordinate Interleaved Spatial Multiplexing with Channel State Information	IEEE Transactions on Wireless Communication,Vol.8, No.6,pp2755-2762,June 2009	Mr.K.V.Srinivas Dr.R.D.Koilpillai Dr.K.Girdhar
15.	Dr.Enakshi Battacharya	Composite Si/PS membrane pressure sensors with micro and macro-porous silicon	Sadhana Vol.34,Part 4, Aug 2009.	Ms.L.Sujatha
16.	Dr.Mahesh Kumar	An investigation on design and switching dynamics of a voltage source inverter and compesate unbalanced and nonlinear loads	IEEE Trans. On Industrial Electronics,Vol.56,Issue 8,pp.2802-2810 Aug 2009.	Mr.k.Karthikeyan
17.	Dr.Mahesh Kumar	Ramp based constant frequency current control for DSTATCOM	International Journmal of Power Electronics,Vol.1,No.3.p p 249-256,2009.	Mr.S.Srikanthan
18.	Dr.Anil Prabhakar	Bit error rates in a frequency coded quantum key distribution system	Optics Communication Vol.282,pp3827-3833,Issue.18, Sep 09	Mr.Pradeep Kumar

19.	Dr.Mahesh Kumar	Ramp based constant frequency current control for DTATCOM	Vol.1,no.3,Aug 2009	Mr.S.Srikanthan
20.	Dr.Mahesh Kumar	Design and analysis of user defined constant switching frequency current control based four leg DSTATCOM	IEEE Trans. On Power Electronics.Vol.24,Issue. 9,pp2148-2158, Sep 2009	Mr.G.Vincent
21.	Dr.Mahesh Kumar	Improved hysteresis current control of three-level inverter for DSTATCOM application	Proc.IET Power Electronics,Vol.2,Issue 5,pp517-526, Sep 2009	Mr.Srikanthan Mr.R.K.V.Rao
22.	Dr.Mahesh Kumar	User defined constant switching current control strategy for a four leg inverte	Proc.IET Power Electronics,Vol.2,Issue 4,pp335-345, Sep 2009	Mr.G.Vincent
23.	Dr.K.S.Swarup	Wavelet Transform based digital protection for transmission lines	International Journal of Electrical Power & Energy Systems Vol.31,No.7-8,Sep.2009	Ms.Simi P.Valsan
24.	Dr.Enakshi Battacharya	Extraction of residual stress and dimensions from electrical measurements on surface micromachined test structures	Journal of Micro /Nanolith, MEMS MOEMS,Vol.8, 031309 (2009)	Mr.S.Bhat
25.	Dr.Nandita Das Gupta	Growth of Ultra-thin SiO ₂ by Laser induced oxidation	Semiconductor Science & Technology, Sep 2009	Ms.Binsu J Kailath Dr.Amitava Das Gupta Mr.B.N.Singh Mr.L.M.Kukreja
26.	Dr.Nandita DasGupta,	"Reduced Charge Trapping in GaN MIS using Novel Gate Oxide Deposition Technique,"	<i>Electronics Letters</i> , vol.45, issue 10, pp.527-28, May 2009	T. Sreenidhi, K. Baskar, Amitava DasGupta
27.	Dr.Nandita DasGupta,	Fabrication and characterization of straight and compact S-bend optical waveguides on a silicon-on-insulator platform	Appl. Opt. 48, G125-G130 (2009).	Rupesh Kumar Navalakhe, and Bijoy Krishna Das,
28.	Dr.K.Sridharan	50 years of CORDIC: algorithms, architectures, and applications	IEEE Transactions on Circuits and Systems vol.56, No.9,page 1893--page 1907 sep 2009	Mr.P.K.Meher Mr.Javier Valls Mr.Tso-Bing Juang Mr.K.Maharana
29.	Dr.Enakshi Battacharya	Critical study of high-sensitivity pressure sensors with silicon /porous silicon composite membranes	Journal of Micro /Nanolith, MEMS MOEMS,Vol.8, 033070 (2009)	Ms.L.Sujatha Mr.V.Kale
30.	Dr. K.S. Swarup	Transmission line overloads alleviation due to contingency based DAG assisted PSO method	International Journals on Power and Energy Conversions,Vol.1,No.4, pp363-383	Mr.Manoj Kumar Maharanan
31.	Dr. K.S. Swarup	Coordinated preventive maintenance scheduling of GENCO and TRANSCO in restructured power systems	International Journals on Power and Energy Conversions,Vol.31,No. 4,pp626-638	Ms.T.Geetha
32.	Dr. K.S. Swarup	'Power System Security Assessment using Binary SVM Based Pattern Recognition Approach	International Journal of Electrical Power and Energy Systems Engineering, Volume 2, Number 3, November 09	Ms.Kalyani Sundaram

33.	Dr.Enakshi Battacharya	Miniaturisation of EISCAP sensors for triglyceride detection	J. of Materials Science: Materials in Medicine (Springer), Volume 20, Supplement 1, p229-234 Dec 2009	Mr.V. Hareesh, E. Fernandez, Mr.E. Bhattacharya and Mr.A. Chadha
34.	Dr.Enakshi Battacharya	MEMS composite Porous Silicon/Polysilicon cantilevers for biosensing applications	IEEE Sensors J., Volume 9, Issue 12, p1660 - 1666 Dec 2009	Mr.R. E. Fernandez, S. Stolyarova, A. Chadha, E. Bhattacharya and Y. Nemirovsky
35.	Dr.B.Srikrishna	Cross-layer scheduling with infrequent channel and queue measurements	IEEE Transactions on Wireless Communications, vol. 8, no. 12, pp. 5737-5742, December 2009	Mr.C. Manikandan, Mr.R. Sundaresan
36.	Dr.B.Srikrishna	Using delayed feedback for antenna selection in MIMO systems	IEEE Transactions on Wireless Communications, vol. 8, no. 12, pp. 6059-6067, December 2009	T. R. Ramya
37.	Dr.Prabhu.K.M.M	Block Filtered-S least mean square algorithm for active control of non-linear noise systems	IET Signal Processing, Vol.4, Iss.2, pp.168-180, 2010	Mr. P. Vikram Kumar, Mr. D.P. Das

In Refereed National Conferences:

S.No	Name of faculty	Title		Author/Co-author
1	Dr.K.S.Swarup	2) Identification of Participating Generators for Control Action under Contingencies	National Conference on "Technological Advances and Computational Techniques in Electrical Engineering April 09	Manoj Kumar Maharana
2	Dr.K.S.Swarup	Reinforcement Learning Based Active Power Control with TCSC	International Conference on Electrical Energy systems and Power electronics in Emerging Economics, April 09	P. Premalatha (M.Tech Student)
3	Dr.B.Srikrishna	Receiver-Selection scheduling in wireless networks	Proceedings of WPMC 2009	Ms.Bama Dr.Andrew Thangaraj
4	Dr.Shanthi Pavan	A 110uW Audio Continuous Time Sigma Delta Converter with 92.5dB Dynamic Range	European Solid State Circuits Conference, Athens, Greece Sep 09	Mr.Prabu Sankar
5	Dr.Andrew Thangaraj	Finite State Wiretap Channels: Secrecy Under Memory Constraints	IEEE Information Theory Workshop 2009, Taormina, Italy Oct 09	Yogesh Sankarasubramanian, Kapali Viswanathan
6	Dr.Shanthi Bhattacharya	Development of Fiber based Infrared Fourier Transform Spectrometer	International Conference on Photonics, Chandigarh Oct 09	
7	Dr.B.Srikrishna	Almost Budget-balanced Mechanisms for Allocation of Divisible Resources	Proceedings of the 47th Annual Allerton Conference on Communication, Control, and Computing, Montice Oct 09	Anil Kumar C., R. Sundaresan

8	Dr.K.S.Swarup	Power system stability analysis using perturbation Technique	XXXII National System Conference(NSC-08) Dec17-19, 2009, IIT Roorkee, India	T. G. Venkatesh, Chendur Kumar
9	Dr.Enakshi Bhattacharya	Packaging of miniaturized EISCAP Triglyceride biosensor	Proc. IWPSD 2009	Mohanasundaram S.V, Mercy S, Harikrishna P V, E. Bhattacharya, and A. Chadha
10	Dr.Enakshi Bhattacharya	Detection of Urea in milk using EISCAP Sensor	Proc. IWPSD 2009	Kailash Rani, Mohanasundaram S.V, Mercy S, Arvind B, A. Chadha, and E. Bhattacharya
11	Dr.Enakshi Bhattacharya	Design and Fabrication of an Optical MEMS Micromirror device	IWPSD 2009, Delhi	K. Ajay Giri Prakash, , and Dr.Shanti Bhattacharya
12	Dr.K.S.Swarup	Pumped Storage bidding in combined Pool-Bilateral Market	International Conference on Power Systems (ICPS 2009),IIT Kharagpur 28-29 Dec 2009	Mr.P.Kanagasabapathy
13	Dr.K.S.Swarup	Graph Theory based corrective control strategy during single line contingency	International Conference on Power Systems (ICPS 2009), IIT Kharagpur 28-29 December 2009	Mr.Manoj kumar Maharana
14	Dr.Andrew Thangaraj	EG-LDPC codes for the erasure wiretap channel	National Conference in Communications 2010	Mr.V. Rajaraman
15	Dr.Enakshi Bhattacharya	Mitigating the irreversible deformation with pressure in silicon / porous silicon composite membranes	SPIE Photonics West 2010, San Francisco, Reliability, Packaging, Testing, and Characterization of ME	Ms.L. Sujatha, Mr.R. Goswami and Mr.E. Bhattacharya
16	Dr.Enakshi Bhattacharya	Packaged bulk micromachined Triglyceride biosensor	SPIE Photonics West 2010, San Francisco, Reliability, Packaging, Testing, and Characterization of ME	Mr.Mohanasundaram SV Mr.Mercy S Harikrishna P V E. Bhattacharya and A. Chadha
17	Dr.K.S.Swarup	"Multi-Class SVM Based Pattern Recognition Approach for Static Security Assessment in Power Systems"	Intl. Conference Recent Advancements in Electrical Sciences, (ICRAES'10), Volume 3, K.S.R. College.	Kalyani Sundaram
18	Dr.B.Srikrishna	Rate Adaptation in MIMO Antenna Selection System with Imperfect CSIT	Proceedings of WISARD 2010 (part of IEEE COMSNETS 2010), Bangalore, India, January 2010.	Ms.T.R.Ramya
19	K. Sridharan,	Hardware Architecture for Finding Shortest Paths	Proceedings of IEEE TENCON 2009, Singapore	T.K. Priya and P. Rajesh Kumar
20	Dr.K. Sridharan,	Performing High Level Tasks with a Sole Microcontroller-Based Mobile Robot - Issues, Algorithms and Experiments	Proceedings of IEEE Symposium on Industrial Electronics and Applications (ISIEA 2009), Malaysia, October 2009, pp. 620-625	K. Narendra Babu, M.V. Rajarao, Leena Vachhani

21	Dr K. Sridharan,	Architecturally Efficient Computation of Shortest Paths for a Mobile Robot,	Proceedings of IEEE Symposium on Industrial Electronics and Applications (ISIEA 2009), Malaysia, October 2009, pp. 277-282	T.K. Priya and P. Rajesh Kumar
22	Dr.Nandita DasGupta	Study of random Dopant fluctuation effects in fully depleted silicon on Insulator MOSFET using analytical model Technology (IEDST 2009),	2nd International Workshop on Electron Devices and Semiconductor June 2009	
23	Dr.Nandita DasGupta	Compact Modeling of SOI-LDMOS including quasi-saturation effect"	2nd International Workshop on Electron Devices and Semiconductor Technology (IEDST 2009) June 2009	
24	T. Sreenidhi, Dr Amitava DasGupta and Dr Nandita DasGupta	Thermally Oxidized LPCVD Silicon as Gate Dielectric on GaN	2nd International Workshop on Electron Devices and Semiconductor Technology (IEDST 2009) June 2009	
25	Dr Kalaiselvi K, Binsu J. Kailath, Dr Amitava DasGupta, and Dr Nandita DasGupta, "	Ultrathin Gate Oxide by RTO followed by Anodization,	15th International workshop on the Physics of Semiconductor Devices (IWPSD2009), Delhi December 2009	
26	J. Chatterjee, T. Sreenidhi, K. Baskar, Dr .Amitava DasGupta, and Dr. Nandita DasGupta	Fabrication and Characterization of InGaN/GaN MQW Blue LED	15th International workshop on the Physics of Semiconductor Devices (IWPSD2009), Delhi, December 2009	

In Refereed International Conferences:

S.No	Name of faculty	Title	Conference	Co-author(s)
1.	Dr.Shanthi Pavan	Automatic Tuning of Time Constants in Single Bit Delta Sigma Converters	International Symposium on Circuits and Systems May 09	Saurabh Saxena, Prabu Sankar
2.	Dr. B. Srikrishna	Eigenbeamforming with Delayed Feedback and Channel Prediction	Proceedings of IEEE ISIR 2009, Seoul, Korea.pp.403-407, June -July 2009	Ms.T.R.Ramya
3.	Dr.Andrew Thangaraj	Algebraic Network Coding: A New Perspective	IEEE ISIT 2009	Mr.k.R.Dinesh Kumar
4.	Dr.Andrew Thangaraj	Finite State Wiretap Channels: Secrecy under memory constraints	IEEE Information Theory Workshop 2009 Taormina,Italy.	Mr.Yogesh Sankarasubramanian Mr.Kapali Viswanathan
5.	Dr.Shanthi Bhattacharya	Design and Fabrication of a Micro-mirror for Spectroscopy	SPIE Photonics West, San Francisco Jan 2010	K. Ajay Giri Prakash, Sanjay Dhabai, Enakshi Bhattacharya
6.	Dr. B. Srikrishna	Receiver-Selection Scheduling in Wireless Networks	Proceedings of WPMC 2009, Sendai, Japan. Sep 09	M. Bama, A. Thangaraj
7.	Dr.K.S.Swarup	Parallel Contingency Analysis in a High Performance Computing Environment	International Conference on Power Systems (ICPS 2009), IIT Kharagpur 28-29 December 2009	Angeline Ezhilarasi

8.	Dr.K.S.Swarup	Multi-Agent Based Particle Swarm Optimization Approach to Economic Dispatch with Security Constraints	International Conference on Power Systems (ICPS 2009), IIT Kharagpur 28-29 December 2009	S. Sivasubramani
9.	Dr.K.S.Swarup	Two Stage State Estimator with Phasor Measurements	International Conference on Power Systems (ICPS 2009), IIT Kharagpur 28-29 Dec 09	Ms.K.Jamuna
10.	Dr.Shanthi Bhattacharya	Design and Fabrication of an Optical MEMS Micromirror Device for Spectroscopy	IWPSD 2009 Dec 09	K Ajay GiriPrakash, EnakshiBhattacharya
11.	Dr.Shanthi Bhattacharya	Design and Fabrication of an Optical MEMS Micromirror Device for Spectroscopy	IWPSD 2009 New Delhi Dec 09	K Ajay GiriPrakash, EnakshiBhattacharya
12.	Dr.Shanthi Bhattacharya	Demystifying Optical MEMS	IWPSD 2009 New Delhi, Dec 09	
13.	Dr.K.S.Swarup	"Binary SVM Approach for Security Assessment and Classification in Power Systems"	IEEE Annual India Conference, INDICON - 2009, 18-19 Dec 2009, pp.421-424	Kalyani Sundaram
14.	Dr.K.S.Swarup	Parallel Contingency Analysis in a High Performance Computing Environment	17th International Conference on Advanced Computing and Communication, (ADCOM), 14-17 Dec 2009	Angeline Ezhilarasi

Distinguished Visitors to the Department:

S.No	Visitor Name & Designation	Affiliation	Date of visit	Purpose of visit
1.	Dr.Chia Hoang Lee,Vice President	Office of International Affairs,National Chiao Tung University,Taiwan	01.04.2009	To promote academic cooperation between NCT University and IITMadras.
2.	Mr.Wen-Tsuen Chen Professor and President	Dept. of Computer Science. National Chiao Tung University,Taiwan	01.04.2009	To promote academic cooperation between NCT University and IITMadras.
3.	Dr.Wei-Chung Wang,Professor and Dean	Dept. of Power Mechanical Engg. National Chiao Tung University,Taiwan	01.04.2009	To promote academic cooperation between NCT University and IITMadras.
4.	Dr.Huan-Chiu Ku,Professor and Dean	Dept. of Physics, National Chiao Tung University,Taiwan	01.04.2009	To promote academic cooperation between NCT University and IITMadras.
5.	Dr.Hong Hocheng Professor and Dean	Dept. of Power Mechanical Engg. National Chiao Tung University,Taiwan	01.04.2009	To promote academic cooperation between NCT University and IITMadras.
6.	Dr.Jyuo-Min Shyu Professor and Dean	Dept. of Computer Science. National Chiao Tung University,Taiwan	01.04.2009	To promote academic cooperation between NCT University and IITMadras.

7.	Dr.Chin Pan Professor and Dean	Dept. of Engg &System Science & Institute of Nuclear Engg & Science	01.04.2009	To promote academic cooperation between NCT University and IITMadras.
8.	Dr.Shin-Yi Chen, Program Manager	Office of International Affairs,National Chiao Tung University,Taiwan	01.04.2009	To promote academic cooperation between NCT University and IITMadras.
9.	Mr.Shohei Hara Mission Leader	Japan International Cooperation Agency (JICA),Govt. of Japan	29.05.2009	For discussion and visit labs for setting up of IIT Hyderabad
10.	Mr.Katsunori Uehara	Japan International Cooperation Agency (JICA),Govt. of Japan	29.05.2009	For discussion and visit labs for setting up of IIT Hyderabad
11.	Mr.Ko Goto	Japan International Cooperation Agency (JICA),Govt. of Japan	29.05.2009	For discussion and visit labs for setting up of IIT Hyderabad
12.	Mr.Keiji Katai	Japan International Cooperation Agency (JICA),Govt. of Japan	29.05.2009	For discussion and visit labs for setting up of IIT Hyderabad
13.	Mr.Sanjeev Moholkar	Japan International Cooperation Agency (JICA),Govt. of Japan	29.05.2009	For discussion and visit labs for setting up of IIT Hyderabad
14.	Dr.Hemanshu R.Pota Associate Professor	University of New South Wales,Australlian Defence Force Acadamy, Canberra,Australlia	17.07.09	To deliver a Seminar talk on "Robusat Control and Dynamics of Power Systems"
15.	Dr.Ponani Gopalakrishnan, Vice President	IBM India Software Lab	21.08.09	To discuss their new initiatives with academic institutes and in particular to seek our support for their activities in mutual areas of interest
16.	Dr.Sameera Poduri, Post Doctoral Researcher	University of Southern California,Losangels	27.08.09	To give a talk on " Mobile Sensing Networks: From Robots to Phones"
17.	Prof.A;lan Robson, Vie-Chancellor	University of Western Australia	07.09.09	To explore academic collaboration
18.	Prof.Robyn A Owens Pro Vice-Chancellor	University of Western Australia	07.09.09	To explore academic collaboration
19.	Prof.Arun Dharmarajan Associate Dean	University of Western Australia	07.09.09	To explore academic collaboration
20.	Prof.Doug McEsrhern, Deputy Vice-Chancellor (Research & Innovation)	University of Western Australia	07.09.09	To explore academic collaboration
21.	Prof.Hema Sharads, Director,South Asia Relations	University of Western Australia	07.09.09	To explore academic collaboration
22.	Prof.Lorenzo Faaone Australian Professonal Fellow	University of Western Australia	07.09.09	To explore academic collaboration
23.	Dr.Jagannath Nayak INAE Visiting Professor	RCI Hyderabad	09.09.09	Collaboration and lectures to students
24.	Dr.Rashmin Gandhi,Director	Sankara Nethralaya	07.10.09	Seminar on Cataract Surgery Technology
25.	Dr.S.Suresh,Director	Medican Systems,Fetal Care Research Fountation Chennai	21.10.09	Talk on the evolution of medical ultrasound technology and its practice

26.	Mr.Shankar Kumar,	Tata Motors	22.10.09	To give lecture on plant automation
27.	Mr.Anant Kamble	Tata Motors	22.10.09	To give lecture on Vehicle Design
28.	Mr.Ranjith, Chief Audiologist Madras ENT & Vice-Principal	MERF-Institute of Speech and Hearing	28.10.09	A talk on Medical device technology for hearing restoration, ranging from hearing aids to brain implants
29.	Dr Kasyapa Balemarthy	OFS Fitel	01.01.2010	
30.	Dr.Joao Barros Associate Professor		06.01.2010	
31.	Mr.Karthick Rajamani	IBM	07.01.2010	Talk about on Power Aware Computers
32.	Prof M.B Patil	IIT Bombay	04.01.2010	Tutorial on a circuit simulation software

4.8.6 Other Activities of the Department / Centre:

- Dr.B.Srikrishna is a member of the journal editorial board of the IEEE Transactions on wireless Communications.
- Dr. Anil Prabhakar is a member of the National Centre for Biological Sciences (NCBS), Bangalore 04.01.2010 to 31.03.2010

Major infrastructure development made in the Department:

Development of Integrated Optoelectronics Laboratory

ENGINEERING DESIGN



4.9 DEPARTMENT OF ENGINEERING DESIGN

4.9.1 Introduction:

The Department of Engineering Design was established in IIT Madras as its 16th Department with a focus on interdisciplinary teaching and research. The Department launched the novel dual degree programme in Engineering Design with a view to providing the much needed leadership in this area. The first of its kind in the country, the programme constitutes a B.Tech specialisation in Engineering Design and M.Tech specialization in Automotive Engineering with a strong thrust on the modern practices of design.

Engineering design involves the development of a concept and a form to meet a function. The designer has to be well versed rooted in the fundamentals of engineering and possess interdisciplinary skill sets to create cutting edge products within a competitive business environment. The design has to be aesthetically appealing yet robust; long lasting, yet inexpensive; and incorporate light-weight material, yet be sensitive to environmental concerns. This broad-based programme combines all the above aspects of design along with managerial acumen.

4.9.2 Academic Programmes:

The department offers Dual degree, M.S. and Ph.D. programmes.

New Courses introduced:

Sl. No.	Course No.	Title
1.	ED 3060	Structural Dynamics and Vibration
2.	ED 4030	Finite Element Methods for Design
3.	ED 4510	Advances in Engineering Design
4.	ED 5050	Structural and Component design of vehicles
5.	ED 5165	Automotive Engines and Systems Lab
6.	ED 5330	Control of Automotive Systems
7.	ED 5510	Design of Automotive Systems
8.	ED 6001	Medical Image Analysis
9.	ED 6002	Optimization Methods in Engineering Design
10.	ED 6003	Micromechanics

Students on roll as of September 2007+M.S. & Ph.D admission in Jan. 2010:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
Dual Degree	45	41	25	24	25	160
M.S.	9	4	6	1	-	20
Ph.D.	7	6	4	2	-	19
Total	61	51	35	27	25	199

Names of Student/Scholar who attended Conference/ /Seminar and Symposia Abroad/India:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia /Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	M.Santhakumar	ED07D003	International Symposium on Robotics and Sensors	8-11, Mar 2010 in Nagoya University, Japan	IIT Madras
2.	Jobin K. Antony	ED08D002	10th International Conference on Laser Ablation (COLA 2009)	22-27 November 2009, Singapore	CSIR, IIT M Alumni Association
India					
1	Dinesh Sonawane	ED08S002	SAEINDIA International Mobility Congress and Exposition 2009	13-15 December 2009	IIT Madras

Names of students/scholars who won outside prizes and awards:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Mr.Swapnil Babanlal Jain Mr.Vaibhav Kumar (Guided by Dr G Saravana Kumar)	ED07B009 ED07B028	HSBC International Award with Prize Money of £500	Brunel University

4.9.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor:

Dr.R.Krishna Kumar[Head]

Nonlinear Finite Elements, Vehicle Dynamics and Tyre Mechanics

Associate Professor:

Dr.Nilesh J Vasa

Dr T Asokan

Dr Venkatesh Balasubramanian

Optomechatronics, Remote Sensing, Laser Based Sensing, MEMS Robotics, Mechatronics, Control, Electro Hydraulic Servo Systems Human factors and Ergonomics, Biomedical Devices Development, Rehabilitation Engineering, Injury and Sports Biomechanics, Perceptual Psychophysics and Technology Management

Dr Sankara J Subramanian

Digital Image Correlation, Nano-indentation, Mechanics of Materials, Finite Element Analysis.

Assistant Professor:

Dr C S Shankar Ram

Dr Sandipan Bandyopadhyay

Dr.M.Ramanathan

Dr.G.Saravana Kumar

Model Based Control and Diagnostics, Automotive Systems, Vehicle Dynamics, Analysis of Transportation Systems Robotics, Kinematics, Dynamics of Multibody Systems, Design, Symbolic Computation Geometric & Solid Modelling, CAD, Computer Vision, Computational Geometry, Computer Graphics, Computational Biology, Shape search CAD, Computational Geometry, Reverse Engineering, Shape Optimization, Biomechanical Modeling, Biomedical Imaging and Reconstruction, Biomimetic Prosthetic and Scaffold Design, Layered Manufacturing and Soft Computing

Visiting Assistant Professor:

Dr M S Murali Murugavel

Controls and Instrumentation, fMRI, Medical Image processing, Statistics, Systems design

Dr Palaniappan Ramu

Optimization, Application of statistical and probabilistic techniques for engineering design under uncertainties, Risk/Reliability based engineering design, Surrogate based modeling and analysis

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1.	Prof.R.Krishna Kumar	Analysis and testing for Rubber Product Development	1 st June, 2009 IIT Madras
2.	Dr.T.Asokan	Mechatronics education and training: An initiative on new curriculum development	5 th February, 2010 IIT Madras

Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	Dr.T.Asokan	Advanced Clinical Engineering Workshop". The workshop was jointly conducted by American College of Clinical Engineers, USA and SCTIMST	SCTIMST, Trivandrum	4th October to 10th October 2009
2.	Dr Nilesh J. Vasa	DST Sponsored Short Term Course on "Micro-Machining"	IIT Kanpur	July 24, 2009
Conference:				
1.	Prof.R.Krishna Kumar	Transfer Path Analysis and Operational Modal Analysis	Belgium	11th ~ 15th May, 2009
2.	Dr. Sandipan Bandyopadhyay	Computational Kinematics 2009	Duisberg, Germany	
3.	Dr.C.S.Shankar Ram	IEEE Intelligent Vehicles Symposium	Xi'an, China	3-5 June, 2009
4.	Dr.Nilesh J. Vasa	Conference on Lasers and Electro-Optics 2009	Baltimore Convention Centre, Baltimore, USA	May 31- June 5, 2009
5.	Dr Nilesh J. Vasa	7 th International SAOT Workshop on Optical Metrology	Erlangen University, Germany	July 15-16, 2009
6.	Dr Nilesh J. Vasa	DST Sponsored Short Term Course on "Micro-Machining"	IIT Kanpur	July 24, 2009
7.	Dr Sandipan Bandyopadhyay	Advanced Intelligent Mechatronics 2009	Singapore	July 14-17, 2009
8.	Dr Sandipan Bandyopadhyay	Summer School on Mathematical Methods in Computational Kinematics	Innsbruck, Austria	July 19-31, 2009
9.	Dr T Asokan	CEP on Hydraulic Systems and Circuits	IIT Madras	14 th July 2009
10.	Saravana Kumar G.	4th International Conference on Advanced Research in Virtual and Rapid Prototyping	Leiria, Portugal,	6-10 October 2009
11.	Shankar C. Subramanian	Proceedings of the 2009 International Conference on Advances in Recent Technologies in Communication and Computing (organized by ACEEE and technically co-sponsored by IEEE-Computational Intelligence Society)	Kottayam, India	October 2009
12.	Sandipan Bandyopadhyay	Verification of the trajectories of Stewart platform manipulators against singularities", 14th National Conference on Machines and Mechanisms (NaCoMM – 09)	NIT,Durgapur	December 17-18, 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr.G.Saravana Kumar	Micro Rapid Prototyping	National Conference on Recent trends in Mechanical Engineering at Paavai Engineering College, Namakkal	24-25 April, 2009
2.	Dr.G.Saravana Kumar	Rapid Prototyping for Biomedical Applications	National Conference on Rapid Prototyping and Manufacturing RPM 2009 at R V College of Engineering, Bangalore	12 th May 2009

3.	Dr.Nilesh J Vasa	Solid-state laser assisted annealing and nano-texturing of amorphous-Si film	Symposium of Material Research Society of Japan Session: "Frontier of Nano-Materials Based on Advanced Plasma Technologies", Session I Invited Talk: II Kaiko Kinen Kan, Yokohama, Japan,	December 7, 2009
4.	Dr Nilesh J Vasa	Laser assisted sensing and micromanufacturing	Central Research Institute of Electric Power Industry, Yokosuka, Japan,	December 8, 2009
5.	Dr M Ramanathan	Skeleton from Freeform models	MEDCON '09, a Conference on "Perceptions in Biomedical Engineering and Healthcare Informatics",	November 5-7, 2009
6.	Dr.G.Saravana Kumar	3D Reconstruction and Rapid Prototyping in Biomedical Applications	MEDCON '09, a Conference on "Perceptions in Biomedical Engineering and Healthcare Informatics",	November 5-7, 2009
7.	Dr G Saravana Kumar	Reverse Engineering and Rapid Prototyping: Enablers of Agile Manufacturing	AICTE sponsored QIP short term course on "Lean and Agile Manufacturing" held at National Institute of Technology Trichy	8th December 2009
8.	Dr Nilesh J Vasa	Opto-mechatronics System Design and Applications	STTP course: Mechatronics: Integrated Technologies for Intelligent Machines IIT Madras	January 18-23, 2010
9.	Dr T Asokan	Modelling and Simulation of Mechatronics systems using Bond Graphs	STTP course: Mechatronics: Integrated Technologies for Intelligent Machines, delivered the lecture IIT Madras	January 23, 2010
10.	Dr Venkatesh Balasubramanian	Biomechanics and Leather Industry – Insights and Perspectives	44th LERIG, BIOTAN 2010, CLRI, Chennai	January 30, 2010
11.	Dr.G.Saravana Kumar	Genetic Algorithms	IEEE sponsored faculty development program "Natural Computation in Engineering", Velammal Engineering College, Chennai	
12.	Dr Palaniappan Ramu	Optimization and, What It Can Do for Us in Engineering Designs	Sona College of Technology, Salem, January 30, 2010	January 30, 2010
14.	Dr Palaniappan Ramu	Optimization and Design Under Uncertainties	Vei Multitech College of Engineering, Avadi, Chennai	12th March 2010
15.	Dr T Asokan	Recent developments in underwater robotics research, key note address	National seminar on Smart Sensors for Underwater Autonomous Robots, KSR college of Technology, Tiruchengode, Tamilnadu	5th March 2010
16.	Sankara J. Subramanian	Introduction to the Finite Element Method	ICTS (International Center for Theoretical Sciences) School and Conference on Multiscale Modeling and Simulations of Hard and Soft Materials	December 12, 2009

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr M Ramanathan	Las Vegas, USA	December 1-3, 2009	Research discussion	Autodesk University, Autodesk Inc.

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
Awards:					
1.	Dr Nilesh J Vasa	JASSO Follow-up Research Fellowship (Japan Student Services Organisation)	Kyushu University, Japan	Outstanding Research	September-December 2009
2.	Dr G Saravana Kumar		Intellectual Ventures Asia P Ltd., Singapore	The third best solution proposal in the area "Biodegradable Tissue Scaffolding for Creating Custom Organs" with a topic award amount of USD 16,000	September 2009
3.	Dr G Saravana Kumar	Young Engineers Award for the year 2009	Institution of Engineers (INDIA), Kolkata	In recognition of contribution in the field of Mechanical Engineering	November 2009

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr Nilesh J Vasa	One chapter entitled "Laser Micromachining Techniques and their Applications" in the Book titled "Introduction to Micromachining"	Narosa Publishing House	Editor: V K Jain, ISBN: 978-81-7319-915-8

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	R. Krishna Kumar	Member	Mechanics of Advanced Materials and Structures

4.9.4 Design and Development Activities:

New facilities added or major equipment procured:

Sl.No.	Name of Equipment	Value (Rs. in lakhs)
1	Qimaging 1.4 MegaPixel CCD cameras (2 nos.) for 3-D Digital Image Correlation	4.5

Patents:

Patents filed:

Sl.No.	Name of faculty	Topic of patent
1.	G Saravana Kumar	Methods and System for Modelling a Physical Object, US Patent Office. Application Number : 12/647,072 and date 24/12/2009

4.9.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Design and analysis of ejection system for towed flexible cylinder	2 years	Naval Physical and Oceanographic Laboratory	30.41	P.I.: Prof. B. V. S. S. S. Prasad, Co-investigators: Dr. Sandipan Bandyopadhyay, Dr. Dhiman Chatterjee, M.E., Prof. Y.V.S.S. Sanyasiraju, MA

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
2.	Development of a low-cost battery-powered tri-cycle	1 year	RuTag	5.75	Dr Sandipan Bandyopadhyay (PI) & Dr.M.Ramanathan (Co-Investigator)
3.	Development of 6-d of simulator for underwater applications (Phase II)	3 months	Autodesk Asia Pvt. Ltd.	2.5	Dr.T.Asokan, Dr Somasekhar S Hiremath, ME dept
4.	Digital Image Correlation	3 years	New Faculty Research Grant, IIT Madras	10	Dr.Sankara J. Subramanian
5.	Model based analysis of electropneumatic brake systems	3 years	DST	13.2	Dr C S Shankar Ram
6.	Multimaterial representation in CAD for layered manufacturing	3 years	DST	10.92	Dr. G Saravana Kumar
7.	Computer aided design and analysis of sculpted engineered porous structures for bone tissue engineering	2 years	New Faculty Research Grant, IIT Madras	5	Dr. G Saravana Kumar
8.	Measurement of elemental species for space-exploration by using laser-induced breakdown spectroscopy technique	3 Years (2008-2011)	ISRO	19.53	N. J. Vasa, M. Singaperumal
9.	Development of light emitting devices based on ZnO nanowires and heterostructures	2 Years (2008-2010)	DST	5.75	M. S. Ramachandrarao K. Sethupathi N. J. Vasa (IITM) Tatsuo Okada (Japan)
10.	Study on development of MEMS based RF-ion mobility spectrometer for chemical pollutants	1.5 Years (2009-2010)	DRDE	9.84	N. J. Vasa, M. Singaperumal (IITM) Vivek Agarwal (IITB)
11.	Digital Monitoring of Soldier Posture and Weapon Position	2008-2009	Army Technology Board	18	Venkatesh Balasubramanian

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Venkatesh Balasubramanian	Quantitative assessment of Effect of Rider Posture on Riding Fatigue and Vehicle Handling	M/s TVS Motors, Hosur	6.2

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Venkatesh Balasubramanian	Tissue Equivalent Phantom Development for USG	M/s Philips Electronics India Limited	0.6

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals:	---	Nil
Total No. of papers published in Refereed International Journals:	---	20
Total No. of papers presented in National Conferences:	---	5
Total No. of papers presented in International conferences:	---	20

In Refereed International Journals:

1. A. Muliana, K. R. Rajagopal and Shankar C. Subramanian, Degradation of an elastic composite cylinder due to the diffusion of a fluid Journal of Composite Materials, Vol. 43, No. 11, pp. 1225–1249, 2009
2. Balaramakrishna N and Krishna Kumar R, Vehicle System Dynamics - A Study on the effect of different tyre imperfections on Steering Wheel Vibration, Vol. 47, No.6., pp.753-770
3. Subbani M and Krishna Kumar R, Mechanics of Advanced Materials and Structures - A New Stored Energy Function for Rubber like Materials for low Strains, 16, pp 402-416
4. I.A.Palani, N.J. Vasa, M.Singaperumal (2009) "Crystallization and ablation in annealing of amorphous-Si thin-film on glass and crystalline-Si substrates irradiated by third harmonics of ND3+:YAG laser", Materials Science in Semi-conductor Processing, 11, pp. 107-116
5. Saravana Kumar,G., Pandithevan,P.,and Ambatti,A. (2009), Fractal raster tool paths for layered manufacturing of porous objects, Virtual and Physical Prototyping, 4(2), 91 – 104.
6. Muralidhara, N. J. Vasa, M. Singaperumal (2009), "Investigations on a Directly Coupled Piezoactuated Tool Feed System for Micro-Electro-Discharge Machine", International Journal of Machine Tools and Manufacture DOI:10.1016/j.ijmachtools.2009.08.004
7. Veera Babu, K., Ganesh Narayanan, R., and Saravana Kumar, G (2009), "An Expert System based on Artificial Neural Network for Predicting the Tensile behavior of Tailor Welded Blanks", Expert Systems with Applications Vol. 36, 10683 - 10695
8. N. J. Vasa, M. Singaperumal (2009), "Gas sensors based on super luminescent diodes for combustion monitoring", Applied Optics, Vol. 48 (31), pp. G1-G5.
9. Pandithevan, P. and Saravana Kumar, G., 2009 Reconstruction of subject-specific human femoral bone model with cortical porosity data using macro-CT Virtual and Physical Prototyping, 4 (3), 115-129.
10. Pandithevan, P. and Saravana Kumar, G., 2009, "Personalised bone tissue engineering scaffold with controlled architecture using fractal tool paths in layered manufacturing", Virtual and Physical Prototyping, 4 (3), 165-180.
11. Santhakumar M., Asokan T, Planar Tracking Control of an Under actuated Autonomous Underwater Vehicle, International Journal of Mechanical, Industrial and Aerospace Engineering V4(1), pp 32-37 (available online)
12. Santhakumar Mohan, Asokan T and T.R. Sreeram Analysis of Parameter Sensitivity Using Robust Design Techniques for a Flatfish Type Autonomous Underwater Vehicle Int. Nat. Journal of Quality, Systems and Reliability, Vol. 2009, pp1-11 (in press)
13. Santhakumar Mohan, Asokan T (2009), "Non-linear Adaptive Control System for an Under actuated Autonomous Underwater Vehicle using Dynamic State Feedback", Int. Journal of Recent Trends in Engineering, Vol. 2 (1-6), pp 380-384.
14. Rajasekar Varadhrayan, N. J. Vasa, Y. G. Srinivasa, (2010), "Reduced order state-space modeling of a two-shaft turbofan engine for control and off-design performance analysis", International Journal of Automation and Control, Vol. 4 (1), pp. 26-41

15. Muralidhara, N. J. Vasa, M. Singaperumal (2010), "Wear ratio based tool wear compensation for micro electro discharge machining of silicon through process simulation" *Journal of Micro/ Nanolithography, MEMS, and MOEMS (JM3)* Vol. 9, pp. 013040-013046
16. Ramu, P., Kim, N.H. and Haftka, R.T., (2010), "Multiple tail median approach for high reliability estimation", *Journal of Structural Safety*, Vol. 32(2), 124-137
17. Ramu, P., Kim, N.H. and Haftka, R.T., (2010), "Multiple tail median approach for high reliability estimation", *Journal of Structural Safety*, Vol. 32(2), 124-137
18. T. Aravindkrishna, V. Balasubramanian, and T. T. Narendran, "Thrombogenicity studies of three different variants of processed bovine pericardium," *Int. J. Enterprise Network Management*, Vol. 3, No. 3, 184-200, 2009
19. V. Balasubramanian, K. Adalarasu and R. Regulapati, "Comparing Dynamic and Stationary Standing Postures in an Assembly Task," *International Journal of Industrial Ergonomics, International Journal of Industrial Ergonomics*, 39, 649-654, 2009
20. Saravana Kumar G. and Sahasrabudhe A. D., 2010, Design Optimization of Fan Impeller or Dehusking Grains: using Feature-based CAD and Flow Solver, *Int. J. Modelling & Simulation*, 30(1), 73-79.

In Proceedings of National Conferences:

1. M.Santhakumar, and T.Asokan, Application of Robust Design Techniques for Underwater Vehicle Control ISOPE Ocean Mining Symposium (OMS – 2009) 20 – 24, Sep 2009, NIOT, Chennai
2. Santhakumar.M, Saravanakumar S, Thirupathi.T and T.Asokan Design of Interactive Simulation System and Graphical User Interface for Underwater Vehicle Control and Navigation ISOPE Ocean Mining Symposium (OMS – 2009) , 20 – 24, Sep 2009, NIOT, Chennai
3. Sandipan Bandyopadhyay, "Verification of the trajectories of Stewart platform manipulators against singularities", 14th National Conference on Machines and Mechanisms (NaCoMM - 09)" held at NIT,Durgapur during December 17-18, 2009
4. Dilip K.V, N. J. Vasa (2009) Influence of mesh type particulate filters on exhaust back pressure in Diesel engines. IPRoMM 2009, Design and Manufacturing Issues Relevant to Automotive and Allied Industries, IIT Madras, 10th – 11th July.
5. Sundarraman P., S. K. Saha, N. J. Vasa, Baskaran R., Sunilkumar V., and Raghavendra K.(2009) Simulation of Fuel-Injection Pump used in Diesel Engines. IPRoMM 2009, Design and Manufacturing Issues Relevant to Automotive and Allied Industries, IIT Madras, 10th – 11th July.

In Proceedings of International Conferences:

1. Saravana Kumar G. and Pandithevan Ps, "Fractal Tool Paths for Layered Manufacturing of Scaffolds with Matched Bone Properties", 4th International Conference on Advanced Research in Virtual and Rapid Prototyping, Leiria, Portugal, 6-10 October 2009
2. Ameena Padiath, Lelitha Vanajakshi, Shankar C. Subramanian and Harishreddy Manda, "Prediction of traffic density for congestion analysis under Indian traffic conditions", Proceedings of the 12th International IEEE Conference on Intelligent Transportation Systems, St. Louis, Missouri, USA, pp. 78-83, October 2009
3. Shankar C. Subramanian, "Estimating unknown parameters for a class of single input single output hybrid systems", Proceedings of the 2009 International Conference on Advances in Recent Technologies in Communication and Computing (organized by ACEEE and technically co-sponsored by IEEE-Computational Intelligence Society), Kottayam, India, pp. 110-114, October 2009.
4. A.Palani (Ph.D. Research Scholar, ME) (Co-authors: N. J. Vasa, M. Singaperumal, T. Okada), "Investigation on solid diffused laser doping (SDL) of Sb on a-Si and ZnO for functional devices", 10th International Conference on Laser Ablation (COLA 2009), Singapore, 22-27 November 2009

5. Jobin K. Antony (Ph.D. Research Scholar, ED) (Co-authors: Garneesh Singh Jatana, Nilesh J. Vasa, V.L.N.Sridhar Raja, A.S.Laxmiprasad, LEOS, ISRO), "Modeling of laser induced breakdown spectroscopy for very low pressure conditions", 10th International Conference on Laser Ablation (COLA 2009), Singapore, 22-27 November 2009
6. Subhajit Mahanty and Shankar C. Subramanian, "Model based analysis of a heavy commercial vehicle with an electropneumatic brake towards antilock braking systems", Proceedings of the 2009 IEEE International Conference on Vehicular Electronics and Safety, Pune, India, pp. 135–140, November 2009
7. Dinesh Sonawane and Shankar C. Subramanian, "A model for the mechanical subsystem of an air brake system", Paper No. 2009-28-0058, Proceedings of the SAEINDIA International Mobility Engineering Congress and Exposition, Chennai, India, December 2009
8. Abhishek Dhumal, Ganesh Narayanan R. and Saravana Kumar G, "Estimation of Tailor-Welded Blank Parameters for Acceptable Tensile Behaviour using ANN", in Proceedings of PReMI 2009, LNCS, 5909, pp. 140-145, 2009.
9. P. Karthikeyan and Shankar C. Subramanian, "Development and modelling of an electropneumatic brake system," Proceedings of the 2009 IEEE Intelligent Vehicles Symposium, Xi'an, China, pp. 858–863, June 2009.
10. R. P. S. Padmanaban, Lelitha Vanajakshi and Shankar C. Subramanian, "Estimation of bus travel time incorporating dwell time for APTS applications," Proceedings of the 2009 IEEE Intelligent Vehicles Symposium, Xi'an, China, pp. 955–959, June 2009.
11. R. P. S. Padmanaban, Lelitha Vanajakshi and Shankar C. Subramanian, "Automated delay identification for bus travel time prediction towards APTS applications", Proceedings of the Second International Conference on Emerging Trends in Engineering & Technology (technically co-sponsored by IEEE Systems, Man & Cybernetics Society), Nagpur, India, pp. 564–569, December 2009
12. Ameena S. Padiath, Lelitha Vanajakshi and Shankar C. Subramanian, "Estimation of traffic density under Indian traffic conditions", Proceedings of the 89th Transportation Research Board Annual Meeting, Washington, D. C., USA, January 2010.
13. A.Palani, N. J. Vasa, M. Singaperumal, T. Okada, "Investigation on production of highly textured Sb doped polycrystalline silicon using solid state Nd: YAG laser for photovoltaic application", Proc. SPIE, Laser Applications in Microelectronic and Optoelectronic Manufacturing XV, Vol. 7584, pp. 758410-1 to 758410-8.
14. Muralidhara, Sourav Mitra, N. J. Vasa, M. Singaperumal Investigation on particle generation by micro-electro discharge machining, Proceedings of SPIE, Micromachining and Microfabrication Process Technology XV, Vol. 7590.
15. Muralidhara, Nilesh J. Vasa, M. Singaperumal Estimation of tool wear compensation during micro-electro discharge machining of silicon using process simulation", Proceedings of SPIE, Micromachining and Microfabrication Process Technology XV, Vol. 7590
16. Jagannath M., Sandipan Bandyopadhyay, "A new approach towards the synthesis of six-bar double dwell mechanisms", Proceedings of the 5th International Conference on Computational Kinematics, pp. 209-216, May 06-08, Duisburg, Germany.
17. Sandipan Bandyopadhyay, "A novel characterisation of spatial manipulators based on their degrees-of-freedom", Proceedings of the IEEE/ASME International Conference on Advanced Intelligent Mechatronics, AIM, art. no. 5229944, pp. 618-623, July 14-17, 2009, Singapore
18. V. Balasubramanian, "Is intermittent walking a better alternative to stationary standing in shop floor design? International Ergonomics Conference HWWE 2009, Kolkata, December 17-19, 2009.
19. V. Balasubramanian, K. Adalarasu and A. Suryanarayanan, "Product Human Factors Evaluation in TV Commercials Using Psychophysical Test," International Ergonomics Conference HWWE 2009, Kolkata, December 17-19, 2009.
20. K. Adalarasu and V. Balasubramanian, "Muscle Fatigue in Young Professional Female Athletes during Ergometer Rowing," International Ergonomics Conference HWWE 2009, Kolkata, December 17-19, 2009.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Prof. Martha Grey, Professor of Medical and Electrical Engineering (Harvard-MIT Health Sciences and Technology), Massachusetts Institute of Technology	19 th March 2010	Research Discussion

4.9.6 Other Activities of the Department/Centre:

An Industrial visit to M/s TI Cycles of India (BSA Motors, MTH Road, Chennai 600 053), Ambattur was arranged for our students of the course ED 508 – Mechatronics Systems' Design on 9th April 2009

Prof.R.Krishna Kumar attended the Research Advisory Council Meeting as part of the JK Tyre project on 5th May 2009 at New Delhi.

Dr.Sankara J Subramanian, Associate Professor joined the department on 25th May 2009.

An invited magazine article authored by Dr.G.Saravana Kumar, titled "Sculptured Object Reconstruction: from Points to Physical Prototype" is published in The RPD Magazine- the magazine for layered manufacturing and Rapid Product Development technologies, 2009.

Dr.G.Saravana Kumar, Assistant Professor guided three student groups on Design Projects and accompanied them to present the same in Made in Brunel Innovation Design Show 2009 by Brunel University held at Islington, UK between 9-10 June 2009. One student group constituting of Mr.Swapnil Babanlal Jain and Mr.Vaibhav Kumar, IV semester Dual degree students of our department won HSBC International Award with Prize Money of £500 for the product developed by them. In this project, they have come up with the idea of using oil lamps to power fans for use in villages with no access to electricity. This item has also been published in the UK Magazine "Eureka", the link to the same is <http://www.eurekamagazine.co.uk/article/18794/lamp-powers-fan-with-no-electricity.aspx>

Prof.R.Krishna Kumar has been nominated as the Co-ordinator for the Finishing School with TVS Group of companies. The total value of the Continuing Education Programme is Rs.7.5 lakhs and its duration is for one year.

Prof.R.Krishna Kumar served as a Retainer Consultant for the J.K.Tyres project titled "Bridging the Digital divide". The duration of the project is one year.

Dr.T.Asokan chaired a technical session on "Mechatronics" at the IPRoMM 2009 National Conference held at IIT Madras on 10th July 2009.

Prof.R.Krishna Kumar, Dr.Sankara J. Subramanian and Dr.G.Saravana Kumar delivered a series of lectures for the course on "Engineering Design Process" as part of the Continuing Education Programme for Finishing School with TVS Group of companies

Dr.T.Asokan attended the first meeting of the Industry Platform on Medical Devices and Implants, organised by FICCI, at New Delhi on 16th Sep. 2009. Dr MK Bhan Secretary, Department of Bio-Technology chaired the meeting.

Dr.T.Asokan (Faculty Guide), Mr Chinmay Deodhar (Dual degree student) has been awarded a project by ICSR for innovative student project on "Combination laparoscopic surgical tool design – grasper, scissor, and electro-coagulator". The duration of the project is 6 months (12th Oct 2009 to 30th April 2010) and its value is Rs.1.6 lakhs.

Dr.N. J. Vasa, Ms. K. Sulochana PhD Research Scholar (Advisor: Prof. M. Singaperumal) and a German team comprising of Dr. Thomas Seeger, S. Eichmann (PhD Research Scholar) (Advisor: Prof. Alfred Leipertz) have submitted a Project proposal titled "Development of a measurement technique for a local fuel ratio in a gas phase by stimulated Raman gain scattering German-Indian STAR Scholarship for Technology and Research (DAAD - IIT Madras)"

Dr.G.Saravana Kumar visited SCTIMST, Trivandrum on 10th October for a Research Discussion on possible collaborative projects

A Joint Development Agreement has been signed with Sundaram Medical Devices Pvt. Ltd. for research collaborations.

The following News item was published in "Laser Focus World" a Photonics Industry Magazine. Dr.N.J.Vasa is the researcher and the title of his research is 'Superluminescent diode is light source for gas sensing'. The news was published under: News Break: Laser Focus World, Volume 45, December 2009 Issue, Page: 12

Dr Nilesh J Vasa visited Graduate School of Information Science and Electrical Engineering, Kyushu University, Fukuoka, Japan under JASSO Research-Fellowship Program, between September 16 - December 14, 2009. The title of his research is "Laser induced structuring of optically functional thin films for photovoltaic and sensing applications"

Dr C S Shankar Ram served as the Co-ordinator of the Technology Appreciation Programme on Recent Trends in Research on Automotive Systems, IIT Madras, December 2009. He gave a lecture on "Electropneumatic brakes for commercial vehicles" in this programme.

Dr C S Shankar Ram acted as Co-chair for the sessions on Vehicle Dynamics and Handling, and Dynamic Modeling Process, SAE INDIA, International Mobility Engineering Congress and Exposition, Chennai, December 2009.

Dr.M.Ramanathan has submitted a Project Proposal titled "Automated simplification of mesh models for finite-element analysis", to M/s Autodesk India Pvt Ltd.

Dr M Ramanathan delivered a series of lectures for the Continuing Education Programme entitled "Finishing School with TVS Group of Companies".

Prof. Martha Grey, Professor of Medical and Electrical Engineering (Harvard-MIT Health Sciences and Technology), Massachusetts Institute of Technology visited ED department on 19th March 2010.

Dr. C. S. Shankar Ram was part of the Organizing Committee, Indo-US Workshop on Emerging Trends in Intelligent Transportation Systems, IIT Madras, February 2010.

Faculty Visit:

Sl. No.	Name of faculty	Country of Visit	Purpose
1	Venkatesh Balasubramanian	Melbourne, Australia	Visited the Mechanical Engineering Department, University of Melbourne from June to September, 2009 on Endeavour Executive Award of the Government of Australia.
2	Venkatesh Balasubramanian	Perth, Australia	Was an invited expert for discussion on Occupant and Pedestrian safety in Western Australia in the newly formed Accident Research Center at Curtin University, WA, Australia
3	Venkatesh Balasubramanian	Tokyo and Osaka, Japan	Lead a delegation to Japan to develop a curriculum for Visionary Leaders for Manufacturing.

HUMANITIES AND SOCIAL SCIENCES



4.10 DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

4.10.1 Introduction:

The Department of Humanities and Social Sciences (HSS) is one of the earliest departments established at IITM. The Department is multi-disciplinary in nature and has reputed faculty from diverse disciplines such as Economics, English language and Literature, Philosophy, Sociology, History, and German Studies.

The five year integrated MA programme launched by the Department in the academic year 2006-07, is now in the phase of stabilisation.

The first batchFourth batch of MA students who joined the program in 2006 will complete their degree in July 2011.

4.10.2 Academic Programmes:

Five year integrated MA programme introduced in July 2006.

New Elective Courses introduced:

- HS4570 Gandhian Thought
- HS5910 Innovation and Social Enterprise – Rural Field Study
- HS6070 Democracy: Theory and Practice
- HS6080 An Introduction to Classical Sanskrit Literature

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year	Total
MA	39	29	27	28	-	123
Ph.D.	6	4	4	7	20	41
Total	45	33	31	35	20	164

Names of Students/Scholars who attended Conferences/Workshops/Seminars and Symposia Abroad/in India:

S.No	Name of the Student / Scholar	Programme / Paper presented	Name of the Conference/ Seminar/Symposia	Venue and date
1.	S D Vaishnavi	"Coping with the Financial burden of illness: A study in rural region of a less developed district in India"	"Harmonizing and Health Economics" organized by International Health Economics Association at Beijing, China	from 12 th to 15 th July 2009
2.	Nivedita	poster on "Balancing of (im)politeness strategies in an interview : A case study of Hinsi TV interview "	31st All India Conference for Linguists	From 15 th to 17 th December, 2009

Names of students / scholars who won outside prizes and awards:

Vidya Sarveswaran Fulbright Fellow till June 2009 in the Doctoral and Professional category and completed nine months in America.

Nivedita : Under Special Invitation Programme for Graduate Students, The Japan Foundation\JENESYS, she received a fellowship to stay in Japan from 28th September - 22nd November, 2009. Konan Woman's University, Kobe was her host institution and Dr. Reiko Hayashi her host advisor from the same institution.

4.10.3 Faculty and their activities:

Faculty:

S.No.	Name and Qualifications	Major area of specialization
1.	V. R. Muraleedharan , Ph.D. (IIT Madras) [Head]	Health Care Economics, Public Policy, History of Healthcare in South India
2.	Shreesh Chaudhary , Ph.D. (CIEFL Hyderabad)	Theoretical Linguistics, ELT & Need based courses in English
3.	Evangeline Manickam , Ph.D. (Madras University)	American Literature, English/ French
4.	Malathy Duraisamy , Ph.D. (Madras University)	Applied Economics, Labour Economics, Economics of Social Sector, Science and Technology
5.	Sudhir Chella Rajan Ph D.	Environment, Energy and Climate Policy, Political Theory, Development.
6.	Aysha Iqbal Viswamohan Ph.D. (Vikram University)	American Studies, World Drama, and Intercultural Communication.
7.	Debashis Acharya , Ph.D. (Univ. of Hyderabad)	Macro and Monetary Economics, International Trade and Finance; Health Care Finance
8.	Devaki Reddy , Ph.D. (JNU, New Delhi)	English, Sociolinguistics, ELT
9.	John Bosco Lourdasamy , D.Phil. (Oxford University)	History of Science, Science, Technology and Society
10.	Jyotirmaya Tripathy , Ph.D (IIT,Kharagpur)	Literary Theory, American Studies, Cultural Studies
11.	Milind Brahme , Ph.D. (JNU, New Delhi)	German Studies, Comparative Literature and Modern Marathi Literature
12.	Mohan S , M.A. (Madras University)	English, Science Fiction, Technical Report Writing, Indian Writing in English
13.	Prema Rajagopalan , Ph.D. (IIT Kanpur)	Sociology of Science and Technology, Development, Women in Science and Technology
14.	Sonika Gupta Ph D (JNU NewDelhi)	Chinese Foreign Policy and Politics, International Relations Theory, Human Security, Nuclearization of South Asia
15.	Sreekumar N , Ph.D. (Univ. of Hyderabad.)	Philosophy of Language, Hermeneutics, Indian Philosophy
16.	Srilata K , Ph.D. (Univ. of Hyderabad)	African Literature, Cultural Studies, Creative Writing
17.	Sudarsan Padmanabhan Ph D (Univ. of South Florida)	Social and Political Philosophy, Indian Philosophy and culture
18.	Suresh Babu M , Ph.D (JNU, New Delhi)	Industrial Economics, Applied Macro Economics
19.	Swarnalatha R , Ph.D (Madras University)	Eco Philosophy, American Literature
20.	Umakant Dash , Ph.D. (IIT Kanpur)	Energy Economics; Health Care Economics
21.	Tabraz S S , Ph D (JNU New Delhi)	International Relations Theory, Isreal-Palestinian Conflict

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
1.	Aysha Iqbal	Chennai International Screenwriting Workshop in Collaboration with Rajkamal Films, Chennai	28 th May to 3 rd June 2009
2.	Jyotirmaya Tripathy	"Abraham Lincoln without Borders" in collaboration with Forum on Contemporary Theory, Baroda & Abraham Lincoln Bicentennial Commission, USA.	19 th to 20 th December 2009
3.	Aysha Iqbal	International Workshop on Screenwriting at IITM	28 May-3 June, 2009

Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic Institutions and Public Sector Undertakings:

Sl.No.	Name of faculty	Title	Institution	Period
1.	Shreesh Chaudhary C	43 rd Annual International IATEFL conference and Exhibition	Cardiff, UK	31 st March to 04 th April 2009
2.	John Lourdusamy Bosco	"The Culture and Philosophy of Science in India"	Jawaharlal Nehru University, New Delhi in collaboration with Indian Council for Philosophical Research and Ramakrishna Mission, Institute of Culture, Kolkata	4 - 6 th April 2009
3.	Prema Rajagopalan	Global Development Paradigms – Impact on Women's Lives	Human Resource Development Centre Yelagiri Hills, Vellore	20 th to 22 nd April 2009
4.	Sudhir Chella Rajan	Technology cooperation Workshop	Civil Society towards COP15, Copenhagen, Denmark	11 th May to 15 th May 2009
5.	Suresh Babu	European Workshop on Efficiency and Productivity Analysis 2009	Pisa, Italy	23 rd to 26 th June 2009
6.	VR Muraleedharan	Annual meeting of the Consortium of Research on Equitable Health Systems (CREHS)	Worcester college, Oxford, UK	29 th June 2009 to 4 th July 2009
7.	Umakant Dash	Annual meeting of the Consortium of Research on Equitable Health Systems (CREHS)	Worcester college, Oxford, UK	29 th June 2009 to 4 th July 2009
8.	Jyotirmaya Tripathy	Cross-Cultural Communication presented a paper titled 'Linguistic Terrorism'	University of Malaya Kulalalumpur	19 th to 20 th August 2009
9.	Sudhir Chella Rajan	"Sustainable Transport System in the City of Belgrade"	Belgrade, Serbia	29 th Sep. to 4 th Oct. 2009
10.	John Lourdusamy Bosco	'Internet, Distance Education and Globalization of Education	Higher Education Summit Asia, Singapore	28-29 October, 2009
11.	John Lourdusamy Bosco	IEEE 7th International Conference of ICT & Knowledge Engineering 2009	Siam University, Bangkok, Thailand	1 st to 3 rd December 2009.
12.	John Lourdusamy Bosco	'Redefining the Digital Divide'	Management and Knowledge Economy, Bangkok, Thailand,	25 th to 27 th December 2009

13.	V R Muraleedharan	Final meeting of the joint research project with LSHTM, London	London School of Hygiene and Tropical Medicine University of London, UK.	29 th to 30 th March 2010
14.	Umakant Dash	Final meeting of the joint research project with LSHTM, London	London School of Hygiene and Tropical Medicine University of London, UK.	29 th to 30 th March 2010
15.	S Devaki Reddy	'Using tests to help learners improve their reference skills' at 5 th International Symposium on Teaching English at Tertiary Level	Hong Kong Polytechnic University, Hong Kong	16-17 October 2009
16.	S Devaki Reddy	'Articles and Proverbs' at First International ESL EFL Conference	Janardan Rai Nagar University, Udaipur, India.	5-7 November 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	John Bosco Lourdasamy	'Jagadis Chandra Bose, - Globalization and the 21 st Century'	Kolkata, on 7 th November 2009.

4.10.4 Research and Consultancy:

Sponsored Research Projects:

S.No	Title	Period	Funding agency	Amount in Lakhs	Coordinators
1	'Comparative EU Studies'	2 years	European Union, New Delhi	Rs.130 lakhs	Sudarsan Padmanabhan, Sonika Gupta, Jyotirmaya Tripathy and SS Tabraz
2	'Performance on Tamil Nadu Health Care System during 1980 – 2005.	2 years	The Rockefeller Foundation (New York)	Rs.54.45 lakhs (Approx)	V. R. Muraleedharan and Umakant Dash

Journal Editorial Boards:

K Srilata, co-edited the book titled 'The Rapids of A Great River' The Penguin Book of Tamil Poetry published by Penguin books India Pvt Ltd.

K.Srilata's debut novel 'Table For Four' finds a place in the long list for the 2009 Man Asian Literary Prize (Man Group plc is the sponsor of the Man Asian Literary Prize and the annual Man Hong Kong International Literary Festival)

K. Srilata has been offered the 'Sangam House writing residency'. She visited Adhishakthi Theatre Auroville, Puducherry, as writer-in-residence in January 2010."

Aysha Iqbal , As referee to the Editorial Board for The Journal of Post-Colonial Cultures & Societies. The peer-reviewed quarterly is published online from Wright State University, USA

Research Publications:

1. Aysha Iqbal published a book titled "English for Nurses" published by Tata McGraw-Hill, 2010, New Delhi.
2. Aysha Iqbal 'Communicative Strategies of Spam mails' Oxford, UK , ELTJ, 64/1, 2010, pp 85-94.

3. Aysha Iqbal Book chapter in *Masculinity in Postcolonial Indian Writing in English*. Letizia Alterno & Rajeshwar Mitapalli (eds). *Atlantic Publishers*, New Delhi, 2009 Kiran Nagarkar and the Discontents of Masculinity, pp. 83-99.
4. Debashis Acharya, Girija Vaidyanathan, V R Muraleedharan et.al – "Do poor benefit from public spending on health care?" results from Befefit Incidence Analysis of Tamilnadu and Orissa. (Monograph prepared for, LSHTM, London April 2010.)
5. Kushal Shweta and Evangeline Manickam. "Articulation through Silence: A Critical Reading of Joy Kogawa's *Obasan*" *Journal of the School of Language, Literature and Culture Studies*, 12 Autumn (2009): pp 7-20.
6. R Swarnalatha edited a book titled 'The Philosophy of Education' by the late Prof. M .S .Srinivasa Sarma'
7. Siddharth Sareen,(MA 2006) a paper titled '*Public Spaces in Chennai: transport equity, inclusiveness and stakeholders in urban planning*' has been published by the 2009 ISA-RC21 Sao Paulo Conference, that took place during 23-25 August 2009, on 'In equality, Inclusion and the Sense of Belonging'.
8. S.Devaki Reddy & Shreesh Chaudhary, 2009. Technical English. New Delhi: Macmillan Publishers, 204 pages.
9. S.Devaki Reddy. December 2009. 'Assessment and motivation in English language teaching' in Francis Peter ed. Indian Voices in ELT. New Delhi: Viva Books, pp.106-116.
10. Shashikanta Tarai & S.Devaki Reddy. 2009. Stress patterns of Arabic borrowed words in Oriya. *IJDL*, Vol 38:3, pp. 95-130.
11. S.Devaki Reddy. 2010. Using stories in an ELT classroom. *English Teaching Professional*. No.5, pp. 28.
12. S. Byravan and S.C. Rajan (2009): "Warming up to immigrants: An option for US climate policy, *Economic and Political Weekly*, 44, 19-23.
13. S C Rajan ,W. Dougherty, S. Kartha, , M. Lazarus, A. Baillie, B. Runkle, A. FencI (2009): "Greenhouse gas reduction benefits and costs of a large-scale transition to hydrogen in the USA," *Energy Policy*, 37, 56-67.
14. Vidya Sarveswaran and Swamalatha R. "Ground Truthing - A Study of Ecological Scapes in Terry Tempest Williams's in An Unspoken Hunger: Stories from the Field". forthcoming in *Literary Insight: A Journal of Literature*.
15. Vidya Sarveswaran and R.Swarnalatha, "Gestalt ontology as a planetary culture in Terry Tempest Williams's *Finding Beauty in a Broken World*", in Jadavpur University's *Journal of English Studies*. Vol.XXXIII, No.1, 2009. pp. 35-46
16. Vidya Sarveswaran and R.Swarnalatha, "A perspective of Engagement: An Ecological Renaissance into 'The Garden of Earthly Delights' in Terry Tempest Williams's *Leap*", in Jawaharlal Nehru University's *Journal of the School of Language, Literature and Culture Studies*. Spring, 2009. pp. 33-40.
17. Vidya Sarveswaran and R.Swarnalatha, "The Open Space of Democracy - Partnership ethics in Terry Tempest Williams's *Refuge: An Unnatural History of Family and Place*" in the *Scholastic International Research Journal of Language and Literature*, Vol.1.September 2009. pp.128-139.

4.10.5 Other Activities:

Aysha Iqbal awarded Candian Faculty Eenrichment Fellowship by Shastri Indo-Canadian Institute, 2009.

Special Lectures:

Dr. Ian McDonald of university of Brighton, Sussex UK, Director of Master's programme in International Sport Policy at Brighton, delivered two lectures:

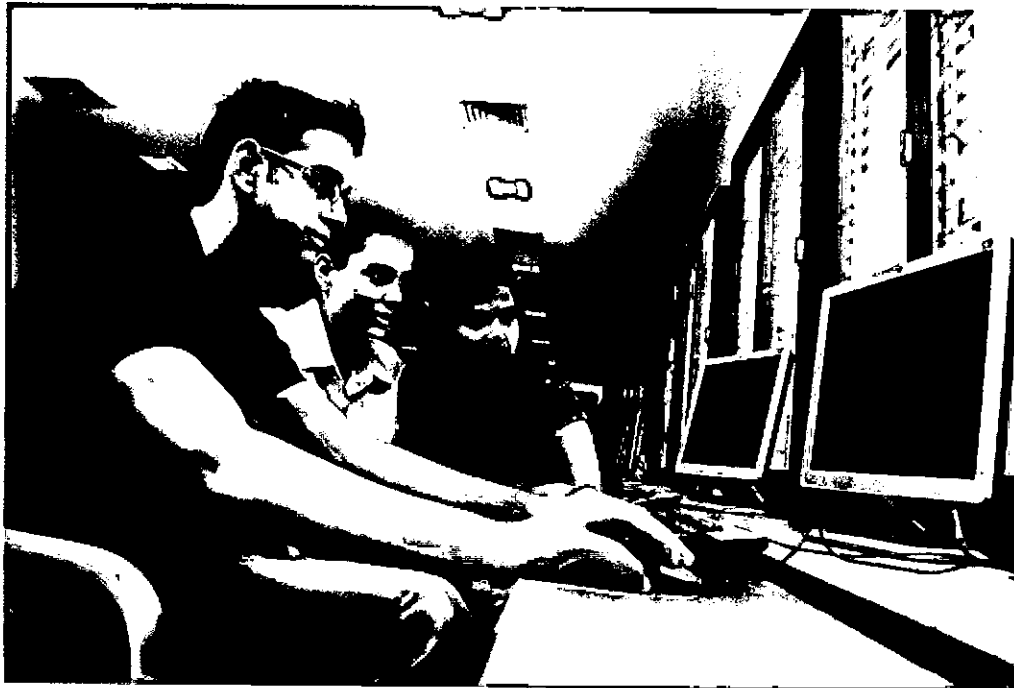
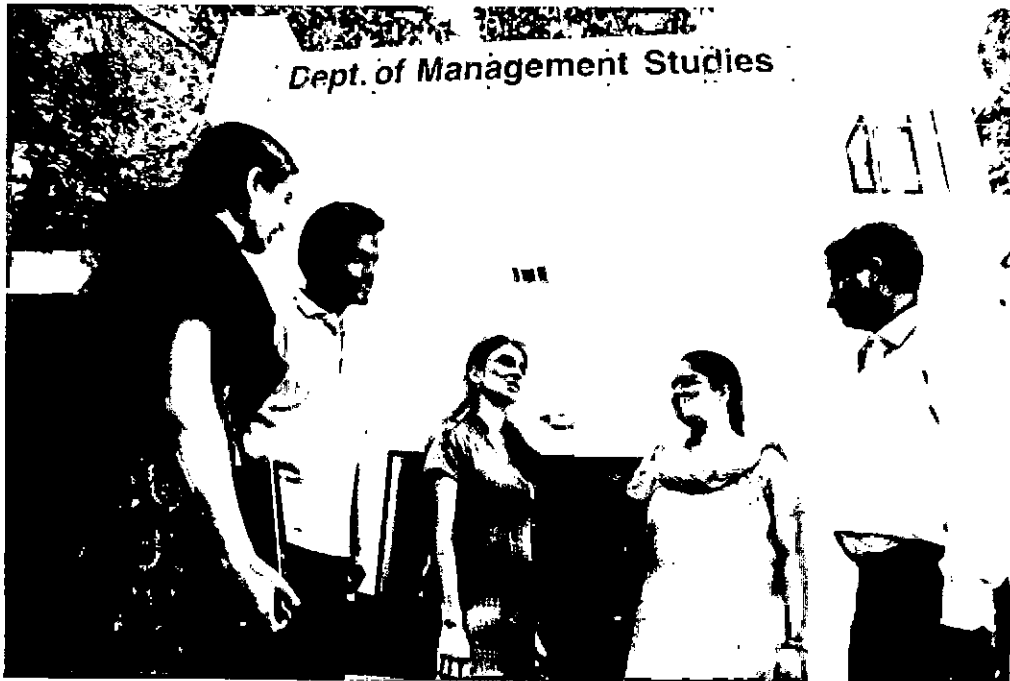
Lecture on 19th October at 730pm 'Not Just Khel Khud! Sport, Politics and Society'.

Lecture on 21st October at 730pm 'The Olympic Documentary: A critique of Kon Ichikawa's Tokyo Olympiad'.

Dr John Seed, Deep Ecologist and Founder Director of the Rainforest Information Centre Australia delivered two lectures on the following topics;

- 1) 'Deep Ecology and the Conservation of Nature' on Monday, 28 December 2009b at CLT and
- 2) 'How the Australian Rainforests were Saved: The Influence of Gandhi' on Tuesday, 29 December 2009 at CLT.

MANAGEMENT STUDIES



4.11 DEPARTMENT OF MANAGEMENT STUDIES

4.11.1 Introduction:

The Department of Management Studies (DOMS) was established in April 2004, with some of the faculty members drawn from the Department of Humanities and Social Sciences that offered the M. Tech (Industrial Management) programme until 2001, and thereafter the MBA programme. On 2nd February 2006, the DOMS moved to the new premises provided by the Institute to facilitate all-round developments in its teaching and research programmes, and industry-interface efforts and initiatives. Over the years, the work and contributions of the faculty and research scholars have been highly acclaimed in academic circles and peer groups. The sharply growing number of well-qualified applicants, with many having significant professional experience, both from the industry and academia, is a good indication of the academic reputation of the Department.

The MBA Programme, which commenced in July 2001, has earned a good reputation among all stakeholders. The summer and career placements offered to the students by globally and nationally reputed companies is strong evidence of the growing stature of the programme and the attention it is receiving.

The Department presently conducts one of the world's largest research programmes and possibly has the largest number of management research scholars in India. Its research programmes attract a very large number of applicants, including a high proportion of working professionals. The work of the research scholars is regularly published in reputed international and national journals, and is presented in prestigious international and national conferences. In the recent past, a few research scholars have received international awards for their doctoral theses. The research papers of several research scholars have consistently received 'best paper' awards, and are well cited in the literature.

The alumni of the Department continue to make significant contributions to the organizations and institutions they work for. Many among them have won prizes, awards, honours and promotions in their organizations even within their first year of work. They have also played a central role in making their organizations earn laurels from various quarters.

The full-time and visiting faculty members have excellent academic and professional backgrounds, and they collectively work for realizing the Department's vision *"to be a globally unique and most valuable source of knowledge, insight, creativity and expertise in management thought and practice"*.

Within the first three years of its existence, the Department thoroughly revised its MBA programme curriculum, expanded its research activities, re-launched the MS (Entrepreneurship) programme with a new structure, and worked for establishing long-term relationships with globally reputed Institutions and organizations. The sections below present an outline of the Department's work.

Some major areas of research at the department are:

- Production and Operations Management
- Finance
- Marketing
- Human Resource Management
- Information Systems
- Strategy
- Technology Management
- Project Management
- Quality Management
- Services Management
- Knowledge Management

4.11.2 Academic Programmes:

New Courses introduced:

SI. No.	Course No.	Title
1	MS 623	Strategic Sourcing

Students on Roll:

Programme	I year	II Year	III Year	IV Year	V Year & later	Total
M.B.A.	71	63	-	-	-	134
MS (by Research) & MS (Entrepreneurship)	14	9	7	1	7	38
Ph.D.	23	12	8	13	21	77
Total	108	84	15	14	28	249

4.11.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization
Professor:	
Ganesh L S, B.E.(Hons.), M. Tech, Ph. D.	Systems Thinking and Applications, Project Management, Technology and Knowledge Management
Jayachandran S M.A., MBA, Ph. D.	Marketing Management
Kamalanabhan T J M.A., M. Phil., Ph. D.	Industrial Psychology, Organizational Behaviour, Human Resources Management
Narendran T T B.E., M.S., Ph. D.	Operations Management, Cellular Manufacturing, Logistics and Supply Chain Management
Rajendran C [Head] B.E.(Hons), M.E., Ph. D.	Operations and Supply Chain Management, Scheduling, Computer Simulation, Quality Management
Srinivasan G B.E.(Hons), M.S., Ph. D.	Operations Research, Supply Chain Management, Cellular Manufacturing
Thenmozhi M M. Com., M. Phil, Ph. D.	Financial Management, Strategic Management, Computational Finance, Financial Markets
Vijayaraghavan P B.E., MBA, Fellow IIM Bangalore (TTK Chair Professor)	Strategic Marketing, Brand Management, Advertising and Sales Promotion
Associate Professor:	
Arun Kumar G M. Com., Ph. D.	Market Microstructures, IPOs, Joint Ventures and Multinational Business
Madhumathi R M. Com., Ph. D.	Financial Management and Accounting, Investment Analysis, Forex Research
Prakash Sai L B.E., PG Dipl.(CM&P), M. Tech, Ph D.	Strategic Management, Business Models, IT Outsourcing and IT Strategic Planning, Technology Management
Sanghamitra B B.E., Fellow IIM Calcutta	Organizational Behaviour, Human Resources Management
Assistant Professor:	
Arshinder Kaur B. Tech., M. Tech, Ph. D.	Supply Chain and Operations Management
Ganesh M P M. Phil, Ph. D.	Organizational Behaviour, Human Resources Management, Industrial Psychology
Rahul R. Marathe B.E., M.S., Ph.D.	Operations Research, Stochastic Processes, Supply Chain Management
Thillairajani A B.E., M.Sc., Fellow IIM Bangalore	Financial Management and Corporate Finance, Venture Capital and Entrepreneurial Finance, Infrastructure and Project Finance, Business Strategy of Technology Enterprises
Visiting Faculty:	
Richa Agrawal MBA, Ph. D.	Advertising & Publicity, Marketing, Relationship Marketing

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Name of the Co-ordinators	Programme	Name of the Conference/ Seminar/Symposia	Date & Venue
1.	Dr. T.J. Kamalanabhan and Dr. M. Thenmozhi	Supervisory Development Programme for L&T (E&GP OC) employees, Chennai	====	April 27 – May 2, 2009; Dept of Management Studies, IIT Madras
2.	Dr. L.S. Ganesh	Management Development Programme for FirstSource Ltd	"FirstSource Leadership Programme"	June 15 – 19, 2009; IC & SR Hall, IIT Madras
3.	Dr. T.J. Kamalanabhan and Dr. M. Thenmozhi	Supervisory Development Programme for FLSmidth Ltd, Chennai	"Fundamentals of Research in Management and Engineering" (in 2 batches)	Batch 1: June 20–July 18, 2009; Batch 2: June 27–July 25, 2009 Dept of Management Studies, IIT Madras
4.	Dr. L. S. Ganesh	One-day Workshop (for the AICTE-sponsored Staff Development Programme)	"Engineering Pedagogy"	July 08, 2009 Mar Athanasius College of Engg., Kothamangalam

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Dr. Arshinder Kaur	'Decision making in a Fuzzy Environment'	National Institute of Technology, Calicut, June 01-05, 2009. (AICTE Staff Development Programme - sponsored by MHRD organized by Department of Mathematics & Centre for Continuing Education, National Institute of Technology Calicut, Kerala).
2.	Rahul R. Marathe	Optimization with fuzziness: Application to capacity planning	National Institute of Technology, Calicut, June 01-05, 2009 (AICTE Staff Development Programme - sponsored by MHRD organized by Department of Mathematics & Centre for Continuing Education, National Institute of Technology Calicut, Kerala).
3.	Rahul R. Marathe	Optimization with fuzziness: Application to supply contract	National Institute of Technology, Calicut, June 01-05, 2009 (AICTE Staff Development Programme - sponsored by MHRD organized by Department of Mathematics & Centre for Continuing Education, National Institute of Technology Calicut, Kerala).
4.	Dr. M. Thenmozhi	<u>Morning session:</u> "Excellence in Teaching" <u>Afternoon session:</u> "Teachers' Team Building"	Sri Kaliswari Arts College, Sivakasi, June 13, 2009 (to the faculty members at the Teachers' Academic Forum of Sri Kaliswari Arts College, Sivakasi)
5.	Dr. L. S. Ganesh	"How can we make Science classes exciting for our students?"	Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam, July 08, 2009 (Lecture during the Homi Bhabha Birth Centenary Year Celebrations)
6.	Dr. L. S. Ganesh	"Excellence is our Fundamental Duty"	Reserve Bank of India Staff College - July 08, 2009 Foundation Day Lecture for Reserve Bank of India Staff College
7.	Dr. L. Prakash Sai	"Competitive Intelligence"	L&T Infotech Ltd, Mumbai, August 4, 2009 (Senior Leadership Lecture – as part of BI 360 Conference)
8.	Dr. M. Thenmozhi	"Forecasting Financial Time Series"	Institute of Cost & Works Accountants of India, Southern Region, Chennai September 9, 2009
9.	Dr. L. Prakash Sai	'Multi-sourcing'	Cyber Media Ltd, Chennai - September 9, 2009 (to CIOs of various Chennai-based companies)
10.	Dr. M. P. Ganesh	'Survey Research'	Academic Staff College, Pondicherry Central University and UGC - September 18, 2009 (workshop for research scholars, from different universities)
11.	Dr. M. P. Ganesh	"Experimental method"	Academic Staff College, Pondicherry Central University and UGC, September 18 th , 2009 Workshop for teachers & research scholars
12.	Dr. L. Prakash Sai	"Leadership and Business Excellence"	William Hare Structural Solutions, Chennai November 09, 2009
13.	Dr. G. Srinivasan	"Data Envelopment Analysis – A tutorial"	Anna University, Chennai (at the International Conference on Advances in Industrial Engineering Applications (ICAIEA 2010) January 6-8, 2010
14.	Dr. M. Thenmozhi	An invited Lecture on 'Futures and Options'	SSS Shasun Jain College for Women, Chennai March 6, 2010 (Workshop on Stock Exchange Operations, Online Trading and the Investor'
15.	Dr. M. Thenmozhi	On invitation from on 'Global Financial System in the post-crisis era: Issues, Opportunities and Challenges'	University of Madras (chaired a technical session) March 17, 2010
16.	Dr. Richa Agrawal	"Marketing: A Paradox of Constant and Change"	March 19, 2010 Quality Improvement Program (QIP) on Marketing: The Recent Advancements, FMS BHU, Varanasi, India
17.	Dr. M. Thenmozhi	An invited Lecture on 'Case Study Methodology of Teaching in commerce'	Dept of Business Studies, Ethiraj College for Women, Chennai March 30, 2010

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Dr. Sanghamitra Bhattacharyya	Germany	May-June 2009	Teaching assignment at University of Passau (on invitation)
2	Dr. L. Prakash Sai	Germany	May-July 2009	Teaching assignment (International Management Program) at Hof University of Applied Sciences.

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	Dr. C. Rajendran	Recognition in contribution to research	International Journal of Production Economics, Vol. 120 (2009) 540-551.	16 th top h-index researcher in Production and Operations Management in the world during the period 1959 and 2008.	2009
2.	Dr. A. Thillairajan	Dewang Mehta Business School Award	Dewang Mehta Trust	For the 'Best Faculty in Financial Management' in 2009.	2009
3.	Dr. L. S. Ganesh	Inducted as Member	National Academic Advisory Council of Project Management Institute (India Chapter) for the period 2010-2013	Contributions to Academic Excellence	2009
4.	Dr. C. Rajendran	Research Excellence Award	Anna University (during the International Conference on Advances in Industrial Engineering Applications - Jan 2010)	Contributions to Research in Industrial Engineering	2010

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Co-author
Books:				
1.	Dr. G. Srinivasan	Quantitative Models in Operations and Supply Chain Management	PHI Learning (P) Ltd, New Delhi (ISBN - 978 - 81 - 2034-3981-1	===
Books (Chapter) :				
1.	Dr. L. Prakash Sai	"The Evolution of the Indian IT Services' Industry: Global Politics, Government Policies and Growth Pangs." in Eric Fritz (Ed.), <i>Entwicklungsland, Schwellenland, Global Player: Indiens Weg in die Verantwortung</i>	ATHENA-Verlag, Germany	Dr. V. Sudhir

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Name of the Academy/ Professional Society	Level	Year of admission
Humboldt Fellowship:				
1.	Prof. C. Rajendran	University of Passau, Germany.	---	June 2009
Erasmus Mundus Scholarship				
2.	Prof. M. Thenmozhi	European Commission	---	July 2009
Fulbright Nehru Senior Research Fellowship in Business:				
3.	Dr. A. Thillairajan	The Harvard Kennedy School of Government, Harvard University	Senior Fulbright Fellow	January to June 2010

4.11.4 Research and Consultancy:

Exchange programme with other Universities including Institutions/ Universities under MOU:

- Faculty and student exchange with the Universities of Passau and Hof in Germany.

Research Publications:

Total No. of papers published in Refereed National Journals	....	03
Total No. of papers published in Refereed International Journals	....	17
Total No. of papers presented in National Conferences	....
Total No. of papers presented in International conferences	....

In Refereed National Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	Arshinder Kaur	<i>"Development of a decision support tool for supply chain coordination using contracts"</i>	Journal of Advances in Management Research, Vol. 5, No. 2, pp. 20–41, 2008	Kanda, A. and Deshmukh S. G.
2.	Arshinder Kaur	<i>"A Co-ordination theoretic model for three level supply chains using contracts"</i>	SADHANA – Indian Academy of Sciences, Vol.34, Part 5, Oct 09, pp.767-798 (a Springer Publication)	Kanda A and Deshmukh S. G.
3.	A. Thillairajan	<i>"Roundtable on Value Creating from Venture Capital and Private Equity Investments: The Indian Context"</i>	Published in the Journal of Private Equity.	====

In Refereed International Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	Chandrasekharan Rajendran	<i>"Branch-and-bound Algorithms for Scheduling in Permutation Flowshops to Minimize the sum of Weighted Flowtime/ Sum of Weighted Tardiness/ Sum of Weighted Flowtime, Weighted Tardiness and Weighted Earliness of Jobs"</i>	Journal of the Operational Research Society (2009) 60, pp 991-1004)	N. Madhushini, and Y. Deepa
2.	Chandrasekharan Rajendran	<i>"A conceptual framework of service quality in healthcare: perspectives of Indian patients and their attendants".</i>	Benchmarking: An International Journal, Vol. 16, No. 2, 157-191 (2009).	Padma, P and Sai L. P
3.	Chandrasekharan Rajendran	<i>"A conceptual framework for Supply Chain Management with specific reference to a developing economy".</i>	International Journal of Logistics Systems and Management – Vol.5, No.5, Pg.473-524 (2009)	T.N. Srikantha Dath, K. Narasimhan
4.	Narendran, T. T & Ram Kumar P.N.	<i>"Heuristics for Convoy Movement Problem "</i>	Strategic Analysis, 334, 590 — 606, 2009	===
5.	Chandrasekharan Rajendran	<i>"Fast heuristic algorithms to solve a single-stage Fixed-Charge Transportation Problem"</i>	International Journal of Operational Research, Vol. 6, No. 3, 304-329 (2009).	K. Antony Arokia Durai Raj
6.	Arshinder Kaur	<i>A Framework for Evaluation of Coordination by Contracts: A Case of Two-Level Supply Chains"</i>	Computers & Industrial Engg.- Vol. 56, No. 4, pp. 1177-1191 (2009)	Kanda A. and Deshmukh S.G
7.	Chandrasekharan Rajendran	<i>"Meta-Heuristics in ARMA Forecasting"</i>	California Journal of Operations Management Volume 7, Number 1, pp 38-48	Adelina Gnanlet
8.	Chandrasekharan Rajendran	<i>"Performance Analysis of Scheduling Rules in Resource-constrained Multiple Projects"</i>	International Journal of Industrial and Systems Engineering, Vol. 4, No. 5, 2009. pp. 502-535.	K. Balasubramanian K Anantharanayanan

9.	Chandrasekharan Rajendran	"An Empirical Study on Supply Chain Management: The Perspective of Logistics Service Providers"	International Journal of Logistics Systems and Management – Vol.6, No.1, Pg.1-22 (2010)	T.N. Srikantha Dath, K. Narasimhan
10.	Chandrasekharan Rajendran	"A Multi-Objective Ant-Colony Algorithm for Permutation Flowshop Scheduling to Minimize the Makespan and Total Flowtime of Jobs"	Studies in Computational Intelligence in Flow Shop and Job Shop Scheduling., (Book Series in Studies in Computational Intelligence, – Springer-Verlag Berlin Heidelberg SCI Vol. 230, pp. 53-100 2009	Hans Ziegler
11.	T.T Narendran	"On the usage of Lagrangean Relaxation for the convoy movement problem"	Journal of the Operational Research Society (2010), 1–7, 2010 Operational Research Society Ltd. 0160-5682/10	PN Ram Kumar
12.	Chandrasekharan Rajendran	"An empirical study on supply chain management in India: the perspective of original equipment manufacturers and suppliers"	European Journal of Industrial Engineering, Vol. 4, No. 1, 2-39 (2010).	Dath, T.N.S. and Narasimhan, K
13.	Chandrasekharan Rajendran	"Scheduling in Resource-constrained Multiple Projects to Minimise the Weighted Tardiness and Weighted Earliness of Projects"	International Journal of Operational Research, Vol.7, No.3, 334-386 (2010)	K Balasubramanian and K. Ananthanarayanan
14.	Chandrasekharan Rajendran	"Optimal and Heuristic Base-stock Levels and Rationing Policy for a Divergent Supply Chain"	International Journal of Industrial and Systems Engineering , Vol.5, No.4, 460-484 (2010).	Brijesh Paul
15.	Rahul R. Marathe, Arti D. Kalro and Mathew A. Thomas	"The Game of Comparative Advertising: Making Strategic Choices"	International Journal of Business Insights and Transformation, 3 (1), p. 11 – 20	===
16.	Rahul R. Marathe and Mathew A. Thomas	"Information Security Audit: When Is It Worth It?"	Journal of Information Assurance and Security, 5, p. 327 – 334	===
17.	B Srirangacharyulu and G Srinivasan	"Completion time variance minimization in single and multi machine system"	Computers and Operations Research, 37, 62-71 (2010)	===

In Proceedings of National Conferences:

Sl. No.	Name of Faculty	Programme	Names of the Conference/ Seminar/Symposia	Date and Venue
1.	Dr. M.P. Ganesh	14th Asia Pacific Management Conference	"Managing Complexities in the Asia Pacific Region" organized by Airlangga University, Indonesia (Presented a paper titled " Impact of Virtualness and Task Interdependence on Extra-Role Performance in Software Development Teams"	November 18 – 20, 2009
2.	Srirangacharyulu B and GSrinivasan		A Dynamic Programming based Branch and Bound Algorithm to Minimize Mean Squared Deviation of Job Completion Times About a Common Due Date in Single Machine at the XIII Annual Conference of the Society of Operations Management – OM13	December 20 – 22, 2009.

In Proceedings of International Conferences:

Sl. No.	Name of Faculty	Country Visited	Purpose of Visit	Date
1.	Rahul R. Marathe and Mathew A. Thomas	Ahmedabad, India	Presentation of a paper entitled "Information security audit: When is it worth it?" (at the International Conference on Security and Identity Management (SIM) – 2009, Indian Institute of Management, Ahmedabad,	May 2009
2.	Dr. L. Prakash Sai	People's Republic Of China	Presentation of a paper entitled "ICT-based Education in Schools: Emerging Business Models in India" (co-author: G.S. Vidyashankar (PhD Research Scholar) (in the 13th UNESCO-APEID International Conference and World Bank-KERIS High Level Seminar on 'ICT in Education')	November 2009
3.	Rahul R. Marathe and R. Balakrishnan	Jaipur, India	Presentation of a paper entitled "Strategic sourcing and scheduling considering imperfect quality in supplier selection," 8 th Triennial Conference of Association of Asia Pacific Operational Research Society, Jaipur.	December 2009.
4.	Rahul R. Marathe, Arti D. Kalro, Mathew A. Thomas and Satish S. M.	Chennai, India	Presentation of a paper entitled "The Game of Comparative Advertising: To retaliate or not," (at the Great Lakes-NASMEI International Marketing Conference, Chennai.	December 2009.
5.	Arshinder Kaur	Jaipur, India	Presented a paper entitled "Profit Sharing using Sales Rebate Contracts in Three-Level Coordinated Supply Chain" at the International Conference on Operational Research, organized by the Association of Asian Pacific Operational Research Societies, Jaipur – Dec 6-9, 2009	December 2009.
6.	Rahul R. Marathe, Arti D. Kalro and Bharadwaj Sivakumaran	Chennai, India	Presentation of a paper entitled "Effectiveness of 'Multi-Brand' vs. 'Market Leader' Comparison Strategies for 'New' and 'Established' Brands using Comparative Ads: An Experimental Investigation," (at the Great Lakes - NASMEI International Marketing Conference, Chennai)	December 2009
7.	Rahul R. Marathe and R. Balakrishnan	Chennai, India	Presentation of a paper entitled "Capacity Reservation and Multi-period Order Lot-sizing for Supplier Selection under Dynamic Demand," (at the 13 th Annual International Conference of Society of Operations Management at Indian Institute of Technology Madras)	December 2009.
8.	Dr. L. Prakash Sai	People's Republic of China	Presented a paper entitled "ICT-based Education in Schools: Emerging Business Models in India" at the 13th UNESCO-APEID International Conference and World Bank-KERIS High Level Seminar, People's Republic Of China	2009
9.	Dr. M.P. Ganesh	Indonesia	Presented a paper entitled "Managing Complexities in the Asia Pacific Region" at the 14th Asia Pacific Management Conference, Airlangga University, Indonesia	2009
10.	K Ajay Das, Srirangacharyulu B and G Srinivasan		Presented a paper entitled "Minimizing Coefficient of Variation in Single Machine Scheduling" at the <i>Proceedings at the Proceedings of the International Conference on Latest Trends in Simulation Modeling and Analysis (COSMA 2009), 301-305.</i>	2009

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Mr. Ullas Kamath, Dy. Managing Director, Jyothy Laboratories, Mumbai	April 16, 2009	Gave a talk on "Emotion as a Competitive Advantage in Business in Indian Context" at Corporate Wisdom, an initiative of MBA Students.

2.	Prof. Krishna Chella, University of Maryland, USA	October 22 & 23, 2009	Gave series of lectures to our Research Scholars in the areas of 'Public Policy, Regulatory Framework, Corporate Strategy
3.	V. Srinivasan, Chief Financial Officer, Bharti - AXA Life Insurance Co Ltd, New Delhi	October 23, 2009	Gave a special lecture on "Life insurance growth steady in a weak economic scenario" to MBA students and Research Scholars, at the Event ET on Campus, organized by the Economic Times, Chennai
4.	- Naveen Kulkarni, Director, Business Devt., Philips Research Asia, Bangalore - Rajaram Venkataraman, Principal Innovation Architect, Infosys Technologies Ltd, Bangalore - Murugavel Janakiraman, CEO, Consim Info, Bharat Matrimony Group - Rajesh Lakhoni, IAS Commissioner, Corporation of Chennai - N.K. Subramaniam, Executive Director, SakSoft Inc. (Murugappa Group)	October 24, 2009	Speakers who participated in SAMPARK 09 (a Business Festival) organized by the Department of Management Studies in association with Business Line and Karur Vysya Bank
5.	Sanjeev Sinha, Managing Director, Siemens Information Systems Ltd, Bangalore	October 26, 2009	Shared his experience to our MBA students on the occasion of CEO Connect, an event organized by the Department.
6.	T. Ramaswamy, Dy. General Manager, Indian Bank, Chennai	October 26, 2009	An invited lecture on 'Global Financial Crisis' for our MBA students.
7.	Mr. Mike Brinker, Managing Partner, Deloitte Consultants Private Litmid	November 5, 2009	Gave an invited talk on the occasion of CEO CONNECT, an event organized by MBA students and Research Scholars
8.	T.D. Sivakumar, Assistant General Manager & Resident Representative, Export-Import Bank of India (EXIM Bank).	November 6, 2009	Gave an invited talk on Leadership: Myths Vs. Reality on the occasion of CORPORATE WISDOM, an event organized by MBA students and Research Scholars
9.	Mr. V.V. Ganeshan, Assistant Vice President, National Commodity and Derivatives Exchange Ltd., Mumbai.	November 15, 2009	Gave a lecture on 'Commodity Futures Markets in India - An Insight' at the event Corporate Wisdom, organized by MBA students.
10.	Mr. Mike Brinker, Managing Partner, Deloitte Consultants Pvt Ltd	November 5, 2009	Gave an invited talk on the occasion of CEO CONNECT, an event organized by MBA students and Research Scholars
11.	T.D. Sivakumar, Assistant General Manager & Resident Representative, Export-Import Bank of India (EXIM Bank).	November 6, 2009	Gave an invited talk on Leadership: Myths Vs. Reality on the occasion of CORPORATE WISDOM, an event organized by MBA students and Research Scholars
12.	Mr. V.V. Ganeshan, Assistant Vice President, National Commodity and Derivatives Exchange Ltd., Mumbai.	Nov. 15, 2009	Gave a lecture on 'Commodity Futures Markets in India - An Insight' at the event Corporate Wisdom, organized by MBA students.
13.	Mr. J K Manivannan, President and COO, Desicrew solutions, Chennai	Nov. 20, 2009	Shared his experience in an invited lecture on the occasion of MIST (Management Initiatives for Social Transformation) session
14.	Akshay Sureka, KPMG, Chennai	January 9, 2010	An invited lecture 'on Balanced Scorecard and its implications'
15.	Dhenuka Srinivasan, Senior Consultant- Advisory Services Climate Change & Sustainability Services, Ernst and Young Private Limited	January 13, 2010	On an invitation for the Event MIST (Management Initiatives for Social Transformation) session, she gave a talk on "Sustainability Reporting in Corporations"
16.	Professor Rainer Leisten from University of Duisburg-Essen, Germany	January 13, 2010	Gave a lecture on the topic "Aspects of Coordinating Models in Multi- level production planning"
17.	Mr. Shiv Ajagane, Vice-President- Retail, CPG, T&L, Mahindra Satyam	January 19, 2010	On an invitation for CORPORATE WISDOM Forum organized by MBA students, he gave a talk on "Emerging Opportunities and Global Outlook of Retail Sector"
18.	Mr. Balachandar Ramadurai, Senior Manager, Knowledge Management at MindTree Consulting, Bangalore (a systematic innovation consultant in the Knowledge Management Area) and Founder Member, TRIZ India Group	February 16, 2010	On invitation, gave a lecture on "Speeding Down the Innovation Superhighway using TRIZ" to our MBA students and Research Scholars

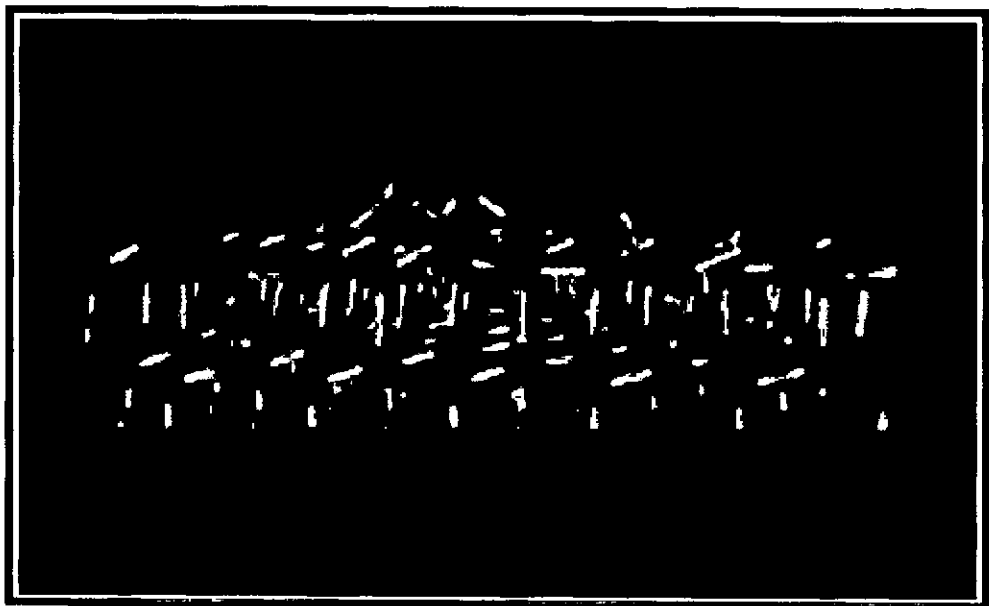
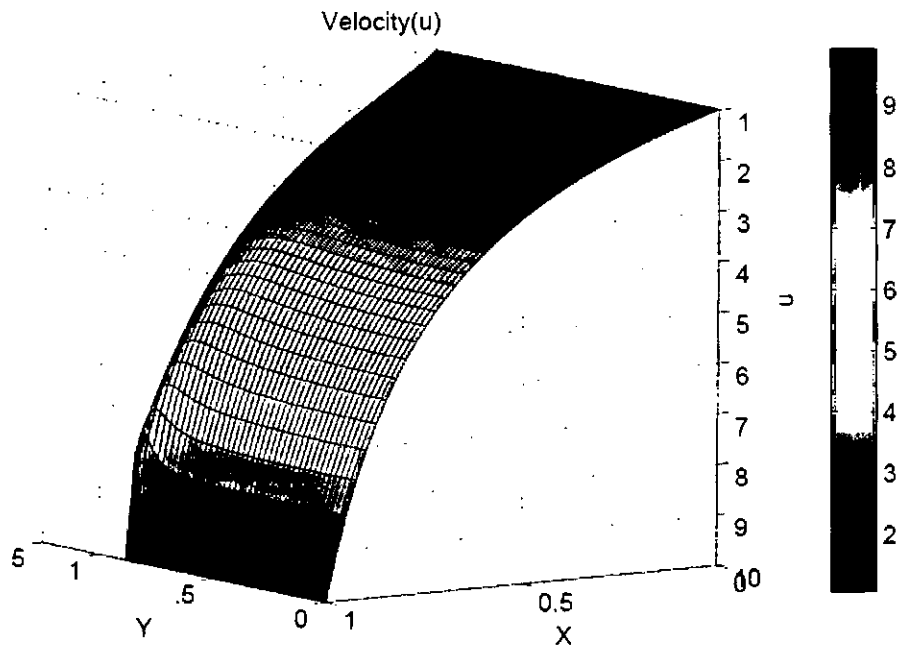
19.	T Ramaswamy. DGM, Indian Bank	February 17, 2010	On an invitation for CORPORATE WISDOM Forum organized by MBA students, he gave a talk on "Climate & Society- The emerging Challenges".
20.	Mr. Sesha Dhanyamraju, Head, Corporate Strategy, Mphasis Ltd (HP Division).	February 19, 2010	On an invitation for CORPORATE WISDOM Forum organized by MBA students, he gave a talk on "Climate & Society".

4.11.5 Other Activities:

1. Avik Chakraborti, Basant Baweja and Rashi Sethi won the first prize at the 'Adificial Intelligence' competition (an Ad making competition) as part of MADISON AVENUE '09, organized by VGSOM, IIT Kharagpur on April 23, 2009.
2. As a Member, Dr. M Thenmohi has attended the Board of Studies meeting of Kalasilingam University on 6th June 2009.
3. As a Member, Dr. C. Rajendran attended the Board of Studies (Mechanical Engineering) in Vellore Institute of Technology on July 06, 2009.
4. As an External Member, Dr. C. Rajendran went to NIT, Trichy to conduct a Comprehensive Viva for a Ph D candidate on September 07, 2009.
5. On invitation as External Member of the Doctoral Committee, Dr. C. Rajendran visited NIT, Trichy to conduct the Comprehensive Viva for a Ph D candidate on September 07, 2009.
6. The Venture Capital Report 2009 prepared by Dr. A. Thillairajan was released on Sept 22, 2009 and the first copy was accepted by Mr. Gopal Srinivasan, MD of TVS Capital Ltd.
7. Dr. M. Thenmozhi was invited as an External Member of the Doctoral Committee for a Ph D Scholar to conduct the DC meeting on Monday 26th October 2009 at Ethiraj College.
8. Prof. S. Jayachandran, on invitation, gave an inaugural address at the Management Association of Saastha College of Engineering, Chennai.
9. Following MBA students have won Prizes from various competition, details of which are given below :
 - * Sarang Bhutada won the Second Prize (Cash Rs.1000) in the Quiz Contest INTERLLIGENTSIA – AMAETHON 09 organized by Indian Institute of Management Ahmedabad on 11th October 2009.
 - * Sarang Bhutada and Swarnali Choudhury won the Second Prize (Cash Rs.10000) in the Paper Presentation contest PARCHEMENT – PRAYAG 09 organized by Jamnalal Bajaj Institute of Management Studies, Mumbai on 24th October 2009.
 - * Sarang Bhutada won the First Prize (Best Summer Project Report - Cash Rs.20000) in the Summer Project Competition organized by Mentormyproject.com on 11th October 2009.
 - * Basant Baweja and Mayur Gupta won the First Prize (Cash Rs.25000) in the Marketing Quiz contest VIKRETA – KRITVA 09 organized by International Management Institute, Delhi on 31st October 2009.
 - * Anurag Varma and Yukti won the First Prize (Cash Rs.10000) in the Equity Research Competition EQUINOX – PASSION 09 organized by Institute of Management Technology, Ghaziabad on 31st October 2009.
10. V. Vijayaraghavan and Vikas Bansal (II MBA students) have won the First Prize (Cash Prize: Rs.20,000) at the event SAMVAD (Consulting Event) organized by Shailesh J. Mehta School of Management, IIT Bombay at their Annual Business Festival AVENUES 2009 held at IIT Bombay on 1st November 2009.
11. Kishor Sharma, Tushar Wadhwa and Yuvaraja Singh (II MBA students) have won the Second Prize (Cash Prize: Rs.20,000) at the event NAVONESH (a Global Entrepreneurship Convention) organized by Shailesh J. Mehta School of Management, IIT Bombay at their Annual Business Festival AVENUES 2009 held at IIT Bombay on 1st November 2009.
12. Prof. S. Jayachandran, was appointed as a member of the Expert Committee constituted by the Vice Chancellor of Anna University, to decide Anna Institute of Management as a Research Body, attended their first meeting on Nov. 4, 2009.
13. Prof. S. Jayachandran, as an External Member, conducted Viva Voce for a Ph D candidate at VIT, Vellore on November 14, 2009.
14. Mr Heyong D. Kim has successfully defended his Ph D thesis entitled "Employee motivation in manufacturing organizations in India and Korea – A cross cultural study" in the viva voce conducted on Tuesday 24th November 2009.
15. Following MBA students have won Prizes from various competitions, details of which are given below:
16. Prof. S. Jayachandran, was appointed as a member of the Expert Committee constituted by the Vice Chancellor of Anna University, to decide Anna Institute of Management as a Research Body, attended their first meeting on Nov. 4, 2009.

17. Prof. S. Jayachandran, as an External Member, conducted Viva Voce for a Ph D candidate at VIT, Vellore on November 14,2009.
18. Dr. Arshinder Kaur chaired a session on "Supply Chain Management" in the International Conference organized by Association of Asian Pacific Operational Research Societies, Jaipur during December 6-9, 2009.
19. Dr. Arshinder Kaur chaired a session on "Optimization" in International Conference on Advances in Industrial Engineering and Applications, organized by the Anna University, Chennai during January 6-8, 2010
20. SAMANVAY '10, a Business Festival was successfully organized by the students of this department during 29th to 31st Jan 2010. Students from all over India participated in the events. Leading personalities from Corporates delivered invited talks. Mr. K. Ananth Krishnan, Chief Technology Officer of Tata Consultancy Services inaugurated the event along with Mr Harish Domodharan, Asst Editor of Business Line, Delhi. Besides host of leading members from the Academic Institutions and the Industry, Mr N. Subramanian, MD of Organic Peroxides-Asia, Arkema, France and Mr R. Vaidyanathan, Executive Vice president of HCL attended the valedictory function.
21. Deepak Ponnusamy & Saravana Kumar T (II MBA) won the THIRD PRIZE (with generous gifts) at the quiz competition ECONOMIC TIMES IN CAMPUS QUIZ organized by The Times of India, Chennai on February 09, 2010.
22. Abhishek Mehra and Deepak Ponnusamy (II MBA) won the SECOND PRIZE (Cash Prize Rs.10,000/-) at the PRAZNA B-Quiz competition ABHYUDAYA '10 organized by the Institute of Financial Management & Research, Chennai on February 20, 2010.
23. Dr. M. Thenmozhi, as an External Member, was invited to attend the Doctoral Committee meeting of a research scholar, at Ethiraj College for Women on March 18, 2010.
24. Half day Workshop on Logistic Regression by Mr. R. Vishwanathan, Professor and a Research Consultant (B.Tech (IIT) and MBA (Stern School, NYU, USA) at DoMS on 27th March 2010 (9 am – 1 pm).
25. A total of 81 students comprising 65 from MBA stream, 7 M.S. (by research) and 10 Ph D scholars will receive their degrees during this year's convocation in July 2010.

MATHEMATICS



4.12 DEPARTMENT OF MATHEMATICS

4.12.1 Introduction:

The Department of Mathematics was established in 1959 along with the Institute. It offers M.Sc. programme in Mathematics, M. Tech. program in Industrial Mathematics and Scientific Computing [IMSC] and Ph.D. programme. In addition, the Department has taken the responsibility of teaching Mathematics courses to B.Tech., M. Tech. (other than IMSC), Dual Degree in ED, M.Sc. and Ph.D students of the Institute. The department has also signed an MoU for an Exchange Programme with TU Kaiserslautern under the DAAD Exchange Programme Network for 5 years beginning from 2009.

The major areas of research of the department are:

- | | |
|------------------------------------|---|
| 1. Algebra and its applications | 17. Mathematical logic & Applications |
| 2. Applied Probability | 18. Mathematical Modeling |
| 3. Approximation Theory | 19. Mathematical Physics |
| 4. Computational Fluid Dynamics | 20. Nonlinear Analysis |
| 5. Continuum Mechanics | 21. Numerical Analysis |
| 6. Coding Theory | 22. Operations Research |
| 7. Complex Analysis | 23. Operator Theory |
| 8. Data Networks | 24. Queuing Theory |
| 9. Differential Equations | 25. Statistical Quality Control |
| 10. Inverse and Ill-Posed problems | 26. Stochastic Processes and their applications |
| 11. Fluid Mechanics | 27. Theoretical Computer Science |
| 12. Functional Analysis | 28. Wavelets and their applications |
| 13. Fuzzy Sets and Systems | 29. Algebraic Geometry |
| 14. Graph Theory and Combinatorics | 30. Fractal Geometry and its applications |
| 15. Harmonic Analysis | 31. Commutative Algebra |
| 16. Inventory and Reliability | |

4.12.2 Academic Programmes:

New Courses Introduced:

S.No.	Course No.	Title
1.	MA 6001	Introduction to Coding Theory
2.	MA 6001	Approximation Theory
3.	MA 6003	Wavelets
4.	MA 6004	Fractals
5.	MA 6005	Applied Linear Algebra
6.	MA 6006	Applied Integral Equations
7.	MA 6007	Nonlinear Partial Differential Equations
8.	MA 6008	Operations Research – II
9.	MA 6009	Theory of Bio-Inspired Computing
10.	MA 6011	Mathematical Programming
11.	MA 5430	Algebra II: Ring Theory and Field Theory
12.	MA 5460	Transform Techniques
13.	MA 5140	Introduction to Algebraic Topology

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.	40	27	-	-	-	67
M.Tech.	10	9	-	-	-	19
Ph.D.	9	8	4	6	14	41
Total	59	44	4	6	14	127

Names of Students/Scholars attended Conferences/Seminars and Symposia abroad/India:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia	Venue and Date
1.	Mr. K.P. Deepesh	MA06D001	24 th annual Conference of the Ramanujan Mathematical Society	ISI, Bangalore May 10-13,2009
2.	Mr. Venku Naidu	MA04D007	International Conference and Workshop on Analysis and its applications	IISc., Bangalore May 14-27,2009
3.	Mr.G. Satyanarayana	MA06D003	Indo-German Conference on PDE, Scientific Computing and Optimization Application	I.I.T. Kanpur October 7 – 9, 2009
4.	Mr. M.Panchatcharam	MA08D002		
5.	Mr. Tanmay Sarkar	MA09D006		
6.	Mr. T. Karthick	MA05D007	Indo-Taiwan Conference on Discrete Mathematics – 2009	National Taiwan University, Taipei, Taiwan Nov.9 –12,2009
7.	Dr. Saroj Kumar Dash	MA09PD002	Control and Inverse Problems	I.I.Sc. Bangalore Dec.16 –18, 2009
8.	Mr. M.Panchacharam	MA08D002	75 th Annual Conference of Indian Mathematical Society (IMS)	Kalasalingam University, Srivilliputhur Dec.25 –31, 2009
9.	Mr.S.V. Bharanedhar	MA08D009		
10.	Mr. I. Jeyaraman	MA06D005		
11.	Mr. A. Chandrasekharan	MA05D003		
Workshop:				
13.	Mr. K.P. Deepesh Mr. Sankaraju Kosuru Mr. Zeta Paul Mr. Rajesh Kannan Ms. Shani Jose Mr. G. Krishna Kumar	MA06D001 MA07D004 MA08D008 MA08D007 MA08D004 MA07D005	Geometry of Banach Spaces	ISI, Bangalore June 1-13,2009
14.	Mr. Debasisha Mishra	MA07D005	Spectral Theorem	Kerala School of Mathematics June 14-17,2009
15.	Mr. Ramanababu Kaligatla	MA08D012	PDE and related Analysis	I.I.Sc. Bangalore Aug.31 –Sep.18, 2009
16.	Dr. Swadesh Kumar Sahoo	MA08PD001	Domains and Hyperbolic- type Metrics	School of Mathematical Sciences, NISER, Bhubaneswar Nov.17-19, 2009
17.	Mr. Debashisha Mishra	MA07D003	Operator Theory	Institute for Mathematics and its Applications (IMA), Bhubaneshwar Dec. 7 -12, 2009
18.	Mr. G. Krishna Kumar	MA07D005		
19.	Mr. Rajesh Kannan	MA08D007		
20.	Ms. Shani Jose	MA08D004		
21.	Mr. G. Krishnakumar	MA07D005	Functional and Harmonic Analysis	Kerala School of Mathematics Kozhikode Feb. 1- 10, 2010
22.	Mr. M. Rajeshkannan	MA08D007		
Discussion meeting:				
1.	Mr. D. Venku Naidu	MA04D007	Discussion meeting in Harmonic Analysis	NISER, Bhubaneswar Dec. 27 – Jan. 10, 2010
Seminar:				
1.	Mr. G. Sankara Raju Kosuru	MA07D004	Seminar Liapounov theorem: Introduction Measure theory and a fixed point theorem	Department of Mathematics Pondicherry University October 27 – 29, 2009

Instructional Conference/Workshop:				
1.	Mr. T. Karthick	MA05D007	Fifth Annual Instructional Conference of ADMA and Graph Theory Day V	Periyar University Salem June 8-10, 2009
2.	Mr. T. Karthick	MA05D007	Instructional Workshop on Graph Colorings 2010	Kalasalingam University Krishnanakoil Mar.10-15, 2010
Training Programme:				
1..	Mr. G. Sankararaju Kosuru	MA07D004	Optimization Theory and Applications	Delhi University Feb.10-14,2010
Instructional School:				
1.	Ms. Saritha Viswanadhan	MA08D001	Advanced Instructional School in Algebraic Geometry	Bhaskaracharya Prathisthan, Pune, Nov. 30 – Dec. 19, 2009
Interacted with Faculty Members:				
1.	Dr. Swadesh Kumar Sahoo	MA08PD001	Interacted with Faculty Members	IISER, Pune February 18-19, 2010

4.12.3 Faculty and their activities:

Faculty:

Name	Qualifications	Major area of specialization (only 3 areas)
Professors:		
P.V. Subrahmanyam[Head]	Ph.D. (IIT Madras)	Non-linear Analysis, Fuzzy sets, Functional Equations
S.A. Choudum	Ph.D. (IIT Madras)	Graph Theory
S. Kalpakam	Ph.D. (IIT Madras)	Applied Probability and Stochastic Processes, Operations Research
S. H. Kulkarni	Ph.D. (IIT Bombay)	Functional Analysis and Numerical Analysis
P. R. Parthasarathy	Ph.D. (Annamalai)	Applied Probability and Stochastic Models, Mathematical Ecology, Operations Research
M. Thamban Nair	Ph.D. (IIT Bombay)	Applicable Functional Analysis -Spectral Approximation, Operator Equations, Inverse and Ill-posed Equations
R. Usha	Ph.D. (IIT Madras)	Fluid Dynamics
P. Veeramani	Ph.D. (IIT Bombay)	Fixed Point Theorems and their Applications to Problems in Optimization and Best Approximation, Fuzzy Set Theory
Arindama Singh	Ph.D. (IIT Kanpur)	Logic, Numerical Analysis
S. G. Kamath	Ph.D. (IIT Delhi)	Mathematical Physics
S. Ponnusamy	Ph.D. (IIT Kanpur)	Complex Analysis, Function Spaces, Special functions and Conformal Geometry
R. Rama	Ph.D. (Anna University)	Formal Language & Automata Theory / Molecular computing.
Satyajit Roy	Ph.D. (IISc. Bangalore)	Convective Heat and Mass Transfer, Computational Fluid Dynamics
S. Sundar	Ph.D. (IIT Madras)	Computational Fluid Dynamics, Numerical Analysis for Partial Differential Equations, Mathematical Modeling
V. Vetrivel	Ph.D. (IIT Madras)	Non-Smooth Optimization, Fixed Point Theory, Complementarity problems
Associate Professors:		
Y.V.S.S. Sanyasiraju	Ph.D. (IIT Madras)	Computational Fluid Dynamics
K. Swaminathan	Ph.D. (Agra University,	Fluid Dynamics, Ship Hydrodynamics, Mathematical Problems related to Naval Architecture and Ocean Engineering
R. Radha	Ph.D.(IMSC.Chennai)	Harmonic Analysis, Wavelets, Sampling Theory
K.C. Sivakumar	Ph.D. (IIT Madras)	Functional Analysis and Mathematical Programming
Assistant Professors:		
A.K. B. Chand	Ph.D. (IIT Kanpur)	Fractals, Approximation Theory and Wave

A.V. Jayanthan	Ph.D.(IIT Bombay)	Lets Commutative Algebra and Algebraic Combinatorics
Ch. Srinivasa Rao	Ph.D(IISc.Bangalore)	Non-linear Differential Equations
W.B. Vasantha	Ph.D.(RIASM,Chennai)	Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra
Sounaka Mishra	I.S.I. Kolkata	Approximation Algorithm / Combinatorial optimization/ Complexity Theory
V. Uma	Ph. D. (IMSC Chennai)	Topology and Geometry of Toric Varieties and Related Spaces
T.E. Venkata Balaji	Ph. D (CMI, Chennai)	Algebraic Geometry and Commutative Algebra
S R Manam	Ph.D. (IISc. Bangalore)	Applied Mathematics
A.J. Shaiju	Ph.D (IISc. Bangalore)	Game Theory, Systems and Control Theory
Kalpana Mahalingam (On Contract)	Ph.D (Univ. of South Florida, Tampa)	Theory of codes, DNA Computing, Combinatorics of words
Balasubramaniam Jayaram(Visiting)	Ph.D. (Sri Sathya Sai Univ.)	Fuzzy logic connectives, Functional Equations, Approximate Reasoning

Short-term Courses / Workshops / Seminars / Symposia/Conferences organised by faculty members:

Sl. No.	Co-ordinator(s)	Title	Period
Conference:			
1.	A.V. Jayanthan & T.E. Venkata Balaji	National Conference Series on Commutative Algebra & Algebraic Geometry, Department of Mathematics, IIT Madras funded by NBHM	July 6 – 10, 2009
2.	S. Ponnusamy	Intl. Workshop on Harmonic Mappings and Hyperbolic Metrics IIT Madras	Dec. 10 - 19, 2009
3.	S. Sundar	Intl. Workshop on PDE: Models and Numerics, IIT Madras	Dec. 7 – 16, 2009
4.	P.V. Subrahmanyam & S. Sundar	National Symposium on Mathematical Methods and Applications, IIT Madras	Dec. 22, 2009
5.	P.V. Subrahmanyam	Seminar on Writing the Agenda of the Apprentice Scientist from Practising Science to Stimulating Future Scientist Jointly conducted by Department of Mathematics and French Embassy in India	Dec. 4, 2009

Short-term Courses/Workshops/Seminars/Symposia/Conferences/Training attended by the faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
Symposium:					
1.	S.H. Kulkarni	Wiener's theorem, infinite matrices and Banach algebras	NSMMA 2009	IIT Madras	Dec.22, 2009
2.	R. Radha	Lp – multipliers for Hilbert space valued functions on the Heisenberg group		Dept. of Mathematics, Cochin University of Sci. & Tech.	August 12, 2009
3.	R. Radha	Fourier multipliers for Sobolev spaces on the Heisenberg group	16 th Ramanujan Symposium on Fourier Analysis and its applications	Ramanujan Institute for Advanced Study in Mathematics Chennai	2009
4.	S. Ponnusamy	12 th Romanian-Finnish seminar & International	Complex analysis and related topics	Univ. of Turku Finland	August 18 – 21, 2009

5	R. Usha	Thin film flow down a porous inclined: Dynamics and Stability	Recent Development and New Directions in Thin-Film Flow	Edinburg, U.K.	July 6, 2009 – July 9, 2009
6	P. Veeramani	Fuzzy Metric Spaces and Applications	Applications of Mathematics in Fuzzy Environment	Meenakshi College of Arts & Science for Women. Chennai	August 11, 2009
7	P. Veeramani	Best approximation Theory and Applications	Graph Theory and Analysis	M.D.T. Hindu College, Tirunelveli	August 12, 2009

Lectures delivered by the faculty at Short-term Courses/ Workshops/Seminars/Symposia/ Conferences/Training attended by the faculty in Academic Institutions and Public Sector Undertakings:

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
Short term Programme:					
1.	R. Radha	Fourier Analysis	Seminar for PG Students	Ramanujan Institute for Advanced Studies in Mathematics University of Madras. Chennai	June 16-17, 2009
2.	M. Thamban Nair	Measure Theory & Integration		University of Madras. Chennai	June 19, 2009
3.	M. Thamban Nair	Least-square solutions and regularization of matrix equations	STTP on Recent Trends in Engineering Mathematics	VNIT, Nagpore	July 21-22, 2009
4.	Y.V.S.S.S. Raju	Higher order Compact schemes for Fluid flow problems	STTP on Applied Numerical methods for scientist and engineers (ANMSE-2009)	VNIT, Nagpur	Dec. 21-25, 2009
International Conference:					
1.	P.V. Subrahmanyam	Some aspects of Newton's method	Interdisciplinary Mathematical & Statistical Techniques (IMST 2009-FIMXVII)	University of West Bohemia Plzen, Czech Republic	May 23 – 26, 2009
2.	S. Sundar	Navier-Stokes-Brinkman System for interaction of viscous waves with a submerged porous structure	Recent Advances in Mathematical Sciences and Applications Institute of Advanced Studies	G V P College of Engg. Vizag	Dec. 19 – 22, 2009
3.	M. Thamban Nair	Quadrature based collocation methods for integral equations of the first kind	Computational Methods in Ill-Posed Problems	Sun-Yat Sen University, Guangzhou, China	December 18, 2009
4.	P. Veeramani	Ranking of Fuzzy numbers and Fuzzy Linear Programming	Iranian Operations Research Society	Mazandaran University, Babolsar, Iran	May 20-26, 2009
5.	P. Veeramani		Third Conference on Fixed Point Theory and Applications	Rajabhat University, Loei Thailand	September 4-6, 2009
6.	R. Usha	Wave dynamics on electrified falling films; hydraulic jump behavior to chaotic interfacial oscillations		University of Bermingham, U.K.	June 12, 2009

7.	R. Usha	Thin film down an inclined porous substrate: Dynamics and Stability		University of Loughborough, U.K.	July 2, 2009
8.	Y.V.S.S.Sanyasi Raju		Numerical Analysis and Applied Mathematics (ICNAAM 2009)	Crete Greece	September 17-23, 2009
9.	R. Radha	Non uniform sampling in shift invariant spaces	Analysis & its Applications	I.I.Sc. Bangalore	May 25-27, 2009
10.	A.K.B. Chand		Recent Advances in Mathematical Sciences & Applications	VLIAS-GPV, College of Engg. Visakhapatnam	Dec.19-22, 2009
National Conference:					
1.	Arindama Singh	Resident Expert to teach Linear Algebra/ Foundations of Mathematics	Inter-active Mathematics Training Camps (IMTC)	The Institute of Mathematics and Applications (IMA) Bhubaneswar	September 21-25, 2009
2.	Arindama Singh	Program verification I & II	Applications of Logic	Satyabama Univ.Chennai	Oct. 22-23, 2009
3.	Arindama Singh	Foundation of Mathematics	IMTC	IMA, Bhubaneswar	Oct 3-10, 2009
4.	Arindama Singh	Linear Algebra	MTTS	MTTS, Sambalpur	May 31- June 24, 2009
5.	Arindama Singh	Logic & Applications	LAAL	IIT Kharagpur	Nov. 21-23, 2009
6.	Arindama Singh	Proof in Geometry	IMTC	IMA, Bhubaneswar	Dec.23. 2009
7.	Arindama Singh	Logic in AI	Logic & Appl. To AI	NMIET, Bhubaneswar	Feb.11-13, 2010
8.	S.H. Kulkarni	Approximation numbers of operators on normed linear spaces	75 th Annual Conference of the Indian Mathematical Society	Univ. of Calicut	Dec. 2009
9.	Satyajit Roy	Benjan's Heatline concept titled swaure cavity	Recent Advances in Mathematics and Applications	Burdwan Univ. West Bengal	Jan.13 – 15, 2010
10.	P.V. Subrahmanyam	Newton's Method	Dept. of Mathematics	Pondicherry Univ.Pondichery	August 20,2009
11.	S. Sundar	Optimal die shape for Film Casting	Control and Inverse Problems	I.I.Sc. Bangalore	Dec.17, 2009
12.	S. Sundar	Navier-Stokes-Brinkman System for interaction of viscous waves with a submerged porous structure	75 th Annual Conference of the Indian Mathematical Society	Kalasalingam University, Anand Nagar Krishnan Koil Virudunagar	Dec. 27 – 29, 2009
13.	P. Veeramani	Fuzzy Metric Spaces and Applications	Applications of Mathematics in Fuzzy Environment	Meenakshi College of Arts & Science for Women.Chennai	August 11, 2009
14.	P. Veeramani	Best approximation Theory and Applications	Graph Theory and Analysis	M.D.T. Hindu College, Tirunelveli	August 12, 2009
15.	P. Veeramani	On Applications of Best Proximity Pair theorems	Industrial Statistics and Computational Mathematics,	North Maharashtra Univ.Jalgaon, Maharashtra	Jan. 21 – 23, 2010
16.	Y.V.S.S.S. Raju	Interpolation in multidimensional problems using Radial Basis Functions	Advances in Applied Mathematics	Bharathiar University Coimbatore	March 19, 2010

17.	Y.V.S.S.S. Raju	Gridfree radial basis functions based local scheme for PDE	Dept. of Physics	Pondicherry University	March 26, 2010
18.	R. Radha	Lp – multipliers for Hilbert space valued functions on the Heisenberg group		Dept. of Mathematics, Cochin Univ. of Sci. & Tech.	August 12, 2009
19.	Kalpana Mahalingam	Pseudo Palindrome Closure words	Crptography, Automata and Learning Theory (2009)	MCC, Chennai	April 29, 2009
Summer Training Programme :					
1.	R. Radha	Sequences of functions	Summer Programme I Mathematics	Chennai Mathematical Institute, Taramani	June 18, 2009
2.	T.E. Venkata Balaji	Introduction to Moduli	Summer Training Programme	Ramanujan Institute for Advanced Studies in Mathematics Univ. of Madras.	3 rd week of June, 2009
Pre-Workshop Lectures:					
1.	S. Ponnusamy	Introduction to Harmonic Mappings in Plane	IWHMHM	IIT Madras	Dec. 4 – 7, 2009
Staff Development Programme:					
1.	M. Thamban Nair	On Solving Matrix Equations	Two-week Staff Development Programme "Mathematical application in Engineering"	GVP College of Engineering Vishakhapatnam	June 25-26, 2009
National Meet:					
1.	V. Vetrivel	Research Methodologies	Research Scholars in Mathematical Sciences	IIT Roorkee	Dec. 20 – 23, 2009
Faculty Development Program:					
1.	A.K.B. Chand		Faculty Development program	IIT Madras	Dec.7-9, 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
Workshop/Seminar:					
1.	S.H. Kulkarni	Condition spectrum of an element in a Banch algebra	Functional Analysis	Univ. of Calicut	Feb.27, 2010
2.	S.H. Kulkarni	Approximation numbers of operators on normed linear spaces	75 th Annual Conference of the Indian Mathematical Society		Dec.28, 2009
3.	S.H. Kulkarni	Wiener's theorem, infinite matrices and Banach algebras	Mathematical Methods and Applications NSMMA 2009	IIT Madras	Dec. 22, 2009
4.	S.H. Kulkarni	Banach algebras and approximate solutions of operator equations		IIT Madras	Sep. 2009
5.	P.V. Subrahmanyam	1. Some Existence theorem for PDEs 2. On Iterative Methods for PDEs	PDE: Models and Numerics,	IIT Madras	Dec. 16, 2009

6.	S. Sundar	Vector Integration	Teaching for Engineers	National Institute for Technical Teachers Training and Research, Chennai	August 11-12, 2009
7.	M. Thamban Nair	Ill-Posedness of Compact Operator Equations	Advances in Mathematics Focus on Women Mathematicians	JNU, New Delhi	October 5, 2009
8.	P. Veeramani	Approximation in Normed Linear Spaces	Spl. Semester on Analysis	CMI, Chennai	Jan. 4, 5 & 7, 2010
9.	Y.V.S.S.S. Raju	Finite Volume method and its application to fluid dynamics problems	Advanced Numerical techniques and applications	BHU, Varanasi	June 29 - July 11, 2009
10.	Y.V.S.S.S. Raju	Radial basis function based grid free schemes	Intl. Workshop on PDE: Models and Numerics	Dept. of Mathematics IIT Madras	Dec. 7 - 16, 2009
11.	R. Radha	Fourier Analysis & Applications	Teaching for Engineers	National Institute for Technical Teachers Training and Research, Chennai	August 14-12, 2009
12.	R. Radha	Time frequency analysis	Spl. Semester on Analysis	CMI, Chennai	March 2010
13.	Ch. Srinivasa Rao	Solutions of generalized Burgers Equations	Nonlinear Waves Mathematics Initiative (IMI)	I.I.Sc., Bangalore	April 17, 2009
14.	V. Uma	Equivariant K-theory of group compactifications	Young Researchers	I.I.T. Gandhinagar	Feb. 26-28, 2010

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Period of Visit	Purpose of Visit
1.	S.G. Kamath	Australia	Nov. 21-29, 2009	Paper presentation at FFP10, Perth, University of Western Australia
2.	S.H. Kulkarni	U.S.A.	May 15-June 30, 2009	Private visit
3.	P.R. Parthasarathy	Germany	October 2007 - September 2009	Visiting Professor, Institute for Stochastics, Technical University of Karlsruhe
4.	S. Ponnusamy	Univ. of Turku Finland	April 16 - July 1, 2009	Private visit Department of Mathematics, University of Turku, Finland
5.	S. Ponnusamy	Univ. of Turku Finland	August 18 - 21, 2009	12 th Romanian-Finnish seminar & International Conference on Complex analysis and related topics
6.	S. Ponnusamy	Iran	October 4 - 9, 2009	International Symposium and Workshop on Geometric functions theory University of Urmia, Iran
7.	P.V. Subrahmanyam	University of West Bohemia Plzen, Czech Republic West Bohemia	May 23-26, 2009	Plenary lecture at International Conference on Interdisciplinary Mathematical & Statistical Techniques (IMST 2009 - FIM XVII)
8.	P.V. Subrahmanyam	U.S.A.	May 8-17, 2009	Private visit

9.	P.V. Subrahmanyam	Germany	May 18 – June 18, 2009	Visiting Professorship at Technical University Kaiserslautern
10.	M. Thamban Nair	Guangzhou China	December 18-20, 2009	International Workshop on Computational Methods in Ill-Posed Problems, Sun-Yat Sen University
11.	R. Usha	UK	May 1 – July 31, 2009	Professional Visit Keele University
12.	S. Sundar	Germany	May 4 – June 30, 2009	Professional visit University of Kaiserslautern
13.	K. Swaminathan	Canada	May 29 – July 24, 2009	Private visit
14.	P.Veeramani	Iran	May 20-26, 2009	International Conference of Iranian Operations Research Society, Mazandaran University, Babolsar, Iran
15.	P. Veeramani	Thailand	Sep. 4-6, 2009	Third Conference on Fixed Point Theory and Applications Rajabhat University, Loei, Thailand
16.	Y.V.S.S.Sanyasi Raju	Crete Greece	Sep.17-23,2009	Numerical Analysis and Applied Mathematics (ICNAAM 2009)

Honours and Awards obtained by faculty:

S.No	Name of faculty	Name of Award	Awarded by	Date of award
1.	P.R. Parthasarathy	Distinguished Professor	DAAD	Oct. 2007-Sept. 2009
2	R. Usha	Royal Society India-US Science Network Scheme fellowship	Royal Society, UK	3 months
3.	S. Ponnusamy	TWAS-UNESCO Associateship	Hanoi Institute of Mathematics Hanoi, Vietnam	3 years from August 2009
4.	Y.V.S.S.S. Raju and G. Chandhini	Best CFD paper of IIT Madras 2008 "Local Radial Function Based Gridfree Scheme for Unsteady Incompressible Viscous Flows"	50 th Institute Day Function, IIT Madras	April 17, 2009
5.	A K B Chand	Marquis who's who in the world	Marquis	2010 Edition
6.	V. Uma	Junior Associate of the International Centre for Theoretical Physics	The Director The Abdus Salam International Centre for Theoretical Physics, Trieste, Italy	January1, 2009

Books/Monographs authored or co-authored:

S. No	Name of faculty	Title	Publisher	Author/ Co-author
Books				
1.	M. Thamban Nair	Linear Operator Equations: Approximation and Regularization	World Scientific, Singapore, May 2009	
2.	Arindama Singh	Elements of Computation Theory	Published in Springer Texts for Computer Science Series, Springer Verlag, London 2009	
3.	Arindama Singh	CIT 2009 Proceedings (Edited Volume)	Tata Mc.Graw Hill	Prof.S.P. Mohanty, Prof. B. Panda

4.	R. Rama	Introduction to formal languages, Automata Theory and Computation	Pearson Education, India 2009	Prof. Kamala Krithivasan
5.	Ch. Srinivasa Rao	Large Time Asymptotics for Solutions of Nonlinear Partial Differential Equations		Prof PL Sachdev, IISc. Bangalore
6.	T.E. Venkata Balaji	An Introduction to Families, Deformations and Moduli	University Press of Goettingen, Germany	

Journal Editorial Boards:

Sl.No.	Name of Faculty	Position (Editor/Member)	Journal
1.	S.H. Kulkarni	Editor (co-opted)	Vol.16 of the Journal of Analysis published by Forum D' Analyses
2.	P.R. Parthasarathy	Advisory Editor	Journal of Information and Optimization Sciences
3.		Associate Editor	International Journal of Computer Mathematics
4.		Associate Editor	American Journal of Mathematics and Management Sciences
5.		Associate Editor	Journal of Decision and Mathematika Sciences
6.		Member	International Journal of Modern Mathematics
7.		-do-	Far Eastern Journal of Mathematics
8.		-do-	Advances in Operations Research
9.		-do-	International Journal of Future Generation Communication and Networking
10.		Area, Editor	OPSEARCH
11.		Satyajit Roy	Member	The Journal of the Indian Academy of Mathematics

4.12.4 Research and consultancy:

Sponsored Research Projects:

Sl.No.	Title	Period	Funding Agency	Amount (Rs.in lacs)	Co-ordinators
New Faculty Scheme:					
1.	Classification and analysis of nonlinear control systems	11.6.2009 to 10.6.2012	ICSR	5.0	Dr. A.J. Shaiju
Sponsored Research Project:					
1.	Graph theoretical approach to communication systems	2008 – 2011	DST	9.45	Dr.S.A, Choudum Dr. Sounaka Mishra
2.	Study of Bargmann transform and sampling theory	3 yrs From 2010	NBHM,DAE	6.2	Dr.S.H.Kulkarni Co-Investigator
3.	Study of Bargmann transform and sampling theory	3 yrs From 2010	NBHM, DAE	6.2	Dr. R. Radha
4.	Modeling of microwave passive components for high power applications-Phase-II	1.5 yrs From 23.8.2009	National Fusion Program, Institute for Plasma Research, Ahmedabad	26.95	Dr.S. Sundar & Dr.V.Subramanian (PH)

Exchange programme with other Universities:

Sl. No.	Programme Name	Name of University	Student Name	Guide Name
1.	DAAD Network Exchange Programme	TU-Kaiserslautern, Germany	Mr. Durga Prasad Chella	Prof.S. Sundar
2	DAAD Network Exchange Programme	TU-Kaiserslautern, Germany	Advanced Numerical Methods, Started on May 2009 for 5 years	Prof.S. Sundar

Faculty member participation with other institution under MoU:

Dr. S. Sundar: Participating other universities are University of Witwatersrand South Africa and ITB Bandung, Indonesia.

Research Publications:

Total No. Of papers published in Refereed National Journals	... 03
Total No. Of papers published in Refereed International Journals	... 72
Total No. Of papers published in Proceedings of National Conferences	... 02
Total No. Of papers published in Proceedings of International Conferences	... 04

In Refereed National Journals:

Sl. No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	P.V. Subrahmanyam and V. Murugan	Smooth solutions for Functional Equation involving series of iterates	J. Combinatorics, Information & System Sciences Vol. 33, 3-4, (2008) pp.187-207.
2.	M.T. Nair	Least-square solution and regularization of matrix equations	Mathematics newsletter, Vol.19, (2009), pp.37-44
3.	Balasubramaniam Jayaram and Radko Mesiar	On Special Fuzzy Implications" Fuzzy Sets & Systems	Vol. 160, pp. 2063 – 2085

In Refereed International Journals:

Sl.No	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	Surya Prasath, B.V. and A. Singh	A hybrid convex variational model for image restoration	Appl. Math. & Computation, V. 215, No.10, (2010), 3655-3664.
2.	J.K. Sahoo and A. Singh	An error analysis of Larrentier regularization in learning theory	Asian-European Journal of Mathematics, Vol.2, No.,(2009), 129-140.
3.	S.A. Choudum and R. Indhumathi	On embedding subclasses of height balanced trees in hypercubes	Information Sciences Vol. 179, pp.1333-1347 (2009)
4.	S.A. Choudum and R. Indhumathi	Embedding height balanced trees and Fibonacci trees in hypercubes	Journal of Applied Mathematics and Computation, Vol. 30, pp.39-52 (2009)
5.	S.H. Kulkarni and D. Sukumar	Almost multiplicative functions on Banach algebras	Studia Mathematica, 197, 2010, pp.93-99
6.	K.P. Deepesh, S.H. Kulkarni and M.T. Nair	Approximation numbers of operators on normed linear spaces	Integral Equations Operator Theory 65 (2009), no.4, pp.529-542.
7.	S.H. Kulkarni, R. Radha and S. Sivananthan	Non-uniform sampling problem	J. Appl.Funct. Anal. 4(2009), no.1, pp. 58-74.
8.	P.R. Parthasarathy, B. Klar and N.Hernze	Lerch limit of Birth and Death Processes	Probability in the Engineering and Informational Sciences, 24, 2010 pages 129-144.
9.	P.R. Parthasarathy and K. Vasudevan	A multiclass Bernoulli feedback Queue with gate mechanism	Future Gen. Comm. Networking 2 (2009), pp. 37 – 36.

10.	P.R. Parthasarathy and R. Sudesh	A State-dependent Queue alternating between arrivals and services	International Journal of Operation Research. 7(2009) pp. 16-30.
11.	P.R. Parthasarathy and R. Sudesh	On the Equivalence of Addition formula of Lattice paths and Chapman-Kolmogorov equation of Birth and Death Processes	Appl.Math.E-Notes 9 (2009), pp. 95-100.
12.	P.R. Parthasarathy	An interesting property of finite birth and death processes	Mathematical Scientist, 34 (2009), pp.51-53.
13.	P.R. Parthasarathy and A Sri Ranga	Generating Birth and Death processes	Stochastic Analysis and Applications, 28 (2010), pp.12-124.
14.	P.V. Subrahmanyam And V. Murugan	Existence of Continuous Solutions for an iterative functional series equation with variable coefficients,	Aequationes Math. Vol. 78, (2009) pp. 167 – 176.
15.	M.T. Nair	On Morozov's discrepancy principle for nonlinear ill-posed equations	Bulletin of Australian Mathematical Society, Vol.29(2009),pp.337-342.
16.	K.P. Deepesh, S.H. Kulkarni and M.T. Nair	Approximation numbers of operators on normed linear spaces	Integral Equations and Operator Theory, Vol. 65 (2009), Pages 529 – 542.
17.	B. Uma and R. Usha	A thin conducting liquid film on a spinning disk in the presence of a Magnetic field: Dynamics and Stability	Transactions of ASME: Journal of Applied Mechanics, 2009 (available online)
18.	G.M. Sisoiev and R. Usha	Wave regimes on power-law fluid film flowing down a porous plane	Int. Journal of Nonlinear Mechanics, 2009 (available online)
19.	I.Mohammed Rizwan Sadiq and R. Usha	Long-wave instabilities in a non-Newtonian film on a non-uniformly heated inclined plane	Transactions of ASME: Journal of Fluids Engineering, Vol. 131, 031202, 1-17, 2009
20.	J.K. Sahoo and A. Singh	An estimate of the is classification error with Hinge and square loss	Int. Journal Comp. & Appl. Math., Vol.5, No.1 (2010), pp.89-102.
21.	Surya Prasath, B.V. and A. Singh	Multichannel Image Restoration using combined channel Information and Robust M-estimation Approach	Int. Journal of Tomography and Statistics, Vol.15, No. F10, (2010) PP.9 – 22.
22.	Tanmay Basak, S.Roy, Pawan Kumar Sharma, I.Pop	Analysis of mixed convection flows within a square with linearly heated side wall(s)	International Journal of Heat and Mass Transfer, Vol.52, Issues 9-10, April 2009 pages 2224-2242
23.	Tanmay Basak, S. Roy, G. Aravind	Analysis of heat recovery and thermal transport within entrapped fluid based on heatline approach	Chemical Engineering Science, Volume 64, Issue 8, 15 April 2009, Pages 1673 – 1686
24.	Tanmay Basak, G. Aravind, S. Roy	Visualization of heat flow due to natural convection within triangular cavities using Bejan's heatline concept	International Journal of Heat and Mass Transfer, Volume 52, Issues 11-12, May 2009, Pages 2824 – 2833
25.	Tanmay Basak, S. Roy, I.Pop	Heat flow analysis for natural convection within trapezoidal enclosures based on heatline concept	International Journal of Heat and Mass Transfer, Volume 52, Issues 11-12, May 2009, pp. 2471-24833
26.	Tanmay Basak, S. Roy, Pawan Kumar Sharma, I.Pop	Analysis of mixed convection flows within a square cavity with uniform and non-uniform heating of bottom wall	International Journal of Thermal Sciences, Volume 48, Issue5, May 2009, pp. 891-912
27.	R. Ravindran, Satyajit Roy, E. M6moniat	Effects of injection (suction) on a steady mixed convection boundary layer flow over a vertical cone	International Journal of Numerical Methods for Heat & Fluid Flow, Vol.19, pp.432 – 444, 2009
28.	S. Roy, P. Saikrishnan, R. Ravindran	Role of non-uniform slot injection (suction) model on the separation of a laminar boundary layer flow	Mathematical and Computer Modelling, Volume 50, Issues 1-2, July 2009, Pages 45-52.

29.	S. Roy, P. Saikrishnan, Bishun D Pandey	Influence of double slot suction (injection) into water boundary layer flows over sphere	International Communications in Heat and Mass Transfer, Volume 36, Issue 7, August 2009, pp. 646-650
30.	Tanmay Basak, S. Roy, Sandeep Kumar Singh, I.Pop	Finite element simulation of natural convection within porous trapezoidal enclosures for various inclination angles: Effect of various wall heating	International Journal of Heat and Mass Transfer, Volume 52, Issues 19-20, September 2009, pp. 4135 – 4150
31.	S. Roy, P. Saikrishnan, Amit Singh, Bishun D Pandey	Natural convection flow simulation for various angles in a trapezoidal enclosure with linearly heated side wall(s)	International Journal of Heat and Mass Transfer, Volume 52, Issues 19-20, September 2009, pp. 4413 – 4425.
32.	Tanmay Basak,S. Roy, Amit Singh, A.R. Balakrishnan	Natural convection flows in porous trapezoidal enclosures with various inclination angles	International Journal of Heat and Mass Transfer, Volume 52, Issues 19-20, September 2009, pp. 4612 – 4623.
33.	P. Saikrishnan, Satyajit Roy, H.S. Takhar and R. Ravindran	Role of thermally stratified medium on a free convection flow from a rotating sphere	International Journal of Numerical Methods for Heat & Fluid Flow, Vol.20, Number 1,(2010) pp.96 – 110.
34.	E.Momoniat, R. Ravindran, S. Roy	The influence of slot injection/suction on the spreading of a thin film under gravity and surface tension	Acta Mechanica, Vol. 211,(2010) pp. 61-71.
35.	L. Jegannathan and R. Rama	Matrix Splicing System,	Intl. Journal of Computer Mathematics, Vol.87, No.2, Feb.2010, pp.278-309.
36.	S. Sundar et al	Optimal die shape for film casting, Applied Mathematics letters	Vol.22, pp.1598 – 1603, 2009
37.	Y.V.S.S.S. Raju and G. Chandhini	A RBF Based Local Gridfree Scheme for Unsteady Convection-Diffusion Problems,	CFD letters, I, (2), 59-67, 2009
38.	Y.V.S.S.S. Raju, Sekarapandian and S. Vengadesdan	A Novel Semi-explicit Spatially Fourth order Accurate Projection method for Unsteady Incompressible Viscous Flows	Numerical Heat Transfer Part A, 56, (8), 665-684, 2009
39.	Y.V.S.S.S. Raju G. Chandhini and Sachin Garg	A note on Two Upwind Strategies for RBF Based Gridfree Schemes to Solve Steady Convection-Diffusion Equations	Intl. Journal Numerical methods in fluids, 61, 1053-1062, 2009
40.	R. Radha and S. Sivananthan	Local reconstruction from a non-uniform sampled data	Appl.Num.Math.59 (2009), pp.393-403.
41.	S.H. Kulkarni, R. Radha and S. Sivananthan	Nonuniform sampling problem	J. applied Funct. Anal. 4, (No.1), (2009), 58-74
42.	R. Radha and S. Sivananthan	Local Reconstruction method and Voice system	Computers and Math. With Appl., 58 (No.1), (2009), pp.74-79.
43.	R. Radha and S. Thangavelu	Holomorphic Sobolev spaces associated to Hermite and special Hermit Semigroups	J. Math.Anal.Appl. 354 (2009), pp.564 – 574.
44.	S. Jitendriya and R. Radha	A characterization of right translation invariant operators from $L_p(H_n, A)$ into $L_q(H_n, A^{**})$	J.Anal.Appl.,7 (no.3), (2009) pp.131-142.
45.	R. Radha and S. Jitendriya	L_p -multipliers for the Hilbert space valued functions on the Heisenberg group	Monatshefte fur Math., 160, (2010) pp.95-107.
46.	S. Jitendriya, R. Radha and D. Venku Naidu	Fourier multipliers for L_p multipliers on the Heisenberg group	Anal. Math., 36(2010), 51-70.
47.	Srinivasa Rao, Ch; And Sachdev P.L.	Large time asymptotics for solutions of nonlinear partial differential equations	Springer monographs in Mathematics, Springer-Verlag, New York

48.	A.J. Shaiju and P. Bernhar	Evolutionarily robust strategies: two nontrivial examples and a theorem	Advances in Dynamic Games, 10:377-395, 2009
49.	M. Ramaswamy and A.J. Shaiju	Construction of approximate saddle point strategies for differential games in a Hilbert space	Journal of Optimization Theory and Applications, 141(2):349-370, 2009
50.	A.J. Shaiju and I.R. Petersen	A formula for the optimal cost in the general discrete time LEQG problem	Automatica, 45:2419-2426, 2009
51.	Drs. Lila Kari and Kalpana Mahalingam	DNA Computing: A Research Snapshot, in M.Atallah and M. Blanton (Eds.), Algorithms and Theory of Computation Handbook	second edition: Special topics and Techniques, Bocaaton, FL: CRC Press, December 2009, pp. 31-1-31-24
52.	Drs. Lila Kari and Kalpana Mahalingam	Watson-Crick Palindromes in DNA Computing	Natural Computing (published Online@www.springerlink.com/content/675w47606w725233/) 2009
53.	Drs. Lila Kari and Kalpana Mahalingam and Shinosuke Sek	Twin Roots and their Properties	Theoretical Compute Science 410 (24-25) 2009, pp. 2393-2400.
54.	S. Sundar and Lemi Guta	Navier-Stokes-Brinkmann system for interaction of viscous waves with a submerged porous structure	Tamkang Journal of Mathematics, Volume 41, No.3, 2010
55.	B. Bhowmik, S. Ponnusamy and K.-J. Wirths	Concave functions, Blaschke products and polygonal mappings	Siberian Mathematical Journal 50 (2009), No.4, 609-615.
56.	B. Bhowmik, S. Ponnusamy and K.-J. Wirths	Coefficient estimates and the convex hull problem for meromorphic functions	Mathematica (Cluj) 51 (74)(2009), No.1, pp.31-38.
57.	Ch.Chen, S. Ponnusamy and X.Wang	Landau's theorem for certain biharmonic mappings	Appl. Math. Comput.208 (2009) pp.427-433.
58.	Ch.Chen, S.Ponnusamy and X. Wang	General Approach to regions of variability via subordination of harmonic mappings	Math. & Math. Sciences, Volume 2009 (2009), Article ID 736746, 15 pages
59.	Ch.Chen, S. Ponnusamy and X. Wang	Some properties and regions of variability of affine harmonic mappings and affine biharmonic mappings	Math. & Math. Sciences, Volume 2009 (2009), Article ID 834215, 14 pages
60.	M. Obradovic and S. Ponnusamy	Univalence and convolution results associated with Confluent Hypergeometric functions	Houston J. Math. 35(4) (2009), pp.1313-1328.
61.	M. Obradovic and S. Ponnusamy	Coefficient characterization for certain classes of univalent functions	Bull. Belg. Math.Soc. Simon Stevin 16(2009), pp.251-263.
62.	M. Obradovic and S. Ponnusamy	On certain subclasses of univalent functions and radius properties	Rev. Roumaine Math. Pures Appl., 54(4) (2009), pp.317-329.
63.	S. Ponnusamy, A. Vasudevarao and M. Vuorinen	Region of Variability for Spirallike functions with respect to a boundary point	Colloquium Mathematicum 116 (2009), No.1, pp. 31-36.
64.	S. Ponnusamy, A. Vasudevarao and M. Vuorinen	Region of variability for certain classes of univalent functions satisfying differential inequalities	Complex Var. Elliptic Equ. 54(2009), No.10, pp. 899-922.
65.	S. Ponnusamy, A. Vasudevarao, and H. Yanagihara	Region of variability for close-to-convex functions-II	Appl. Math. Comput. 215(2009), pp.901 – 915.
66.	S. Sundar, K Selvanayagam Thomas Goetz and V. Vetrivel	Optimal die shape for film casting	Applied Mathematics Letters, Volume 22, pp. 1598-1603, 2009

67.	S. Sundar, M. Kaliyappan and S. Ponnusamy	Formulation of matrix Pade approximation in rectangular full packed storage	Journal of Mathematics Research, Volume 1, pp.184-192, 2009
68.	S. Sundar, M. Kaliyappan and S. Ponnusamy	Recursive formulation of matrix Pade approximation in packed storage	Computers and Mathematics with Applications, Volume 59, pp.1532 – 1540, 2010.
69.	S. Sundar and Maddu Shankar	Asymptotic analysis of extrapolation boundary conditions for Lattice Boltzmann methods	Computers and mathematics with Applications, Volume 57, pp.13301323,2009
70.	Anuradha J; Veeramani P;	Proximal point wise contraction	Topology Appl. 156 (2009), no. 18, pp. 2942 – 2948.
71.	Antony Eldred A; Anuradha J; Veeramani P;	On the equivalence of the Mizoguchi-Takahashi fixed point theorem to Nadler's theorem	Appl. Math. Lett. 22 (2009), no.10, pp. 1539 – 1542.
72.	Chandrashekar A; Parthasarathy, T.; Vetrivel, V	On the $\$P_2\$$ and $\$P_2\$$ -properties in the semidefinite Linear complementarity problem	Linear Algebra Appl.432 (2010), no.1, pp.134-143.

In Proceedings of National Conferences:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	Arindama Singh	Ringling Artefact production in blind image deblurring and denoising problems by regularization methods	Proc. ICAPR 2009, Proc. In IEEE Computer Society (2009), 333-336.
2.	M. Obradovic, S. Ponnusamy and P. Vasundhra	Univalence and starlikeness of nonlinear integral transform of certain class of analytic functions	Proc. Indian Acad. Sci. (Math. Sci.), 119) (5) (2009), pp.593-610.

In Proceedings of International Conferences:

Sl.No	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S.G. Kamath	An exact calculation of the Casimir energy in two planar models	AIP Conference Proceedings 1150, pp. 402 – 406 (2009)
2.	Y.V.S.S.S. Raju and Nachiketa Mishra	An exponential compact higher order scheme	Proc.of the 7 th Intl. Conf. Of Numerical analysis and applied mathematics, Sept. 18-22, 2009, Rethymno, Crete, Greece, 1174-1177, 2009
3.	A.J. Shaiju and I.R. Petersen	H controller reduction of uncertain systems via rank constrained linear matrix inequalities	Proc. Of Asian Control conference, Hongkong, Aug.27-29, 2009
4.	A.J. Shaiju and I.R. Petersen	On physical reliability of general linear quantum stochastic differential equations with complex coefficients	Proc. Of IEEE Conference of Decision and Control, Shanghai, Dec. 16-18, 2009

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
1.	Prof. Sudarshan Tiwari TU Kaiserslautern, Germany	October 21, 2009	Lecture series: 1) Problem Description and Models for Two Phase Liquids and Droplets October 21, 2009 2) Analytical Methods for Droplet Population Balance Equation October 23, 2009 3) Numerical Techniques for Droplet

			Population Balance Equation I October 24, 2009 4) Numerical Techniques for Droplet Population Balance Equation II October 25, 2009 5) A Particle-Particle Hybrid Method for Continuum and Kinetic Equations for Small Scale Geometrics October 26, 2009
2.	Prof. Rolf Jeltsch, ETH Zurich, Switzerland	November 25, 2009	Two talks as part of celebration of sixty years of Indo-Swiss Cooperation in Science: 1. Leonhard Euler-His Life, Personality Discoveries and their Impact To-day. 2. Numeric for Stiff Equations: History and Essentially Optimal Explicit RK Methods
3.	Prof. M. Ram Murty Queen's University Kinston, Ontario, Canada	Dec. 2, 2009	Gave a lecture on The Riemann Hypothesis
4.	Dr. Antti Rasila Dept. of Mathematics Helsinki University of Technology, Finland	Dec.4 – 7, 2009	Gave two lectures on Introduction to Quasiconformal Mappings in Plane
5.	Prof. Nicole Ostrowsky Universite de Nice Sophia Antipolis Lycee Francais De Pondichery	Dec. 4, 2009	Conducted a seminar in department and lectured on "Writing the Agenda of the Apprentice Scientist
6.	Prof.A. Sofi University of Kashmir Jammu & Kashmir	Dec. 30,2009 – Jan. 10, 2010	Gave a lecture on "Certain Aspects of Finite- Dimensionality Phenomena involving Vector Measures"
7.	Prof. R.N. Mohapatra University of Central Florida, U.S.A.	Jan. 22-23, 2010	Gave a lecture on "Gabor Frames and Optimal Dual Frames for Erasures"
8.	Prof. Harald Guenzel F B Mathematik RWTH Aachen Germany	March 29 – April 10, 2010	Gave the following seminar talks and interacted with faculty members: 1. Differentiable Structures in Constrained Optimization 2. Modulus of concavity and Marginal Functions

Other Activities:

Seminar Talk:

Sl. No.	Name of the Faculty	Title	Date
1.	Dr. A.J. Shaiju Department of Mathematics I.I.T. Madras	Discrete-Time Linear Quadratic Control Problems	April 17, 2009
2.	Prof. S. Nanda Department of Mathematics I.I.T. Kharagpur	Variational Inequalities and Complimentarity Problems	April 27, 2009
3.	Prof. K.R. Parthasarathy Emeritus Distinguished Scientist Indian Statistical Institute Delhi Centre, New Delhi	Cramer – Rao-Bhattacharyya inequalities for finite level quantum systems	August 13, 2009
4.	Prof. Suresh Govindarajan Dept. of Physics I.I.T., Madras	From counting states to Borchers-Kac- Moody Lie Algebras	August 20, 2009
5.	Prof. Amritanshu Prasad The Institute of Mathematical Sciences, CIT Campus Taramani, Chennai	The Weil Representation for Finite Heisenberg Groups	August 27, 2009
6.	Prof. B.V. Rao Kolkata	Urn models of probability	September 3, 2009

7.	Dr. Sannasiraj Dept. of Ocean Engg., IIT Madras	Wave data assimilation using ensemble error co-variances	September 17, 2009
8.	Dr. (Mrs.) Kanakadurga Anna University, Chennai	Sparse Matrix Computations	September 24, 2009
9.	Dr.T.E. Venkata Balaji Dept. of Mathematics, IIT Madras	Introduction to Moduli	October 8, 2009
10.	Prof.S.H. Kulkarni Dept. of Mathematics, IIT Madras	Banach Algebras and Operator Equations	October 15, 2009
11.	Prof.S. Kesavan Chennai Mathematical Institute Chennai	On the Degenerate Algebraic Ricatti Equation	October 22, 2009
12.	Dr. Dipendra Prasad Professor in Mathematics TIFR (Mumbai)	Modular forms, Motives and L-functions	November 18, 2009
13.	Prof.T.E.S. Raghavan Dept. of Mathematics, Statistics and Computer Science University of Illinois Chicago, U.S.A.	Stochastic games with additive rewards and additive transitions, existence theorems and algorithms	January 5, 2010
14.	Prof. R. Anantharaman Formerly from Clark Atlanta University, U.S.A.	Not all norm compact sets are the same in an infinite dimensional Banach space	January 6, 2010
15.	Prof. D. Ramachandran California State University Sacramento, U.S.A.	i. A survey of duality theory ii. Connections of duality theory to probabilistic measure theory and economics	January 21, 2010
16.	Prof. V. Balakrishnan Department of Physics IIT Madras	Recurrences in classical and quantum dynamics	January 28, 2010
17.	Prof. P. Veeramani Dept. of Mathematics IIT Madras	Introduction to Nash Equilibrium Points	February 5, 2010
18.	Dr. Swadesh Kumar Sahoo PDF-NBHM Dept. of Mathematics I.I.T. Madras	Quasi hyperbolic metric and quasiconformal mappings	February 18, 2010
19.	Prof. Murali K Vemuri Chennai Mathematical Institute Chennai	Hermite Expansions and Hardy's Theorems	February 25, 2010
20.	Prof.M. Sundari Chennai Mathematical Institute Chennai	An analogue of Benedick's theorem on Heisenberg group	February 25, 2010
21.	Prof. Amiya Kumar Pani Dept. of Mathematics I.I.T. Bombay	On Industrial Mathematics with a Case Study from Finance	February 22, 2010
22.	Dr. Choudur K Lakshminarayanan Intelligent Information Management Lab, HP Labs, Austin, Texas, U.S.A.	Quasi hyperbolic metric and quasi conformal mappings	March 10, 2010
23.	Dr. Rahul Marathe Dept. of Management Studies IIT Madras	Use of Exotic Financial Options to Solve a Capacity Expansion Problem	March 11, 2010
24.	Prof. K. Parthasarathy Director Ramanujan Institute for Advance Study in Mathematics, Chennai	Unit Disc	March 18, 2010
25.	Prof. G.P. Youvaraj Ramanujan Institute for Advanced Study in Mathematics Chennai	Pseudo Analytic Functions	March 25, 2010

Ph.D. Viva – Voce Examination:

Sl.No.	Name of the Scholar	Title of the thesis & Viva date
1.	Ms. J. Anuradha	A Study on the Existence of Best Proximity Points and Fixed Points April 27, 2009
2.	Mr. Bappaditya Bhowmik	Study of Certain Subclasses of Meromorphic Univalent Functions July 2, 2009
3.	Mr. L. Jegannathan	Abstraction of Splicing, Self Assembly and Crossover Language to Axiom Approach, July 24, 2009
4.	Mr. Maddushankar	Asymptotic Analysis and Applications of Boundary conditions for Lattice Boltzmann Methods, September 18, 2009
5.	Mr. R. Rajkumar	Studies on Codes and Graphs with Rosenbloom-Tsfasman Metric February 12, 2010
6.	Mr. V.B. Surya Prasath	Regularization and Partial Differential Equations Based Image Restoration March 21, 2010

Ph.D Seminar Talks:

Sl. No	Name of the scholar	Title	Date
1.	Mr. A. Chandrashekar	Semi-definite Linear Complementarity Problems	May 18, 2009
2.	Mr. Jajati Kesari Sahoo	The Role of Tikhonov Regularization in Learning Theory & An Error Analysis of Lavrentiev Regularization in Learning Theory	June 3, 2009 & June 8, 2009
3.	Mr. Vasudevarao Allu	Region of Variability for Functions with Positive Real Part	July 2, 2009
4.	Mr. R. Rajkumar	On Rosenbloom-Tsfasman spaces	July 21, 2009
5.	Mr. V.B. Surya Prasath	Regularization and PDE based methods for Image Processing: Part – II	July 22, 2009
6.	Mr.A. Chandrashekar	On the Semi-definite Linear Complementarity problems for special linear transformations	August 12, 2009
7.	Mr. Lemi Guta Enyadene	Wave-Porous Structure Interaction: Modeling, Analysis and Simulation	August 26, 2009
8.	Mr. Ramakrishna Nanduri	On the lengths of quotients of ideals and depths of fiber cones	September 22, 2009
9.	Mr. K.P. Deepesh	Approximation Numbers of Operators on Normed Linear Spaces	October 1, 2009
10.	Mr. Venku Naidu Dogga	Holomorphic Sobolev spaces on the complexified Heisenberg group and frames in operator-Fock spaces	October 21, 2009
11.	Mr. Sudhakar Matte	Heat Transfer Modeling on Isotech Saturn 877	October 28, 2009
12.	Mr. Manoj Kumar Yadav	Solutions of some Nonlinear Partial Differential Equations	November 17, 2009
13.	Mr. T. Karthick	First-Fit Coloring and Maximal cliques in two classes of graphs	November 26, 2009
14.	Mr. Manoj Kumar Yadav	Self-Similar Solutions of a Generalized Burgers Equation Involving p-Laplacian	December 1, 2009
15.	Mr. E. Satyanarayana	Solutions of Some Generalized Burgers Equations	December 7, 2009
16.	Mr. P. Ravishankar	Error Analysis for a continuous Newton type method for nonlinear ill-posed problems	December 8, 2009

4.12.5 Other Activities of the Department/Centre:

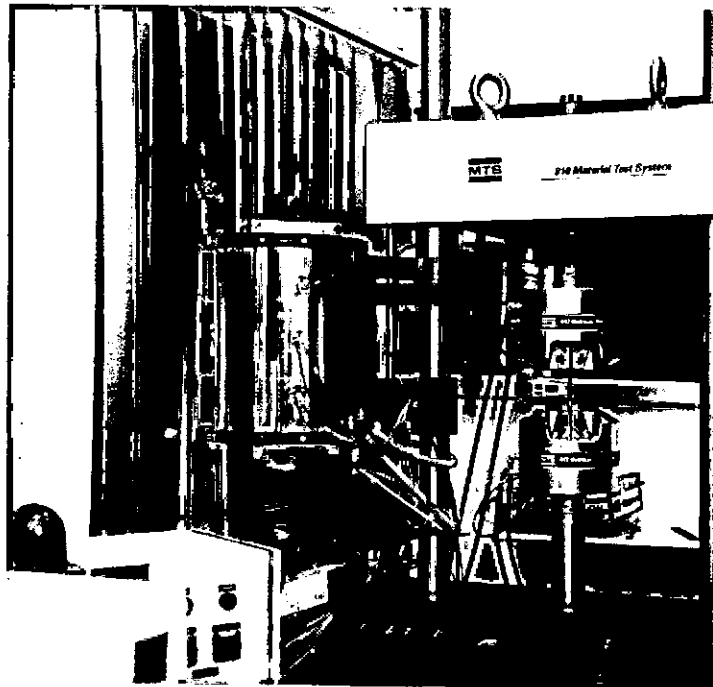
Sl.No	Name of the Faculty	Activity
1.	Arindama Singh	Program chair for Technical program committee for ICIT 2009 from 21.12.09 to 24.12.09
2.	P.R. Parthasarathy	Has rejoined duty on 7 th September, 2009 after visiting University of Karlsruhe, Germany
3.	P.R. Parthasarathy	Has been nominated by the Senate to serve the Institute Board
4.	P.R. Parthasarathy	Gave keynote address on Applied Stochastic Models in the annual research Conference at Karpagam University, Coimbatore on 10.12.09

5.	S. Ponnusamy	Discussed with Dr. Anguraj at PSG Arts College & visited NIT Trichy
6.	R. Radha	To conduct the Ph.D Viva-voce at Cochin University on 12.08.09
7.	R.Rama	Paper presentation of the National Conference Cryptography, Automata and Learning Theory (2009) at MCC, Chennai on April 29, 2009
8.	R.Rama	Attended a Ph.D. DC meeting, Dept. Of Mathematics at Vellore Institute of Technology, Vellore on March 10, 2010.
9.	R.Rama	Resource person of the Workshop on Automata Theory at BPUT, Bhubaneshwar on March 16, 2010
10.	Y.V.S.S. Sanyasi Raju	To attend a project meeting on 17.11.09 at NPOL, Kochi.
11.	Ch. Srinivasa Rao	Attended a Doctoral Committee meeting at VIT University, Vellore on January 29, 2010.
12.	S R Manam	Visited IIT Kharagpur during June 25-30, 2009 for academic discussions.
13.	P.V. Subrahmanyam	Invited to be a Nomination Council Member for the award of Infosys Prize 2010 instituted by the Infosys Science Foundation. To serve as a member of the Advisory Committee for UGC/SAP programme of the Department of Mathematics, Pondicherry University
14.	P.V. Subrahmanyam	To attend an Advisory Committee Meeting (UGC-SAP) at Pondicherry University on 20.08.09 as UGC Nominee
15.	P.V. Subrahmanyam	Attended the HOD/Task Force meeting at IIT Hyderabad on 22 nd October, 2009
16.	P.V. Subrahmanyam	Attended a Ph.D. Viva-voce exam at University of Hyderabad on March 10 and 11, 2010.
17.	S. Sundar	Expert Member, Selection Board IIST, Thiruvananthapuram on January 17, 2010.
18.	M. Thamban Nair	Attended consultation meeting on Academic programs of Central University (Kerala) at Kochi on January 27, 2010.
19.	P. Veeramani	Served as an Examiner for Ph.D Viva-voce Examination at University of Hyderabad on April 24, 2009.
20.	P. Veeramani	Attended Selection Committee meeting at Anna University on 5 th October, 2009
21.	P. Veeramani	Conducted a Ph.D. Viva-voce examination at IIT Kanpur on January 25, 2010
22.	V. Vetrivel	Conducted a Ph.D. Viva-voce at IIT Delhi on 8.7.09.
23.	V. Vetrivel	Attended NPTEL Co-ordinators' Meeting at I.I.T. Delhi on 12.09.2009 and 13.09.2009
24.	Dr. Balasubramanian Jayaram, Asst. Prof. (Visiting)	He has resigned his present position and taken up a permanent post as Assistant Professor at IIT Hyderabad (Mentored by IIT Madras)
25.	Swadesh Kumar Sahoo and Mr. Vasudevarao Allu	To carry out research work at the University of Turku, Finland from August 2 – September 30, 2009
26.	Mr. Vasudevarao Allu and Dr. Swadesh Kumar Sahoo	Have rejoined duty on 1 st October 2009 after research visit at University of Turku, Finland.

Socially relevant activities carried out by the Department:

The Department of Mathematics and AG Technomathematik, Technische Universitaet Kaiserslautern, Germany have mutually agreed to set up a network in the scientific area of Applied Mathematics and Mathematical Modelling. This will enable intensive collaboration between IIT Madras and TU-Kaiserslautern in terms of Annual Workshops, Faculty / Student Exchange and Joint Modelling Seminars.

MECHANICAL ENGINEERING



4.13 DEPARTMENT OF MECHANICAL ENGINEERING

4.13.1 Introduction:

The Department of Mechanical Engineering was established in the year 1959. The department offers Ph.D., M.S., M.Tech, B.Tech. and Dual Degree programmes. The department has excellent facilities to carry out state-of-the-art research in three major disciplines of Mechanical Engineering, namely, Thermal Engineering, Mechanical Design and Manufacturing Engineering.

The Thermal Engineering Stream comprises of six laboratories, namely, Heat Transfer and Thermal Power, Hydro-Turbo Machines, I.C. Engines, Refrigeration & Airconditioning, Thermal-Turbo Machines and Thermodynamics & Combustion.

The Design Stream consists of the Machine Design Section, Machine Dynamics Laboratory.

The Manufacturing Engineering Stream consists of the Manufacturing Engineering Section and Precision Engineering & Instrumentation laboratories.

4.13.2 Academic Programmes:

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	68	63	54	53	5	243
Dual Degree	62	50	43	50	47	252
M.Tech.	88	75	6	0	0	169
M.S.	33	20	21	18	9	101
Ph.D.	37	26	17	35	77	192
Total	288	234	141	156	138	957

Names of Student/Scholar who attended Conference/ Seminar and Symposia Abroad/India:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	Vinitha Ranganathan	ME08S012	SAE Conference (Brake Colloquium and Exhibition 2009)	Oct.10- 15, 2009 Tampa Florida, USA	IIT Madras
2.	Dinesh Thakur	ME06D036	World Academy of Science Engineering and Technology	July 1-3, 2009, London	IIT Madras
3.	S Rajakumar	ME06D007	International conference on Advances in Material and Processing Technology	Oct. 26-29, 2009, Malaysia	IIT Madras
4.	B. Murali Krishna	ME06D030	World Congress on Engineering	July 1-3, 2009 London	Institute
5.	I.A.Palani	ME06D017	International Conference on Laser Ablation (COLA 09)	Nov. 21 – 27, 2009, Singapore	IIT Madras
6.	I.A.Palani	ME06D017	International Conference on Photonics west 2010	Jan. 23-28, 2010 at San Francisco, California, USA	IIT Madras
7.	P.V. Ramakrishna	ME06D039	ASME Turbo Expt 2009, Florida, US	June 8-12, 2009	Institute
India					
8.	Suresh Kumar	ME08D005	Seminar: NASAS	Nov.19-20, 2009 IIT Bombay	Project
9.	Ankit Gupta	ME06D011	Seminar: National Seminar on Aerospace Structures (NASAS)	Nov. 19-20, 2009 IIT Bombay	Institute

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
10.	V. Alwan	ME10 S019	National Conference on Composites (INCCOM-8)	Dec. 4-5, 2009 VSSC Thiruvananthapuram,	ARDB Project
11.	K. Saravanan	ME08S024	NACOMM-09 (National Conference on Machines & Mechanism)	Dec.17-18, 2009 NIT Durgapur	DST Project
12.	Hormis J.V.	ME07S005	ICCMS-09 (3rd International Congress on Computational Mechanics & Simulation)	Dec.1-5, 2009 IIT Bombay	Institute
13.	V Janardhan	ME06S031	Proceedings of international conference of Advances in Mechanical Engineering	August 3-5, 2009, S V Institute of Technology, Surat	IIT Madras
14.	Shital S Chiddarwar	ME05D027	IEEE Conference on Automation Science and Engineering	August 22-24, 2009, IISc Bangalore	IIT Madras
15.	R K Vimal Nandhan	ME06D022	IEEE Conference on Automation Science and Engineering	August 22-24, 2009, IISc Bangalore	IIT Madras
16.	Shital S Chiddarwar	ME05D027	7th Global Conference on Sustainable Manufacturing	December 2-4, 2009, IIT Madras	IIT Madras
17.	R K Vimal Nandhan	ME06D022	7th Global Conference on Sustainable Manufacturing	December 2-4, 2009, IIT Madras	IIT Madras
18.	R Mohan	ME04D038	COPEN 6, International Conference on Precision, Meso, Micro and Nano Engineering	Dec. 11-12, 2009, PSG Tech and Amirtha University	IIT Madras
19.	R Srikanth	ME07D017	COPEN 6, International Conference on Precision, Meso, Micro and Nano Engineering	Dec.11-12, 2009, PSG Tech and Amirtha University	IIT Madras
20.	S Denis Ashok	ME05D026	COPEN 6, International Conference on Precision, Meso, Micro and Nano Engineering	Dec.11-12, 2009, PSG Tech and Amirtha University	IIT Madras
21.	A Murugarajan	ME06D031	COPEN 6, International Conference on Precision, Meso, Micro and Nano Engineering	Dec. 11-12, 2009, PSG Tech and Amirtha University	IIT Madras
22.	R K Vimal Nandhan	ME06D022	Indo-US workshop on Product Design – Impact from Research to Education to Practice	March 15-17, 2009, PSG Tech	Indo-US STF
23.	R Srikanth	ME07D017	Indo-US workshop on Product Design – Impact from Research to Education to Practice	March 15-17, 2009, PSG Tech	Indo-US STF
24.	P. Vasanth	ME06D021	FUCETECH 2009	Nov. 9-11, 2009 DRDO, Mumbai	IIT Madras
25.	P. Vasanth	ME06D021	ICAER-2009	Dec. 11-13, 2009 IIT Bombay	IIT Madras
26.	B.V. Krishna Reddy	ME05D011	ISHMT-ASME 2010 Conference	Jan. 4-6, 2010 IIT Bombay	IIT Madras
27.	Kaushal Kumar Jha	ME07D033	ISHMT-ASME 2010 Conference	Jan. 4-6, 2010 IIT Bombay	IIT Madras
28.	D. Ruben Sudhakar	ME04D024	ICAER-2009	Dec. 11-13, 2009 IIT Bombay	IIT Madras
29.	K. Ravi Kumar	ME07D022	ISHMT-ASME 2010 Conference	Jan. 4-6, 2010 IIT Bombay	IIT Madras
30.	Veershetty Gumtature	ME07D023	Int. Conf. on Advance Energy Research ICAER-2009	Dec. 11-13, 2009 IIT Bombay	IIT Madras

Names of students/scholars who won outside prizes and awards:

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	A Sadiq	ME06D033	K. Suryanarain Rau Memorial Senior Student Award	Indian Society for Advancement of Materials and Process Engineering, June '09
2.	M.V.J.J. Suresh Ruben Sudhakar	ME04D028 ME04D024	1 prize for Cross word competition on "Clean Coal Technology"	IIT Bombay, ICAER, Dec.9-11, 2009

Name of Students/Scholars who won Institute Convocation/Institute Day Prize:

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1.	Alagavelu Armstrong R	ME08M041	Institute Merit Prize	IIT Madras
2.	Aniket Baheti	ME04B070	Bhagyalakshmi-Krishna Iyengar Prize	Best DD/M.Tech Project Award

4.13.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization
Professor:	
Venkateshan S.P., Ph.D. (HEAD)	Heat Transfer, Instrumentation
Ajit Kumar Kolar, Ph.D.	Fluidized Bed Combustion of Coal and Biomass, Fuel Cells, Advanced Power Generation System Analysis.
Babu Viswanathan, Ph.D	CFD, High speed reacting flows, High performance computing
Balabaskaran V., Ph.D	Fluid Mechanics, Pumps and Hydroturbines, Computational Fluid Dynamics
Chakravarthy Balaji, Ph.D.	Fundamental Heat Transfer, Optimization of Thermal Systems, Inverse Problems in Heat Transfer, Satellite Meteorology, Numerical Weather Prediction
Chandramouli P., Ph.D.	Non-linear Dynamics, Acoustics and Fluid-structure interactions
Das S.K., Ph.D.	Heat Exchangers, Two phase flow, Nano fluids, Jet Oscillations, Nuclear Heat Transfer
Ganesan N., Ph.D.	Finite Element Analysis, Vibration and Smart Structures
Ganesan V., Ph.D.	Theoretical and Experimental Studies in Fluid Flow, Heat Transfer and Combustion in I.C Engines, Gas Turbines, After-burners and Related Engineering Equipment.
Gopinath K., Ph.D.	Design of test rigs, Presses, SPM, Process equipment, Powder metallurgy and superplastic forming equipment, Friction and wear, Brakes, Clutches, Bearings, Gears and filters, Powder metallurgy, Failure analysis and development of new materials
Govardhan M., Ph.D.	Compressors, Steam and gas turbines - cascade secondary flows - boundary layers-inlet flow distortion, Tip clearance flows, Wells turbine, Cross flow fans, CFD
Krishnan Balasubramanian, Ph.D.	Nondestructive Evaluation, Materials Characterization, Online Measurements
Kumaraswamy S., Ph.D.	Fluid Mechanics, Pumps and Hydroturbines, Cavitation in hydroturbomachines

Maiya M.P., Ph.D.	Refrigeration (Sorption systems and co-generation) Air Conditioning (Desiccant and evaporative cooling and energy aspects), Ventilation, Drying and effluent evaporation, Metal hydride energy conversion systems
Mani A., Ph.D.	Solar energy, Refrigeration and air conditioning, Cryogenic engineering, Alternate working fluids, Effluent treatment.
Mayuram M.M., Ph.D	Surface engineering, Wear and wear control, Thermal sprayed coatings, Fatigue and fracture aspects in design and analysis
Muthuveerappan G., Ph.D.	Machine design, Vibrations of structures in fluid environments, Generation of gear teeth and fillet profiles for stress analysis and design
Narayanan S., Ph.D.	Random and Nonlinear Vibration, Smart Structures, Acoustics
Pramod S.Mehta, Ph.D.	Combustion Modeling, Fluid Dynamics in IC Engines, Engine Emission Control
Prasad B.V.S.S.S., Ph.D.	CFD in turbo machines, Turbine blade cooling, Rotor-stator interactions, Heat flux measurements, Thermal hydraulics
Premananda Shet U.S., Ph.D.	Design of gas oil and solid fuel burners, Swirl combustion, Flame image analysis, Control of combustion generated pollutants, Supersonic combustion, Thermodynamics, Combustion and propulsion
Raju Sethuraman, Ph.D.	Computational Solid Mechanics, Fatigue and fracture of materials
Ramamoorthy B., Ph.D.	Metrology, Machine Vision Applications, Manufacturing and Coating Processes
Ramesh A., Ph.D.	IC Engine Combustion and Emissions, Electronic Engine Management, Alternative Fuels
Ramesh Babu N., Ph.D.	Laser Beam Machining (LBM), Abrasive Finishing Process, Abrasive Waterjet Machining (AWJM), Process Modeling, Computer Aided Manufacturing, CNC, PLC
Seshadri Sekhar A, Ph.D.	Rotordynamics, Tribology, Condition-monitoring
Shunmugam M.S., Ph.D.	Metrology, Manufacturing – gear, BTA Machining, reaming, Centreless grinding, EDM, friction welding, Manufacturing automation & robotics, Computer application in manufacturing – process planning, inspection planning, quality control.
Singaperumal M., Ph.D.	Fluid Power System Simulation, Mechatronics, Precision Engineering.
Sitaram N., Ph.D.	Turbomachinery / end wall flows, Computational fluid dynamics, Compressors and turbines, Boundary layers, Tip clearance flows
Siva Prasad N., Ph.D.	Finite element analysis, Computer aided design, Stress analysis, Machine design
Srinivasa Murthy S., Ph.D.	Refrigeration & Airconditioning, Energy Conservation & Heat Recovery, Solar & Hydrogen Energy Utilisation
Sujatha C., Ph.D.	Machine Dynamics, Vehicular Vibration, Instrumentation and signal analysis
Sundararajan T., Ph.D.	Droplet combustion, Supersonic reacting jet flows, Computational fluid dynamics
Swarnamani S., Ph.D.	Structural Health monitoring/Diagnostics/Active Control
Venkatarathnam G., Ph.D.	Refrigeration, Cryogenic Engineering, Heat Exchangers
Vijayaraghavan L., Ph.D.	Machining, CAD, Surface Engineering, Grinding

Associate Professor:

Raghu Prakash V, Ph.D.	Experimental Fatigue Analysis, Structural integrity, Test systems design
Shankar Krishnapillai, Ph.D.	Structural vibrations, Design optimization, System identification
Srinivas Reddy K, Ph.D.	Renewable Energies, Solar Energy, Energy Conservation, Energy Environment, Heat Transfer in Two-Phase Systems
Srinivasan K., Ph.D.	Jet Flow and Noise, Active and Passive Flow Control, Measurement and Instrumentation
Sujatha Srinivasan, Ph.D.	Biomechanics, Mechanisms, Prosthetics and Orthotics

Assistant Professor

Amitava Ghosh	Machining & Grinding of advantage materials, Development of abrasive tools, Metal ceramic joining
Arunn Narasimhan, Ph.D.	Heat Transfer and Fluid Flow in Porous Media, Phase Change and Convection
Balakrishna C Rao	High-Speed-Machining of automotive- and aerospace-alloys, Modeling and simulation of manufacturing processes, Chatter in manufacturing processes, Micro-Electro-Mechanical-Systems (MEMS), Nano-technology, Creation of nano-crystalline materials
Dhiman Chatterjee, Ph.D.	Fluid Mechanics, turbomachines, cavitation
Krishna Kannan, Ph.D.	Continuum mechanics, Thermodynamics and Constitutive modeling of polymeric materials
Mallikarjuna J.M., Ph.D.	Simulation of Engine processes, Data Acquisition, Design of Engine Components, PIV
Parag Ravindran, Ph.D.	Viscoelastic Fluids Constitutive Modeling
Raghavan V, Ph.D.	Combustion modeling, Droplet combustion, Laminar flames
Ravikiran Sangras, Ph.D.	Experimental Fluid Mechanics, Combustion, Turbulent Flows
Samuel G L., Ph.D.	Measurement and Inspection of Free Form Surfaces Evaluation of Form Errors, Micro Machining
Shaligram Tiwari, Ph.D.	Refrigeration and Airconditioning, Flow Transition, Vortex Dynamics, CFD, Maragonic Convection
Shamit Bakshi, Ph.D.	CFD in I.C. Engines, Liquid Atomization and Spray Systems, Fuel Nozzle Modeling
Somashekhar S Hiremath	Fluid Power Systems, Mechatronics, FEM, Hybrid Machining Techniques
Viswanath K., Ph.D.	Turbomachinery noise

Visiting Professor:

Ramamurthi K., Ph.D.	Combustion, Propulsion, Explosions
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Henry Ford Chair Professor

M.K. Gajendra Babu, Ph.D.	I.C. Engine Combustion & Emission, Alternative Fuels, Energy Conservation
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Technical Superintendent

P V Manivannan	Microprocessors and Control System, Mechatronics and Embedded system, Automotive Electronics
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Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Chairmen: Dr. N. Siva Prasad Dr. L. S. Ganesh Organizing Secretary: Dr. Shankar Krishnapillai Dr. Arshinder Kaur	International Conference on New Product Development: Challenges in Meltdown Times (NPDC 09)	Dec. 17-19, 2009
2.	Dr.M S Shunmugam Co-Chairman Dr.N Ramesh Babu Organizing Secretary Dr. Amitava Ghosh Finance Secretary	7th Global Conference on Sustainable Manufacturing	Dec. 2 – 4, 2009
Seminar:			
1.	Dr. N Ramesh Babu	Key Concepts in Grinding	Dec. 7, 2009
2.	Dr. N Ramesh Babu	System Thinking: the what and why for Organic Growth	Feb. 1, 2010
Workshop:			
1.	Dr. N. Siva Prasad & Dr. VCV Rao, Pune	Optimizing Performance of Parallel Programs on Emerging Multi – Core Processors & GPUs	June 1 – 5, 2009
2.	Dr. A. Ramesh Dr.S.K. Das Dr. T. Panda	Indo-German Workshop on Frontiers in Engg. (Sponsored by Humboldt and DST)	Oct. 1-4, 2009
3.	Dr..M.Singaperumal Dr.Somashekhar S.Hiremath	Five days in-house Training programme on "Hydraulic Systems" for Engineers of EATEN India Ltd. Pune Sponsored by CEP (Continuing Education Programme), IIT Madras	Dec. 7-11, 2009
Short term Course:			
1.	Dr. P. Chandramouli	Fundamentals of Vibration and Noise	May 30-June 1, 2009
2.	Co-ordinator: Dr. N. Siva Prasad Delivered by: Dr. G. Muthuveerappan Dr. V. Raghu Prakash Dr. S. Narayanan Dr. M.M. Mayuram	Lectures for FL Smidth, through Continuing Education Programme in ICSR, IIT Madras	Feb 2010
3.	Dr.K.Srinivas Reddy Dr. M. Kumaravel	Organised a 10-day Training Program on "Solar Power Systems: Configurations, Applications, Installation and Maintenance"	May 18-29, 2009
4.	Dr. M.K. Gajendra Babu Dr. A.Ramesh	Technologies for Modern Diesel Engine Development	June 29– July 4, 2009
5.	Dr.Somashekhar,S.Hiremath and Dr.M.Singperumal	Short Term Training Programme (STTP) on "Fluid Power Circuits and Controls: Fundamentals and applications" for Engineering College Faculties, Industries and R & D Personnel	July 13 – 18, 2009
6.	Dr.Somashekhar,S.Hiremath and Dr.M.Singperumal	Mechatronics: Integrated Technologies for Intelligent Mechines	Jan.18-23, 2010
7.	Dr. BVSSS. Prasad	CFD course for BHEL Engineers	Feb. 1-7, 2010 Feb.24 – March 3, 2010

Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	Dr. N Ramesh Babu	Indo-US workshop on product design – Impact from Research to Education to Practice	PSG Tech, Coimbatore	March 17, 2010
2.	Dr. G L Samuel	Faculty Development Program	IIT Madras	Dec. 7-9, 2009
3.	Dr. Shamit Bakshi	Int. workshop on bubble and drop interfaces,	Aristotle Univ. of Thessaloniki, Greece	Sept. 23-25 2009
Symposia:				
1.	Dr. P. Chandramouli	Noise & Vibration Emerging Methods (NOVEM 2009) Keynote Paper	Oxford University	April 5-8, 2009
2.	Dr.M.Singaperumal	To attend and poster presentation in the SPIE International Symposium on Optifab 2009	Rochester, Yew York, USA	May 11-14, 2009
3.	Dr. Kumaraswamy S	Energy, Environment and future Indo-Japan Collaboration	The Hindu and Hitachi Ltd.	April 11, 2009
Conference:				
1.	Dr. V. Raghu Prakash	Int. Conference on Advances in Mechanical, Aeronautical & Manufacturing Engineering Fatigue crack growth behavior in dissimilar metal weldment of stainless steel and carbon steel. Thermo mechanical studies of Glass/Epoxy composite Specimens during Tensile loadings	Singapore	Aug 26-29, 2009
2.	Dr. S. Narayanan	Conference on "Recent Advances in Nonlinear Mechanics" RANM 2009 and presented the paper "Chaos control in a composite plate by time delayed feedback"	University of Nottingham, Malaysia Campus	Aug 24-27, 2009
3.	Dr. P. Chandramouli	Conference on "Vibration Engineering & Technology of Machinery (VETOMAC-V) Presented a paper titled, "Influence of centrifugal stiffening of flexible diaphragm coupling on motor dynamics"	Huazhong University of Science and Technology, Wuhan, P.R. CHINA	Aug 26-29, 2009
4.	Dr. N. Siva Prasad	International Conference on MAN MACHINE SYSTEMS and International Conference on Applications and Design in Mechanical Engineering	Universiti Malaysia Perlis at Bay View Beach Resort - Penang, Malaysia	Oct. 11-13, 2009
5.	Dr M M Mayuram	ASME/STLE International Joint Tribology Conference	Memphis, Tennessee USA	Oct. 19-21, 2009
6.	Dr M M Mayuram	Advances in Materials and Processing Technologies AMPT 2009	Malaysia	Oct. 26-29, 2009
7.	Dr. B Ramamoorthy	International Symposium on Measurement Technology & Intelligent Instruments (ISMTII)	Saint-Petersburg State University of Information Technologies, Mechanics and Optics, Russia	June 29- July 2, 2009
8.	Dr. B Ramamoorthy	WILL Power Erasmus Mundus Project - International Coordinators conference on Higher Education	European Commission Office Brussels, Belgium	Oct.20-24,2009

9.	Dr. B Ramamoorthy	WILL Power Erasmus Mundus Coordinators Committee (COC) conference	Ecole Centrale Nantes, France	Dec. 12-17, 2009
10.	Dr. L. Vijayaraghavan	International Symposium on Measurement Technology & Intelligent Instruments (ISMTII)	Saint-Petersburg State University of Information Technologies, Mechanics and Optics, Russia	June 29 - July 2, 2009
11.	Dr. G L Samuel	Proceedings of International conference on Advances in Mechanical Engineering	S V Institute of Technology, Surat	Aug. 3-5, 2009
12.	Dr. G L Samuel	Proceedings of 24th Annual Meeting of American society of Precision Engineering	Monterey, CA, USA.	Oct. 4-9, 2009
13.	Dr. G L Samuel	Proceedings of 6th international Conference of Precision, Meso, Micro & Nano Engineering	PSG Tech and Amirtha University, Coimbatore	Dec. 9-11, 2009
14.	Dr. K.S. Reddy	Engineering Challenges of Deploying New Solar Energy Capacity in India	Royal Academy of Engg., London	Sept.28-29, 2009
15.	Dr. S.K. Das	2 nd ASME Micro/Nanoscale Heat & Mass Transfer Int. Conference (MNHMT09) and also chaired a session	Shanghai Jiaotong Univ. China	Dec. 18-21, 2009
16.	Dr. Ajit Kumar Kolar	Int. Conference on Advances in Energy Research (ICAER)	IIT Bombay	Dec, 9-11, 2009
17.	Dr. J.M. Mallikarjuna	National Conference on I.C. Engines and Combustion (NICEICE 2009)	BIET, Davanagere Karnataka	Dec. 10-12, 2009
18.	Dr. A. Ramesh	National Conference on I.C. Engines and Combustion (NICEICE 2009)	BIET, Davanagere Karnataka	Dec. 10-12, 2009
19.	Dr. J.M. Mallikarjuna	Int. Conf. on Applications and Design in Mech. Engg. (ICADME 2009)	School of Mechatronic Engg. Universiti Malaysia Malaysia	Oct. 13, 2009
20.	Dr. U.S.P. Shet	NCICEC 2009 at Davangere	Bapuji Institute of Engineering and Technology (BIET)	Dec 10-12, 2009
21.	Dr. V. Raghavan	NCICEC 2009 at Davangere	Bapuji Institute of Engineering and Technology (BIET)	Dec 10-12, 2009
22.	Dr. A. Mani	Eurotherm conference- International seminar on ejector/jet-pump technology and applications	Louvain-La-Neuve, Belgium	Sept. 7-9, 2009
23.	Dr. A. Mani	Alternative Energy using the Air-Seawater Temperature Difference	Kuwait Institute for Scientific Research (KISR), Kuwait	Oct. 4-8, 2009
24.	Dr. M.P. Maiya	International Conference on Applications and Design in Mechanical Engineering (ICADME)-09	School of Mechatronic Engineering, Universiti Malaysia Perlis (UniMAP) Penang, Malaysia.	Oct. 11-13, 2009
25.	Dr. S. Srinivasa Murthy	International Conference on 20th ISHMT and 9th ISHMT ASME Heat and Mass Transfer Conference - 2010	Nuclear Power Corporation of India Ltd, Anusakthi Nagar, Mumbai	Jan. 4-6, 2010
26.	Dr. Shaligram Tiwari	International Conference on 20th ISHMT and 9th ISHMT ASME Heat and Mass Transfer Conference - 2010	Nuclear Power Corporation of India Ltd, Anusakthi Nagar, Mumbai	Jan. 4-6, 2010

27.	Dr.Kumaraswamy S	36 th Natl. Conf. on Fluid Mech. And Fluid Power	College of Engg., Pune and Kirloskar Bros. Ltd., Pune	Dec.17-19, 2009
28.	Dr. Dhiman Chatterjee	36 th Natl. Conf. on Fluid Mech. And Fluid Power	College of Engg., Pune and Kirloskar Bros. Ltd., Pune	Dec.17-19, 2009
29.	Dr. BVSSS. Prasad	20 th National and 9 th International ISHMT-ASME Heat and Mass Transfer Conference	IIT Bombay	Jan. 4-6, 2010
30.	Dr. BVSSS. Prasad	36 th National Conference on Fluid Mechanics and Fluid Power	PUNE	Dec. 17-19, 2009
Short term Course:				
1.	Dr.Somashekhar S.Hiremath	Three days in-house Training Programme on 'Hydraulic Control System" for scientist of Vikram Sarabhai Space Centre (VSSC), Thiruvananthapuram	Vikram Sarabhai Space Centre (VSSC) Thiruvananthapuram	June 29 – July 1, 2009
2.	Dr. M. P. Maiya Dr. Shaligram Tiwari Dr. S. M. Shiva Nagendra	Short Term Training Programme and Continuing Education program on Air Delivery systems and Indoor Air Quality – An Engineering Perspective		July 13-18,2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. S. Narayanan	Passive and Active Noise Control	Thapar University, Patiala	Oct. 22, 2009
2.	Dr. P. Chandramouli	Condition Monitoring	Centre for Wind Energy Technology (CWET)	Dec. 10, 2009
3.	Dr. P. Chandramouli	Finite Element Method: Dynamics	Veltech Univ.	Jan. 5, 2010
4.	Dr. S. Narayanan	Role of various Stake Holders in Awarding/ obtaining Doctorate	Mahastra Academy of Engineering, Pune	Jan. 21, 2010
		Magneto Rheological Damper Applications in Vehicle Dynamics	IMMM2010, College of Engineering, Thiruvananthapuram	Jan. 14, 2010
5.	Dr. P. Chandramouli	Gearbox Condition Monitoring	CWET	Feb. 19, 2010
6.	Dr.M S Shunmugam	Gear Technology	All India Radio (AIR) Chennai	Feb. 20, 2010
7.	Dr.M S Shunmugam	A need for strong manufacturing base	Cochin University of Science and Technology	Mar. 22, 2010
8.	Dr.M S Shunmugam	Gear Manufacturing	Cochin University of Science and Technology	Mar. 23, 2010
9.	Dr.M S Shunmugam	Form measurement and assessment	Cochin University of Science and Technology	Mar. 24, 2010
10.	Dr.M S Shunmugam	Measurement and assessment of surface topography	Cochin University of Science and Technology	Mar. 25, 2010
11.	Dr.M S Shunmugam	Micromachining and Nano measurements	Cochin University of Science and Technology	Mar. 26, 2010
12.	Dr.B Ramamoorthy	Computer aided inspection	HBKR College of Engineering, Nellore	July 15, 2009
13.	Dr. N Ramesh Babu	Advances in Manufacturing Technology	NBKR Institute of Technology, Nellore	July 17, 2009
14.	Dr. N Ramesh Babu	Abrasive Waterjet Micro Machining	IIT Kanpur	July 24, 2009
15.	Dr. N Ramesh Babu	Unconventional Machining Waterjet Technology	Yeungnam University, Korea	Nov. 24, 2009

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
16.	Dr. N Ramesh Babu	Experimental research	FL SMIDTH	July 17, 2009
17.	Dr. N Ramesh Babu	Waterjet Technology and its application	IIT Madras	Jan.18-23, 2010
18.	Dr. N Ramesh Babu	Activities on Precision Engineering at IIT Madras	CIRP Paris, France	Jan. 21, 2010
19.	Dr. N Ramesh Babu	German Cooperation In Technical Education And Research and Efforts On Sustainable Manufacturing	Indo-German Innovation Platform, Pune	Mar. 12, 2010
20.	Dr. L. Vijayaraghavan	Product Life cycle Management	Sri Andal Alagar College of Engg., Mamandur	Mar. 5, 2009
21.	Dr. L. Vijayaraghavan	Machining of composites	Institution of Engineers, Andhra Pradesh chapter	July 17, 2009
22.	Dr. G L Samuel	Communication skills, workshop on fundamentals of research in management and engineering	FL SMIDTH	July 17, 2009
23.	Dr. G L Samuel	Data Acquisition in Mechatronics, STTP on Mechatronics	IIT Madras	Jan. 18-23, 2010
24.	Dr. C. Balaji	Rainfall Estimation from Satellite Radiances	Institute of Mathematical Sciences, Chennai	April 4, 2009
25.	Dr. C. Balaji	Advanced Numerical Methods in Atmospheric Sciences	Air Force Administrative College, Coimbatore	April 27, 2009
26.	Dr. C. Balaji	An ANN driven MCMC Algorithm for the Retrieval of Temperature and humidity profiles in the atmosphere from multi spectral infrared radiances	Centre for Atmospheric & Oceanic Sciences, IISc., Bangalore	June 18, 2009
27.	Dr. C. Balaji	Optimization in Thermal Engineering	ISRO Satellite Centre, Bangalore	July 3, 2009
28.	Dr. C. Balaji	Optimization of Conjugate Heat Transfer from Discrete Protruding Heat Sources	IISc. Bangalore	July 6, 2009
29.	Dr. K.S. Reddy	Advances in Solar Power Generation	MIME Alternative energy Seminar, Univ. of Toledo, USA	Sept. 4, 2009
30.	Dr. C. Balaji	Estimation of Rainfall from Satellite Microwave Radiances	IIT Mumbai	Jan. 6, 2010
31.	Dr. C. Balaji	Satellite Meteorology and Nowcasting	Air Force Administrative College, Coimbatore	Dec. 21, 2009
32.	Dr. C. Balaji	Optimization with New Generation Techniques	Govt. Engg. College, Kozhikode	Dec. 16, 2009
33.	Dr. S.K. Das	Introduction of Nanofluids	Korea University, Seoul	Feb.24, 2010
34.	Dr. S.K. Das	Future Technology of Nanofluids	Korea Institute of Technology, Seoul	Feb. 25, 2010
35.	Dr. Ajit Kumar Kolar	Advanced Coal Combustion Technologies for Power Generation in India	International Conference on Advances in Energy Research – Work shop on clean coal Technologies	Dec. 10, 2009
36.	Dr. M.K. Gajendra Babu	Electronic Instrumentation for Engine Research	KCG College of Technology, Chennai	April 8, 2009
37.	Dr. A. Ramesh	Electronically Controlled Fuel Injection system for Diesel Engines	KCG College of Technology, Chennai	April 9, 2009
38.	Dr. A. Ramesh	Delivered a key note address on Alternate Gaseous Fuels for Engines	NCICEC Conf., BIET, Davanagere	Dec. 10, 2009
39.	Dr. A. Ramesh	Delivered an invited lecture on Use of Hydrogen in I.C. Engines	IIT Kanpur	Jan. 12, 2010
40.	Dr. V. Ganesan	Recent Trends in Engine Management Systems and Alternative Fuels	Madras Institute of Technology, Chennai	March 23, 2010

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
41.	Dr.M.Singaperumal	Mobile Hydraulics at CEP Programme	Caterpillar	April 11, 2009
42.	Dr.Somashekhar S.Hiremath	Actuators-Constructions and Operations and Servohydraulics'	Caterpillar	April 4, 2009
43.	Dr.Somashekhar S.Hiremath	Mobile Hydraulics	Caterpillar	April 24 – May 1, 2009
44.	Dr.Somashekhar S.Hiremath	Hydraulic control systems	Vikram Sarabhai Space Centre	June 29- July 1, 2009
45.	Dr.Somashekhar S.Hiremath	Industrial Hydraulics	L & T Training Centre, Mysore	Sept. 14-15, 2009
46.	Dr.Somashekhar S.Hiremath	Jet Pipe Electrohydraulic Servovalve	CVRDE	Feb. 10, 2010
47.	Dr.Somashekhar S.Hiremath	Actuator dynamics through Finite Element Method during National Conference on Mechanical Engineering Trends – COMET - 2010	Ballari Institute of Technology and Management Ballari	Feb. 19 – 20, 2010
48.	Dr.Somashekhar S.Hiremath	Jet Pipe Electrohydraulic Servovalve	CVRDE, Ministry of Defence, Avadi, Chennai	Feb. 10, 2010
49.	Dr.Somashekhar S.Hiremath	Design and Applications of Robotic Systems and Advanced Mechanisms	JNTU Hyderabad	March 8–9 , 2010
50.	Dr.Somashekhar S.Hiremath	Role of Microsensors and Microactuators	CVRDE	March 22, 2010
51.	Mr.P.V.Manivannan	Application of Embedded System in Automobiles	S.A.Engg.College	March 25, 2010
52.	Dr.Kumaraswamy S	Challenges for choice of micro-hydro power in remote areas	College of Engg., Pune and Kirloskar Bros. Ltd., Pune	Dec. 17, 2009
53.	Dr.Kumaraswamy S	Flow measurement	NIT Trichy	July 9, 2009
54.	Dr.Kumaraswamy S	Error analysis	NIT Trichy	July 10, 2009
55.	Dr.Kumaraswamy S	Pumps and water turbines	VIT University, Vellore	July 3, 2009
56.	Dr.Kumaraswamy S	Hydraulic Turbines	Jaya Engg. College, Chennai	Dec. 7, 2009
57.	Dr.Kumaraswamy S	Pumps for Power Plants	Jaya Engg. College, Chennai	Dec. 7, 2009
58.	Dr. BVSSS. Prasad	Invited lecturer	Maharaj Vijayaram Gajapathi Raj College of Engg., Vijayanagaram	May 25-26, 2009
59.	Dr. M. Govardhan	Invited lecturer	M.S. Ramaiah School of Advanced Studies, Bangalore	July 17, 2009
60.	Dr. BVSSS. Prasad	Challenges in thermal Hydrolic of Nuclear Reactor	IGCAR	Feb. 19, 2010

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. P. Chandramouli	UK	April 4-9, 2009	Attending NOVEM 2009	Project
2.	Dr. A. S. Sekhar	Krakow, Poland	July 5–9, 2009	Presented two papers at International Conf. ICSV-16 - Chaired one session	Institute

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
3.	Dr. S. Narayanan	Malaysia	Aug. 24-28, 2009	To attend the Conference on Recent Advances in Nonlinear Mechanics, (RANM 2009).	IIT Madras
4.	Dr. P. Chandramouli	Wuhan, China	Aug 26-28, 2009	To attend the Conference	IIT Madras
5.	Dr. V. Raghu Prakash	Singapore	Aug 26-29, 2009	To present 2 papers on Int. Conference	IIT Madras
6.	Dr. N. Siva Prasad	Universiti Malaysia Sabah, Kota Kinabalu	Oct. 14-16, 2009	To attend the Conference and give a invited talk	--
7.	Dr M M Mayuram	Chicago Memphis, Tennessee USA Los Angeles	Oct.17-18, 2009 Oct. 19-21, 2009 Oct. 23-24, 2009	Presenting paper in the ASME/STLE International Joint Tribology Conference	
8.	Dr M M Mayuram	Malaysia	Oct. 26-29, 2009	Presenting paper in the ASME/STLE International Joint Tribology Conference	
9.	Dr. V. Raghu Prakash	USA NC A&T, NC, Greensboro	Nov.16-23, 2009	Chair a session / Present a paper at ASME 2009 Technical discussion	PCF, IIT Madras
10.	Dr. M S Shunmugam	USA	Oct. 9-11, 2009	PAN- IIT 2009	IIT Madras
11.	Dr. B Ramamoorthy	Russia	June 28 - July 15, 2009	To attend an International Conference ISMTII 2009 and to visit Universities and Research institutions	IIT Madras
12.	Dr. B Ramamoorthy	Belgium	Oct. 20-24, 2009	WILL Power Erasmus Mundus Coordinators conference on Higher Education at European Commission Office as an Indian Representative	European Commission Project
13.	Dr. B Ramamoorthy	France	Dec. 12-17, 2009	WILL Power Erasmus Mundus Coordinators Committee (COC) meeting	European Commission Project
14.	Dr. N Ramesh Babu	Korea	Nov. 20-25, 2009	Guest Lecture on Unconventional Machining Waterjet Technology	Yeungnam University, Korea
15.	Dr. N Ramesh Babu	France	Jan. 20-23, 2010	Presentation of activities on precision engineering	IIT Madras
16.	Dr.L Vijayaraghavan	Russia	June 28 - July 15, 2009	To attend an International Conference ISMTII 2009 and to visit Universities and Research institutions	IIT Madras
17.	Dr. G L Samuel	USA	Oct. 4-9, 2009	To attend 24 th Annual Meeting of American society of Precision Engineering	IIT Madras
18.	Dr. K.S. Reddy	Rochester Institute of Technology USA	Sept. 7, 2009	For possible collaborative research	IIT Madras
19.	Dr. K.S. Reddy	Southern Methodist Univ., USA	Sept. 8, 2009	For possible collaborative research	IIT Madras

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
20.	Dr. S.K. Das	Korea Inst. Of Energy Research Korea	Feb. 23 -25, 2010	To discuss potential collaborations in the areas of mutual interest including nanofluids	IIT Madras
21.	Dr. J.M. Mallikarjuna	Malaysia	Oct. 13, 2009	To present research paper	IIT Madras
22.	Dr. M.Singaperumal	Rochester, Yew York, USA	May 11 -14, 2009	To attend and poster presentation in the SPIE International Symposium on Optifab 2009	IIT Madras
23.	Dr.Somashekhar S.Hiremath	Gwangju, Korea	Dec. 3- 5, 2009	Chaired the two technical sessions " Robotics and human interface II" and "Intelligent Control and System I" at 2009 International Conference on Mechatronics and Information Technology(ICMIT),Gwangju Institute of Science and Technology(GIST), Gwangju Science and Technology Park, Gwangju, Korea	
24.	Dr.Somashekhar S.Hiremath	Dubai, UAE	Dec. 28-30, 2009	Worked as a Technical Committee Member in the 2 nd International Conference on Computer and Electrical Engineering (ICCEE 2009).	
25.	Dr. Dhiman Chatterjee	Greece	Sept. 23-25, 2009	Attended a Workshop on Bubbles and Drops Interfaces	Institute
26.	Dr. BVSSS. Prasad	Orlando, Florida, US	June 8-12, 2009	ASME Turbo Expo 2009	PCF Funds
27.	Dr. BVSSS. Prasad	Antalya, Turkey	August 9-14, 2009	Turbine 2009	PCF funds
28.	Dr. M. Govardhan	Malaysia	Oct. 14-16, 2009	ICADME-09	Institute
29.	Dr. BVSSS. Prasad	Malaysia	Oct. 21-23, 2009	10 th AICF	Institute
30.	Dr S P Venkateshan	Poland	June 28 – July 3, 2009	7 th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics	Institute

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
Awards:					
1.	Dr.Ajit Kumar Kolar	Bhagyalakshmi-Krishna Iyengar Award	IIT Madras	Best M.Tech/DD Project guidance	April 2010
2.	Dr. V. Ganesan	P.K.Das Memorial Best Faculty Award	Nehru Educational and Charitable Trust, Kuniyamuthur, Coimbatore	Best Faculty	Dec.15, 2009

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr. C. Sujatha	Vibration and Acoustics: Measurement and Signal Analysis	Tata McGraw –Hill Education Private Limited, New Delhi, 2009	Dr. C. Sujatha
2.	Dr. M S Shunmugam	Mechanical Engineering Design (in SI Units)	Tata McGraw Hill	Dr. N Sivaprasad Dr. S Krishnamurthy
3.	Dr. Sarit Kumar Das	Fundamentals of Heat and Mass Transfer	Narosa Publishing House Limited, New Delhi	NIL
4.	Dr. S.P. Venkateshan	Heat Transfer	Ane Books Pvt. Ltd., New Delhi	NIL
5.	Dr. V. Ganesan	Internal Combustion Engines	Tata McGraw Hill, (3 rd Edn.), New Delhi	--
6.	Dr. V. Ganesan	Heat Transfer	Pearson Education, India 2009	A F Mills
Monographs:				
01.	Dr.Somashekhar, S.Hiremath	Modeling and Analysis of the Jet Pipe Electrohydraulic Servovalve(2010)	Lambert Academy Publishing, Germany	

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Humboldt Fellowship:		
1	Dr. A.Seshadri Sekhar	May – July 2010
INAE:		
1	Dr. S. Narayanan	1997
Others:		
AeSI	Dr. S. Narayanan	1995

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	Dr. M S Shunmugam	Reviewer	Precision Engineering
2.	Dr. M S Shunmugam	Reviewer	International Journal of Machine Tools and Manufacture
3.	Dr. M S Shunmugam	Reviewer	The International Journal of Advanced Manufacturing Technology
4.	Dr. M S Shunmugam	Reviewer	Journal of Intelligent Manufacturing Systems
5.	Dr. M S Shunmugam	Reviewer	American Society Of Mechanical Engineers
6.	Dr. M S Shunmugam	Reviewer	Wear
7.	Dr. M S Shunmugam	Reviewer	International Journal of Production Research
8.	Dr.B Ramamoorthy	Member	International Journal of Tribology and Surface Engineering
9.	Dr.N Ramesh Babu	Reviewer	Proceedings of Institution of Mechanical Engineers, Journal of Engineering Manufacture – Part B
10.	Dr.N Ramesh Babu	Reviewer	International Journal of Production Research
11.	Dr.N Ramesh Babu	Reviewer	Robotics
12.	Dr.N Ramesh Babu	Reviewer	International Journal of Computers in Industry
13.	Dr.N Ramesh Babu	Reviewer	Applied Soft Computing Journal

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
14.	Dr.N Ramesh Babu	Reviewer	International Journal of Machining and Machinability of Materials
15.	Dr. G L Samuel	Reviewer	Precision Engineering
16.	Dr. G L Samuel	Reviewer	Computer Aided Design
17.	Dr. G L Samuel	Reviewer	Assembly Automation
18.	Dr. G L Samuel	Reviewer	Journal of Materials research
19.	Dr. G L Samuel	Reviewer	International Journal of Automation and Control
20.	Dr. G L Samuel	Reviewer	International Journal of Microstructure and Materials Properties
21.	Dr. S.K. Das	Editor-in-Chief	International Journal of Micro-Nano Scale Transport, U.K.
22.	Dr. V. Ganesan	Editor-in-Chief	International Journal of Green Energy, Energy and Environment from April 2010
23.	Dr. M. Govardhan	Member	Journal of Thermal Science

4.13.4 Design and Development Activities:

Brief and specific details of Process/Instruments/Equipment/ Software designed and developed:

Magneto Rheological Abrasive Honing - a new micron level polishing/finishing process has been developed (Sadiq A – Research Scholar; Dr.M S Shunmugam – Research Guide)

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	Model Analysis Software M+P International	Euro 11,375/-
2.	Electro Dynamic Shaker System MB Dynamics	USD 11,200/-
3.	V Rail Software procured through NPOL project	1.90
4.	A 5KN UTM has been procured through project funds	3
5.	Particle Image Velocimetry (PIV)	1 crore
6.	WMR robot research platforms (two numbers)	5.00
7.	7 d.o.f Robotic ARM for WMR	3.50
8.	Mechatronics Kit	13.00
9.	Computer systems and accessories	5.00
10.	Pelton turbine test rig	4.004
11.	Francis turbine test rig	4.056

Patents:

a. Patents filed:

Sl. No.	Name of faculty	Topic of patent
1	Dr. Sharnit Bakshi Dr. A. Ramesh Bejoy, M.D.	A Device for Direct Injection of Gasoline into a Combustion System

b. Patents awarded:

Sl.No.	Name of faculty	Topic of patent
1.	Dr.G. Venkatarathnam	Refrigerant Composition for a Refrigeration System - deals with a new method for providing refrigeration using a mixture of refrigerants.
2.	Dr. Kumaraswamy S and Pedda Peerialah C	An axial flow impeller with twistless or single curvature shape vanes or blades, particularly, though not exclusively for axial flow turbomachines

4.13.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Fault identification and condition monitoring of rotating machinery using laser based measurements	2007-2010	DST	37.5	Dr C. Sujatha Dr P. Chandramouli Dr S. Swarnamani
2.	Estimation of damping and Analysis of Damage Effects in Composite Rotors	2007-2010	ARDB	11.65	Dr A Seshadri Sekhar
3.	MR damper for three wheeler application	Sep. 2007 to March 2010	Naval Physical and Oceanographic Laboratory, Kochi	9.96	Dr C. Sujatha Dr S. Narayanan
4.	Torsional Rotor-dynamics using Laser vibrometer	2008-2010	DST	25.00	Dr A. Seshadri Sekhar Dr P. Chandramouli
5.	Investigations into Micro-mechanical machining of metals and Non-metals	2007-2011	DST	353.35	Dr. M S Shunmugam Dr. M Singaperumal
6.	CAR Consortium Project		TIFAC	953	Dr. G.L. Samuel
7.	Development of Ice bonded Abrasive Polishing	2007-2010	ARDB	16.32	Dr.N Ramesh Babu
8.	In process measurement and evaluation of surface roughness using non contact sensor based measurement system	2008-2010	CSIR	10.91	Dr. G L Samuel
9.	Porous Medium Enhanced Energy Efficient Solar Parabolic Through Collector	3 ½ years From April 2005	MHRD	15.00	Dr. K. Srinivas Reddy Dr. Arunn Narasimhan
10.	Unit of Nano Science Technology (UNANST-DST)	01.12.2004 to 30.11.2009	DST	230.00	Dr. T. Pradeep Dr. Sarit K. Das Dr. T. Sundararajan
11.	Experimental and Modelling Studies of Free Breathing Fuel Cells	30.10.2007 to Oct. 2010 (3 years)	Ministry of New & Renewable Energy	15.35	Dr. Ajit Kumar Kolar Dr. K. Srinivas Reddy
12.	Retrieval of Atmospheric Temperature and Humidity Profiles from Satellites Infrared Sounder Observations	3 years	Space Appln. Centre, ISRO, Ahmedabad	13.15	Dr. C. Balaji Dr. S.P. Venkateshan
13.	Modelling and Experiments of water management problem in a PEM Fuel Cell	3 years	Ministry of New and Renewable Energy (MNRE)	11.70	Dr. S.K. Das Dr. T. Sundararajan

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
14.	The Role of Size and Volume Fraction of Nano-particles to Enhance Heat Transfer Property of Nanofluids	2 years	DMSRDE DRDO Defence Materials and Stores & Development Establishment)	9.70	Dr. S.K. Das Dr. T. Sundararajan
15.	Development of a solar concentrator for solar water desalination	3 years	DST-UKIETI British Council	29.17	Dr. K. Srinivas Reddy
16.	Design and Development of Solar Parabolic Trough Collector for Direct Steam Generation	3 years	DST	34.00	Dr. K.S. Reddy Dr. Ajit Kumar Kolar
17.	Studies of the Transport of Hydrogen-air-steam Mixture within a Confinement	3 years	AERB	25.44	Dr. Sarit Kumar Das
18.	A New Method Multi-Satellite Radiance Assimilation in Regional Models	5 Years	DST	83.88	Dr. C. Balaji
19.	Thermal Conductivity Analysis of Straight Vegetable Oils (SVO)	6 months	International Centre for Automotive Technology under TIFAC	9.06	Dr. K.S. Srinivas Reddy
20.	Augmentation of Research Facilities	2006-2008	DST	158.00	Dr. V. Ganesan Dr. J.M. Mallikarjuna
21.	Use of Straight Vegetable Oil in I.C. Engines	2008-2010	TIFAC-DST	36.84	Dr. Pramod S. Mehta Dr. Shamit Bakshi
22.	Experimental and numerical investigations on cold-flow of gasoline Direct injection (GOI) Engine using possible image velocimetry (PIV) and computational Fluid Dynamics (CFD)	2008-2010	DST	16.75	Dr. J.M. Mallikarjuna
23.	Development of a Fuel Efficient Two-stroke Direct Injection Spark Ignition (TDISI) Engine Running on Gaseous Fuels for Two and Three Wheeler Applications	March 2009 to 2012	DST	32.90	Dr. A. Ramesh Dr. M.K.Gajendra Babu
24.	Design and Analysis of Ejection System for Towed Flexible Cylinder	2 years	NPOL Kochi	30.408	Dr.BVSSS Prasad, Dr. Sandipan Bandyopadhyay Dr. Dhiman Chatterjee and Dr. YVSS Sanyasiraju
25.	Upgrading facilities for MEMS design activities	3.5 years	Natl. Prog. On Micro and Smart Systems	38.739	Dr. Enakshi Bhattacharya Dr. Dhiman Chatterjee
26.	Experimental Studies on Hydraulic Transport of Large Solids in Hoses	4 years	National Institute of Ocean Technology	29.82	Dr. Kumaraswamy, S.

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
27.	Studies on the performance of a pump working as a turbine (running at variable speed) with an electronic controller developing constant voltage at constant frequency	2 years	Rural Technology Action Group	1.80	Dr. Balabaskaran, V. Dr. Kumaraswamy, S.
28.	Studies on hydraulic lifting and Plugging of large solids in hoses	1 year	National Institute of Ocean Technology	21.00	Dr. Kumaraswamy, S.
29.	Augmentation of Research Facilities	March 2005- Feb. 2010	DST	38.00	Dr. M. Govardhan Dr. N. Sitaram Dr. BVSSS Prasad
30.	Development of a CFD modeling blockage coolant flow path in a fast breeder reactor fuel sub-assembly	3 years	IGCAR	12.91	Dr. BVSSS. Prasad
31.	Multisensor Hot Film Anemometry for Periodic Flow Measurements	Dec. 2009 – Nov. 2010	ARDB	04.73	Dr. N. Sitaram
32.	Hot air calibration of five hole probes	3 years	BRNS	33.16	Dr. N. Sitaram Dr. M. Govardhan
33.	Design and Analysis of Ejection System for Towed Flexible Cylinder	3 years	NPOL, Kochi	30.00	Dr. BVSSS. Prasad Dr. Dhiman Chatterjee Dr. YVSS. Sanyasiraju Dr. Sandhipan
34.	Computational Investigations of Single and Two Phase Flows in Creep Distorted Rod-Bundles	3 Years	BRNS	16.80	Dr. BVSSS. Prasad Dr. BSV. Prasad Patnaik

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr Raghu Prakash	Mechanical Properties of brake pad materials	Rane Brake Lining Ltd., Chennai	0.30
2.	Dr P Chandramouli Dr Parag Ravindran Dr C Sujatha	Seismic Testing of CTs/CVTs	Rane Brake Lining Ltd.	8.00
3.	Dr P Chandramouli Dr Parag Ravindran	Seismic Testing of CB	Rane Brake Lining Ltd.	1.50
4.	Dr Parag Ravindran Dr C Sujatha Dr A Seshadri Sekhar	Seismic Testing of CT/CVTs	ABB Limited	8.90
5.	Dr Parag Ravindran Dr C Sujatha Dr A Seshadri Sekhar	Seismic Testing of Circuit Breakers	Areva T & D Limited	2.50
6.	Dr. P. Chandramouli	Noise reduction of washing machines	Whirlpool	1.10
7.	Dr. P. Chandramouli	Vibration of T72 tank with in-arm hydro-gas suspension	CVRDE	1.98
8.	Dr.P. Chandramouli Dr.C. Sujatha Dr.S. Swarnamani Dr.Parag Ravindran Dr. A. Seshadri Sekhar Dr V. Raghu Prakash	Seismic testing of electrical equipment	Many industries	76.00

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
9.	Dr. G L Samuel	Improvement of the existing model of combination switch for heavy vehicles	Electron Electronics	1.75
10.	Dr. G L Samuel	Design and Development of double lever combination switch	Electron Electronics	2.50
11.	Dr. K.Srinivas Reddy	Thermal Conductivity Test for LRB Mattresses and Calcium Silicate	M/s Lloyd Insulations (India) Ltd., Chennai	0.33
12.	Dr. C. Balaji Dr. Balaji Srinivasan Dr. Harishankar Ramachandran	Distributed High Temperature Sensor for Flue Gas Monitoring – Technology Demonstration	BHEL Thiruchirappalli	3.96
13.	Dr. Pramod S. Mehta	Testing of MK20 HSP Greaves Cotton Petrol Engine as per IS 7347	M/s Greaves Cotton Ltd., Chennai	1.51
14.	Dr. A. Ramesh	Performance Evaluation of a Single Cylinder SI Engine	M/s Greaves Cotton Ltd., Chennai	1.93
15.	Dr.J.M. Mallikarjuna Dr. A. Ramesh Dr. V. Ganesan	Evaluation of Scavenging Characteristics of a different Port Configurations of a Two-Stroke Moped Engine using Skip Fire, Jante's Method and PIV Technique	M/s TVS Motors Limited, Chennai	12.00
16.	Dr. J.M. Mallikarjuna	Testing of Your Engine for Performance and Emission Characteristics	M/s Luminous Teleinfra Limited, Chennai	0.36
17.	Dr.M.Singaperumal Dr.P.Sriram Mr.P.V.Manivannan	Establishment of VIRTUAL AND REMOTE ROBOTICS LABORATORY Under National Mission for Virtual Laboratories	Ministry of Human Resources and Development, Govt.of India	2.60
18.	Dr.Somashekhar S Hiremath	Experimental Investigations into micro-electro-chemical-discharge-machining on ECDCM	NFSC	5.00
19.	Dr Asokan T Dr. Somashekhar S Hiremath	Modelling, Simulation and Development of a Parallel Platform for Under Water Research...	AUTD	10.80
20.	Dr Asokan T Dr. Somashekhar S Hiremath	Modelling, Simulation and Development of a Parallel Platform (6dof) for Under Water Research Applications using AUTODESK products	AUTD	02.52
21.	Dr.Singaperumal, M Dr.Asokan T Dr.Somashekhar S Hiremath	Mechatronics Consultancy	HTSL	04.00
22.	Dr. Kumaraswamy, S., Dr. Swaminathan, T. (Ch.E.) and Dr. Ramamurthy, K. (C.E.)	Establishment of the RO Plant Including Treatment of The RO Reject	Tamilnadu Coop. Textile Processing Mills Ltd	3.50
23.	Dr. Kumaraswamy, S., Dr. Swaminathan, T. and Dr. Murthy, D.V.S. (Ch.E.)	Improvement of Existing Effluent Treatment Plant	Tamilnadu Coop. Textile Processing Mills Ltd	1.00
24.	Dr. Kumaraswamy, S.	Expert Opinion on Pump Test Rig Arrangement	Titanium Tantalum Products Ltd	0.30
25.	Dr. Kumaraswamy, S.	Pump Testing and Verification of Guarantees	Flowell Pump Industries	0.25
26.	Dr. Kumaraswamy, S.	Review of DPR for Mini Hydel Scheme	Ceebros Power Generation Pvt.ltd	0.50
27.	Dr. Kumaraswamy, S.	Consultancy for development of pumps	Beacon weir Ltd.	1.00

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
28.	Dr. Kumaraswamy, S.	Expert technical opinion on the proposed sizing of the Pump	Titanium Tantalum Products Ltd	0.10
29.	Dr. Kumaraswamy, S.	Consultancy for reviewing the design of a pump	Beacon Industries and Pumps Ltd.	0.20
30.	Dr. Kumaraswamy, S.	Analysis of Cooling water pump performance curve	Praxair India Pvt. Ltd	0.10
31.	Dr. Kumaraswamy, S. and Dr. Mohan, S. (C.E.)	Site visit and discussion to improve the quality of cooling water supply to ETPS	Ennore Thermal Power station, TNEB	0.30
32.	Dr. Kumaraswamy, S.	Trouble shooting the cause for the damage of the impeller	Titanium Tantalum Products Ltd	0.15
33.	Dr. Kumaraswamy, S.	Design and development of a pump	Vita Technology Pvt. Ltd.	2.00
34.	Dr. Kumaraswamy, S.	Testing of 1 kW micro-hydro set	Prakruti Hydro labs	0.30
35.	Dr. BVSSS. Prasad	CFD Modeling of Banking Oven	Britania Industries, Chennai	2.00
36.	Dr. BVSSS. Prasad	Studies on Lime Stone Characterization, Flue Gas Sampling, Sintering and Depositions Analysis of CFB Boiler Phase-I In-situ Experiments and Collection of Samples	BHEL, Trichy	20.00
37.	Dr. BVSSS. Prasad	CFD analysis on duct vibration	Alstom Power Systems, Noida	1.00
38.	Dr. N. Sitaram	Calibration Of S Type Pitot Probes	Intratech Engineers Chennai	0.07
39.	Dr. N. Sitaram	Calibration Of S Type Pitot Probes	Sartech International Chennai	0.04
40.	Dr. N. Sitaram	Calibration Of Pitot Static Probes	Flakt (India) Ltd Chennai	0.09

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr P. Chandramouli Dr C. Sujatha Dr. S. Swarnamani	Vehicle Simulator for MBT Arjun	CVRDE, Chennai	49.50
2.	Dr. P. Chandramouli Dr. S. Narayanan	Breathing Wave Measurements	NPOL, Kochi	09.60
3.	Dr.C. Sujatha Dr. P. Chandramouli	Mathematical Modeling Of Power Train Dynamics Of Tracked Vehicle (T72 Simulator)	Army Technology Board, Secunderabad	10.00
4.	Dr.M S Shunmugam	Bend Sequence Planner	Amada Soft (India) Ltd	12.00
5.	Dr.N Ramesh Babu	Development of intelligent algorithms for Nesting of 2D shapes in 2D sheets	Amada Co. Ltd., Japan	19.83
6.	Dr. V. Ganesan	Modeling of Steady Flow Through Intake and Exhaust Manifolds	Infosys Technologies Ltd., Bangalore	15.00
7.	Dr. V. Ganesan	CFD Modeling and Analysis of Intake and Exhaust System	e-Engg Solution, L & T Technology, Vadodara	12.00
8.	Dr. V. Ganesan	Consultancy and Technical Study on Self-Cleaning Air Cleaning System and Compact Air Cleaning (Secondary Filtration After Turbocharger Compressor) for Armoured Fighting Vehicles	CVRDE Avadi Chennai	09.20

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
9.	Dr. A. Ramesh Dr. V. Ganesan Dr. J.M. Mallikarjuna Mr. P.V. Mannivannan	Development of Hydrogen Engine for Passenger Bus Application	M/s Tata Motors Limited, Pune	94.00
10.	Dr. V. Ganesan	Characterization of Urea Spray Delivery, Mixing and Hydrolysis in a SCR Device	M/s General Motors, Bangalore	15.33
11.	Dr. A. Ramesh	Bio-diesel Engine Performance, Emissions and Combustion Study	M/s Reliance Industries Ltd., Maharashtra	05.60
12.	Dr. A. Ramesh	Feasibility Study of a Wobble Plate Engine	M/s NSTL	12.00
13.	Dr.Singaperumal, M Dr.Somashekhar S Hiremath	Numerical Characterization of Jet pipe Electrohydraulic Servo valve	RCIX	09.71
14.	Dr. Kumaraswamy, S., Dr. Balabaskaran, V. Dr. Dhiman Chatterjee	CFD Simulation of flow through Francis Turbine using CFX software and its validation for tested models	BHEL, Bhopal	14.00
15.	Dr. Kumaraswamy, S., Dr. Balabaskaran, V. Dr. Dhiman Chatterjee	Development of methodology for CFD Analysis for Kaplan Turbine	BHEL, Bhopal	18.00
16.	Dr. Kumaraswamy, S.	Configuration and design of high pressure hydraulic booster turbopump	LPSC, Trivandrum	4.75
17.	Dr. M. Govardhan	Performance improvement of BAB2 fan using CFD analysis	BHEL, Ranipet	7.50
18.	Dr. BVSSS. Prasad	Flow & conjugate thermal analysis of vikas Engine turbo pumps	LPSC, Trivanthapuram	2.00
19.	Dr. BVSSS. Prasad	Review of CFB Design & Component Performance Prediction	BHEL, Trichy	15.00
20.	Dr. BVSSS. Prasad	Experiments analysis and survey of profiles for airpreheaters	BHEL, Trichy	4.00
21.	Dr. BVSSS. Prasad	CFD study of 182MW gasifier along with loop seal pressure balance and the effect of recycling	BHEL, Trichy	10.00
22.	Dr. BVSSS. Prasad	Simulation and modeling studies on pre-drying of coal using waste heat recovered from flue gas	BHEL, Trichy	4.00
23.	Dr. BVSSS. Prasad	Expert review of CFB boiler site performance and design development	BHEL, Trichy	16.00
24.	Dr. BVSSS. Prasad	Analysis of pressurised heat recovery system for IGCC application	BHEL, Trichy	20.00
25.	Dr. BVSSS. Prasad	Scale-down Models of 125MWe and 250MWe circulating fluidized bed boiler design, fabrication and testing	BHEL, Trichy	20.00

Retainer Consultancy:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr. P. Chandramouli	Noise & Vibration reduction of air compressors	ELGI	0.7
2.	Dr. Kumaraswamy, S.	Retainer Consultancy services	Anticorrosive equipment Pvt. Ltd., Gundlav	2.4

Exchange programme with other Universities including Institutions/Universities under MOU;

Faculty members participation with other institution under MoU:

Sl. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
01	Dr.Somashekhar, S.Hiremath	Selected as a Visiting Professor at ECOLE CENTRALE DE MANTES, FRANCE	European commission through the WILLPower network from 1 st June 2010 to 30 th June 2010.

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals:	----	10
Total No. of papers published in Refereed International Journals:	---	162
Total No. of papers presented in National Conferences:	---	17
Total No. of papers presented in International conferences:	----	103

In Refereed National Journals:

1. Pankaj Kumar and S. Narayanan "Numerical Solution of multidimensional Fokker – Planck equation for non linear stochastic dynamical systems." accepted for publication in the Journal of Advance in Vibration Engineering. (In Press), May 2009
2. R. S. Prabakar, C. Sujatha and S. Narayanan, "Optimal Semi-active Preview Control Response of a Half Car Vehicle Model with Magnetorheological Damper". Journal of Sound and Vibration, Vol. 325, 326 (3-5), pp (400-420), July 2009.
3. Pankaj Kumar and S. Narayanan, "Numerical Simulation of Multidimensional Fokker-Planck Equation for Non linear Dynamical Systems" Advances in Vibration Engineering, 8 (2); pp 153 – 163, 2009.
4. P. Kumar and S. Narayanan, "Modified Path Integral Solution of Fokker - Planck Equation: Response and Bifurcation of Nonlinear Systems" ASME Journal of Computational and Nonlinear Dynamics 5(1) Article No. 011004, Jan 2010
5. K. Saravanan and A. S. Sekhar, "Vibrations of Composite Material Beam and Shaft-Laser Vibrometer Vs Accelerometers" NACOMM-09, NIT Durgapur, pp: 360-365.
6. Murali Krishna, B. and Mallikarjuna, J.M., "In-cylinder Tumble flows in a Motored Internal Combustion Engine – Experimental Investigation Using Particle Image Velocimetry", Institution of Engineers (India) - MC, Vol. 90, October 2009.
7. Purushothama, H.R., Mallikarjuna, J.M., and Ganesan, V., "Improvement in Part-load Performance of a Manifold Injected Spark Ignition Engine – An Experimental Investigation, Accepted for Indian Journal of Engineering and Material Sciences, Dec. 2009.
8. Thundil Karuppa Raj, R. and Ganesan, V., "Experimental Study of Recirculating Flows Induced by Vane Swirler", Indian Journal of Engineering and Material Sciences, India, Vol.16, 2009, pp.14-22
9. Karunakaran, E. and Ganesan, V., " Mean Flow Field Measurements in an Axisymmetric Conical Diffuser with and without inlet flow distortion", Indian Journal of Engineering & Materials Sciences, Vol. 16, August, 2009, pp 211-219.
10. Somashekhar S.Hiremath. Gauging frequency response, enhancing hydraulic Systems performance. SEARCH- The Industrial Sourcebook, vol.12, No.11, November 2009. p.94 and p.96.

In Refereed International Journals:

1. Ramkumar, K. Kannan and R. Gnanamoorthy, "Experimental and theoretical investigation of a polymer subjected to cyclic loading (In press) International Journal of Engineering Science, July 2009
2. Unnikrishnan S. Nair, C. D. Shete, C. Padmanabhan, A. Subramoniam and K. L. Handoo, 2010, "Experimental and computational investigation of coupled resonator-cavity systems," Applied Acoustics, vol. 71, pp. 61-67.
3. H. Kalyan Raj and C. Padmanabhan, 2009, "A new passive non-linear damper for automobiles," Proceedings of the Institution of Mechanical Engineers, Part D: Journal of Automobile Engineering, vol. 223, pp. 1435-1444.
4. P. Jeyaraj, N. Ganesan and C. Padmanabhan, 2009, "Vibration and acoustic response of a composite plate with inherent material damping in a thermal environment," Journal of Sound and Vibration, vol. 320, pp. 322-338.
5. T. Ramesh Babu and A.S. Sekhar, "Shaft Crack Identification using Artificial Neural Networks and Wavelet Transform data of a Transient Rotor" Advances in Vibration Engineering - Accepted and In press – scheduled for issue 1, 2010.
6. Ankit Gupta, R. Velmurugan, A.S. Sekhar and V. Alwan " Damping Characteristics of Glass epoxy composites subjected to thermal loading", RSM International Journal on Engineering, Technology & Management, ISSN: 0974-9535 (accepted and in print) 2010.
7. Hemantha kumar and Sujatha. C., Ride Comfort Analysis of a Railway Vehicle Moving on Straight Track and Subjected to Average Vertical Profile (AVP) Excitation, Journal of Advances in Vibration Engineering, Vol. 9, No.2 (8), 2009, pp.
8. Hemantha kumar and Sujatha. C., Analytical and Experimental Studies on Prediction of Lateral Dynamic Behavior of Rail Bogie Used in Indian Railways". Journal of Advances in Vibration Engineering, Vol. 9, No.3 (2), 2009
9. M. Amarnath, C. Sujatha and S. Swarnamani, Experimental Studies on the Effects of Reduction in Gear Tooth Stiffness and Lubricant Film Thickness in a Spur Geared System, Tribology International, vol. 42, no.2, pp. 340-352, 2009.
10. R S Prabakar, C Sujatha and S Narayanan, "Optimal semi-active preview control response of a half car vehicle model with magnetorheological damper" Journal of Sound and Vibration, 326 (3-5), 400-420, 2009.
11. B. Janarthanan, Chandramouli Padmanabhan and C. Sujatha, "Modeling of Diesel Engine and Automatic Transmission of a Tracked Vehicle", SAE International, 2009-01-1860, June 2009.
12. Parmatma Dubey and C.Sujatha, Motor Fault Classification Using Wavelet Energy And Artificial Neural Network, International Journal of COMADEM, 12(3), July 2009, pp.24-31.
13. K.Ganesh Babu and C. Sujatha, "Study of dynamic effect of track irregularities on railway track system", accepted for publication in Journal of Advances in Vibration Engineering, Vol. 10 , No.2, 2010.
14. Gireesh Kumar, V.R. and Sujatha C. Forced vibration analysis of wind turbine rotor blade is accepted for publication in Advances in Vibration Engineering Journal. To appear in volume 10 number 1 issue of 2010
15. Sadiq, A. and Shunmugam, M. S. (2009), Investigation into magneto-rheological abrasive honing (MRAH), International Journal of Machine Tools and Manufacture, 49, 554–560.
16. Sadiq, A. and Shunmugam, M. S. (2009), Magnetic field analysis and roughness prediction in magneto-rheological abrasive honing (MRAH), Machining Science and Technology, 13, 246–268.
17. Srinivasa, Y.V. and Shunmugam, M. S. (2009), Development and Performance Evaluation of Miniaturized Machine Tool (MMT) System, International Journal of Nano manufacturing, 13 (1/2).
18. Srikanth Reddy, T. and Shunmugam, M.S. (2009), Feature recognition and datum extraction for setup planning and operation sequencing for prismatic parts, International Journal of Mechatronics and Manufacturing Systems.
19. Kantha Babu, M., Shunmugam, M. S. and Singaperumal M. (2009), Identification of significant parameters and appropriate levels in honing of cylinder liners, International Journal of Machining and Machinability of Materials, 5(1), 80-96.
20. Kantha Babu, M., Shunmugam, M. S. and M. Singaperumal M. (2010), Data mining approach for selection of plateau honing parameters with dual objectives, International Journal of Machining and Machinability of Materials.
21. Sadiq, A. and Shunmugam, M. S. (2010), A novel method to improve finish on non-magnetic surfaces in magnetorheological abrasive honing process, Tribology International, 43(5-6) 1122-1126.

22. Venkaiah, N. and Shunmugam, M. S. (2010), Establishing circle and circular-cylinder references using computational geometric techniques, *International Journal of Advanced Manufacturing Technology*, DOI: 10.1007/s00170-010-2577-7
23. Thakur, D.G., Vijayaraghavan, L. and Ramamoorthy, B. (2009), Study on the machinability characteristics of superalloy Inconel 718 during high speed turning, *Materials and Design*, 30, 1718– 1725.
24. Thakur, D.G., Ramamoorthy, B. and Vijayaraghavan, L. (2009), A Study on the Parameters in High-Speed Turning of Superalloy Inconel 718, *Materials and Manufacturing Processes*, 24, 497–503.
25. Thakur, D.G., Ramamoorthy, B. and Vijayaraghavan, L. (2009), Machinability investigation of Inconel 718 in high speed turning, *International Journal of Advanced Manufacturing Technology*, 45, 421– 429.
26. Muruganandam, Jawahar, Girdhar and Ramamoorthy, B. (2009), Optimal settings for vision camera calibration , *International Journal of Advanced Manufacturing Technology*, 42, 736–74.
27. Thakur, D.G., Ramamoorthy, B. and Vijayaraghavan, L. (2009), An experimental analysis of effective high speed turning of superalloy Inconel 718, *International Journal of Materials Science*, 44, 3296-3304.
28. Arunachalam, N. and Ramamoorthy, B. (2010), Fourier transform based texture measures for assessing grinding wheel condition using Machine vision, *International Journal of Manufacturing Technology & Management*, 22(1), 112 -121.
29. Dhanasekar, B. and Ramamoorthy, B. (2010), Restoration of blurred images for surface roughness evaluation using machine vision, *Tribology International*, 43, 268-276.
30. Chiddarwar, S. S. and Ramesh Babu, N. (2009), Off-line decoupled path planning approach for effective coordination of multiple robots, *Robotica*, DOI:10.1017/S0263574709005773
31. Chiddarwar, S. S. and Ramesh Babu, N. (2010), Comparison of RBF and MLP neural networks to solve inverse kinematic problem for 6R serial robot by a fusion approach, *Engineering Applications of Artificial Intelligence*, doi:10.1016/j.engappai.2010.01.028
32. Rajakumar, S., Vijayaraghavan, L., Mayuram, M. M. and Krishnamurthy, R. (2009), The Damage Mechanisms of Several Detonation-Gun Sprayed Ceramic Coatings in Controlled Scratching, *International Journal of Engineering Technology and Management*, 1, 55-59.
33. Rajakumar, S., Vijayaraghavan, L., Mayuram, M. M. and Krishnamurthy, R. (2009), Influence of Air-Jet Erosion on Detonation-Gun Sprayed Alumina-Zirconia Ceramic Composite Coating, *International Journal on Design and Manufacturing Technologies*, 3(2).
34. Rajakumar, S., Vijayaraghavan, L., Mayuram, M. M. and Krishnamurthy, R. (2009), Experimental Design and Characterization Based Optimization of Detonation Sprayed Fused Alumina Zirconia Deposition, *Journal of Manufacturing Technology Research (Accepted for Publication)*.
35. Rajakumar, S., Vijayaraghavan, L., Mayuram, M. M. and Krishnamurthy, R. (2009), Flexural Characteristics of D-Gun Sprayed Functionally Graded Alumina and Alumina-Zirconia Ceramic Composites Coatings, *International Journal of Materials Engineering Innovation, (Accepted for Publication)*.
36. Ramalingam and Samuel, G. L. (2009), Investigation on the Conveying Velocity of a Linear Vibratory Feeder while Handling Bulk Sized Small Parts, *International Journal of Advanced Manufacturing Technology*, 44, 372 – 382.
37. Darwin, M. and Samuel, G. L. (2009), Design and Implementation of Low Cost Automation in Heavy Vehicle Brake Assembly Line to Increase Productivity, *International Journal of Productivity and Quality Management*, 4(20), 199–211.
38. Denis Ashok, S. and Samuel, G. L. (2010), Regression method for identifying spindle radial errors of a miniaturized machine tool, *Journal of Studies on Manufacturing*, 1(1), 26 – 33.
39. Janardhan, V. and Samuel, G. L. (2010), Investigation on Material Removal Rate in Wire Electrical Discharge Turning (WEDT) using Pulse Train Data Analysis, *International Journal of Mechatronics and Intelligent Manufacturing*, 2(1/2).
40. Roy, P., Sarangi, S. K., Ghosh, A. and Chattopadhyay, A. K. (2009), Machinability study of pure aluminium and Al-12% Si alloys against uncoated and coated carbide inserts, *International Journal of Refractory Metals and hard Materials*, 27(3), 535-554.
41. Bashishta, M., Shobhit, K., Ghosh, A. and Paul, S. (2010), Surface integrity in grinding medium carbon steel by miniature grinding wheel, *Journal of Materials Engineering and Performance*, DOI:10.1007/s11665-010-9626-0
42. Bashishta, M., Shobhit, K., Ghosh, A. and Paul, S. (2010), Surface integrity in grinding medium carbon steel by miniature grinding wheel, *Journal of Materials Engineering and Performance*, DOI:10.1007/s11665-010-9626-0

43. Balaji, C. and Thaseem, T., "An Example of Bayesian Inference in Thermal in Thermal Sciences, Journal of Science Education, Vol. 14, 2009, pp 1171-1182, 2009
44. Gnanasekaran and Balaji, C., "An Inexpensive Technique to Simultaneously Determine Total Emissivity and Natural Convection Heat Transfer Coefficient from Transient Experiments", Experimental Heat Transfer,
45. Balaji, C., Deiveegan, M., Venkateshan, S.P., Gairola, R.M., Sarkar, A. and Agarwal, V.K., "Retrieval of Hydrometeors from Microwave Radiances with a Polarized Radiative Transfer Model", Journal of Earth System Science, Vol. 119, Issue 1, Feb. 2010, pp 97-115.
46. Krishna Chandran, R., Indranil Banerjee, Padmakumar, G. and Reddy, K.S., Numerical Analysis of Thermal Striping Phenomena Using a Two Jet Water Model", (accepted for publication in Engineering Applications of Computational Fluid Mechanics)
47. Sudhakar, T.V.V., Balaji, C. and Venkateshan, S.P., "A Heuristic Approach to Optimal Arrangement of Multiple Heat Sources under Conjugate Natural Convection", International Journal of Heat and Mass Transfer, Vol. 53,, Issue 1-3, Jan., 2010, pp 431-444
48. Radhakrishna, T.V., Balaji, C. and Venkateshan, S.P., "Optimization of Multiple Heaters in a Vented Enclosure – A Combined Numerical and Experimental Study", International Journal of Thermal Sciences, Vol.49, Issue, 4, April 2010, pp 721-732
49. Sendhil Kumar, N. and Srinivas Reddy, K., "Investigation of Convection and Radiation Heat Losses from Modified Cavity Receiver of Solar Parabolic Dish using Asymptotic Computational Fluid Dynamics", JI of Heat Transfer Engineering, Vol. 31, No. 7, 2010, pp 597-607.
50. Venugopal, G., Balaji, C. and Venkateshan, S.P., "Experimental Study of Mixed Convection Heat Transfer in a Vertical Duct Filled with Metallic Porous Structures", International Journal of Thermal Sciences, Vol. 49, Issue 2, Feb. 2010, pp 340-348.
51. Sudhakar, TVV, Shori, A, Balaji, C, et al., "Optimal Heat Distribution Among Discrete Protruding Heat Sources in a Vertical Duct: A Combined Numerical and Experimental Study", Journal of Heat Transfer-Transactions of the ASME, Vol. 132, Issue1, Article No. 011401, Jan. 2010.
52. Balaji, C., Deiveegan, M, Venkateshan, SP, et al., "Polarized Microwave Forward Model Simulations for Tropical Storm Fanoos", Journal of Earth system Science, Vol. 118, Issue 4, Aug. 2009, pp 331-343.
53. Perekattu, G.K. and Balaji, C., "On the Onset of Natural Convection in Differentially Heated Shallow Fluid Layers with Internal Heat Generation", International Journal of Heat and Mass Transfer, Vol. 52, Issue: 19-20, Sept. 2009, pp 4254-4263.
54. Sharma, A.K., Velusamy, K and Balaj, C., "Turbulent Natural Convection of Sodium in a Cylindrical Enclosure with Multiple Internal Heat Sources: A Conjugate Heat Transfer Study", International Journal of Heat and Mass Transfer, Vol. 52, Issue: 11-12, May 2009, pp 2858- 2870.
55. Radhakrishnan, T.V., Joseph, G., Balaji, C., et al., "Effect of Baffle on Convective Heat Transfer from a heat Generating Element in a Ventilated Cavity", Heat and Mass Transfer, Vol. 45, Issue 8, Jun 2009, pp 1069-1082.
56. Sudhakar, TVV, Balaji, C and Venkateshan, S.P., "Optimal Configuration of Discrete Heat Sources in a Vertical Duct under Conjugate Mixed Convection Using Artificial Neural Networks", International Journal of Thermal Sciences, Vol. 48, Issue 5, May 2009, pp 881-890.
57. Reddy, K.S., and Sendhil Kumar, N., "An Improved Model for Natural Convection Heat Loss from Modified Cavity Receiver of Solar Dish concentrator", Solar Energy, Vol. 83, 2009, pp 1884-1892.
58. Suresh, M.V.J.J., Reddy, K.S. and Ajit Kumar Kolar, "3-E Analysis of Advanced Power Plants Based on High Ash Coal", International Journal of Energy, 2009 DOI: 10.1002/er.1593. Research.
59. Narasimhan, A. and Jha, K.K., "Transient Simulation of Multi Spot Retinal Laser Irradiation Using Bio-Heat Transfer Model", Num. Heat Transfer Part A – applications (in press).
60. Narasimhan, A. and Reddy, B.V.K., "Resonance of Natural Convection Inside a Bi-disperse Porous Medium Enclosure", ASME JI. of Heat Transfer (in press)
61. Reddy, B.V.K., and Arunn Narasimhan, A., "Heat Generation Effects in Natural Convection Inside a Porous Annulus", Int. Comm. Heat and Mass Transfer (in Press)
62. Sherifull-Din Jamalud-Din, Rees, D.A.S., Reddy, B.V.K. and Narasimhan, A., "Prediction of Natural Convection Flow Using Network Model and Numerical Simulations Inside Enclosure with Distributed Solid Blocks", Heat and Mass Transfer (in press).
63. Natesan, S., Sundararajan, T., Narasimhan, A. and Velusamy, K., "Turbulent Flow Simulation in a Wire-wrap Rod Bundle of an LMFBR", Nuclear Engineering and Design (in press).

64. Ramana, P.V., Narasimhan, A. and Chatterjee, D., "Experimental Investigation of the Effect of Tube-to-Tube Porous Medium Inter-connectors on the Thermo-hydraulics of Confined Tube Banks", *Heat Transfer Engineering*, Vol. 31, 2009, pp 1-9.
65. Narasimhan, A., Jha, K.K. and Gopal, L., "Transient Simulations of Heat Transfer in Human Eye undergoing Laser Surgery", *In. JI. of Heat and Mass Transfer*, Vol. 53, No. 1, 2010, pp 482-490.
66. Narasimhan, A. and Reddy, B.V.K., "Natural Convection Inside a Bi-disperse Porous Medium Enclosure", *ASME JI. of Heat Transfer*, Vol. 132, 012502, 2010, 9 pages,
67. Reddy K.S. and Karthikeyan, "Effective Thermal Conductivity Models with Contact Resistance Radiation for Two-phase Materials", *Int. JI. of Mech. Engg. & Materials Science*, Vol. 2, No. 1, 2009, pp 13-30.
68. Sreekanth, and Ajit Kumar Kolar, "Mass Loss and Apparent Kinetics of a Thermally Thick Wood Particle Devolatilizing in a Bubbling Fluidized Bed Combustor", *Fuel*, 2009, DOI: 10.1016/j.fuel.2009.11.026.
69. Sreekanth, M, Ajit Kumar Kolar and Leckner, B "A semi-analytical model to predict primary fragmentation of wood in a bubbling fluidized bed combustor"
70. Sreekanth, M, Ruben Sudhakar, D, Prasad, B.V.S.S.S. Ajit Kumar Kolar and Leckner, B., "Modelling and experimental investigation of devolatilizing wood in a fluidized bed combustor", *Fuel*, Vol. 87, Issue 12, September 2008, Pages 2698-2712.
71. Krishna Sabaresh, R., Prasanna, S., Venkateshan, S.P., "Investigations on Multimode Heat Transfer from Heated Vertical Plate", *Journal of Heat Transfer*, Vol. 132, No.3, 2010, pp 32501-1-8.
72. Reddy, K.S. and Karthikeyan, "Combinatory Model for Predicting the Effective Thermal Conductivity of Frown and Unfrozen Food Materials", *Advances in Mech. Engg. (In Press)*
73. Krishnachandran, Baneerjee, Padma Kumar, and Reddy, K.S., "Investigation of Thermal Striping in Prototype Fast Breeder Reactor using Ten-jet Water Model", *Heat Transfer Engineering (accepted)*
74. Shaji, K and Sarit K. Das, "The Effect of Flow Maldistribution on the Evaluation of Axial Dispersion and Thermal Performance during the Single Blow Testing of Plate Heat Exchangers", *International of Journal of Heat and Mass Transfer Vol.53*, 2010, pp. 1591-1602.
75. Diwakar, S.V. Sarit K. Das and Sundararajan, T., "A Quadratic Spline Based Interface (QUASI) Reconstruction Algorithm for Accurate Tracking for Two-phase Flows", *Journal of Computational Physics*, Vol. 228 (24). 2009, pp. 9107-9130.
76. J. Buongiorno, J., D. C. Venerus N. Prabhat (Massachusetts Institute of Technology), T. McKrell, Y. V. Tolmachev, J. Townsend, R. Christianson, P. Keblinski, L. W. Hu S. W. Bishnoi, A.N. Turanov, W.-H. Yeh, Y. Jiang Pawan K. Singh, Hrishikesh E. Patel, Sarit K. Das., T. Sundararajan, "Towards a Resolution of the Nanofluid Thermal Conductivity Controversy- An International Nanofluid Properties Benchmark Exercise (INPBE)", *Journal of Applied Physics* Vol. 106, No. 9, 2009, 094312
77. Sateesh, G., Sarit K. Das and Balakrishnan, A.R., "Experimental Studies on the Effect of Tube Inclination on Nucleate Pool Boiling", *Heat and Mass Transfer*, Vol. 45, 2009, pp. 1493-1502
78. Jayakrishna, D., Basak, T. and Sarit K. Das, "Natural Convection in a Non-Darcy Anisotropic Porous Cavity with a Finite Heat Source at the Bottom Wall", *International Journal of Thermal Sciences*, Vol. 48, 2009, pp 1279-1293
79. Anoop, K.B., Kabelac, S., Sundararajan, T. and Sarit K. Das, "Rheological and Flow Characteristics of Nanofluids: Influence of Electro-viscous Effects and Particle Agglomeration", *Journal of Applied Physics*, Vol. 106, 2009, 034909
80. Vijayalakshmi, K., Anoop, K.B., Patel, H.E., Harikrishna, P.V., Sundararajan, T. and Sarit K. Das, "Effects of Compressibility and Transition to Turbulence on Flow through Microchannels", Vol. 52, 2009, pp.2196-2204.
81. Geoffrey von Maltzahn, Ji-Ho Park, Amit Agrawal, Nanda Kishor Bandaru, Sarit K. Das, Michael J. Sailor and Sangeeta N. Bhatia, "Computationally-Guided Photothermal Tumor Therapy using Long-Circulating Gold Nanorod Antennas", *Cancer Research*, Vol. 69, 2009, pp. 3892-3900,
82. Suyambazhahan, S., Sundararajan, T. and Sarit K. Das, "The Effect of Buoyancy on Flow Oscillations for a Horizontal Plane Jets in Low Speed Applications", *Experimental Thermal and Fluid Science*, Vol., 33, 2009, pp. 1119-1127.
83. Maurya, R.S., Sunderarajan, T and Sarit K Das, "Development of a PLIC-VOF Method for the Dynamic Simulation of Entry Region Flow in a Laminar Falling Film", *International Journal of Computational Fluid Dynamics*, Vol. 23, 2009, pp 391-400.

84. Sarit K. Das and Bansode, A.S., "Heat and Mass Transport in Proton Exchange Membrane Fuel Cells – a Review", *Heat Transfer Engg*, Vol 30, 2009, pp. 691-719.
85. Sarit K. Das, "Heat and Mass Transfer in Fuel Cells", *Heat Transfer Engg*, Vol. 30, 2009, pp. 689-690.
86. Sarit K. Das and Stephen U. S. Choi, "Heat Transfer in Nanofluids", *Advances in Heat Transfer*, Vol. 41, 2009, pp. 81-191
87. K.B. Anoop, K.B., Sundararajan, T. and Sarit K. Das, "Effect of Particle Size on the Convective Heat Transfer in Nanofluid in the Developing Region", *Int J. Heat and Mass Transfer*, Vol. 52, pp.2189-2195, (2009).
88. Shashi Jain, Hrishikesh Patel, Sarit Kumar Das, "Brownian Dynamic Simulation for the Prediction of Effective Thermal Conductivity of Nanofluid", Published Online in *Journal of Nanoparticle Research*, Vol. 11, 2009, pp 767-773.
89. Debabrata Das Gupta, Geoffrey von Maltzahn, Soham Ghosh, Sangeeta N. Bhatia, Sarit K. Das, Suman Chakraborty, "Probing Nano Antenna-Directed Photothermal Destruction of Tumors using Non-Invasive Laser Irradiation", *Applied Physics Letters*, Vol. 95, 2009, 23370.
90. Sreekanth, M., and Ajit Kumar Kolar, "Mass loss and apparent kinetics of a thermally thick wood particle devolatilizing in a bubbling fluidized bed combustor", *Fuel*, Volume 89, 2010, pp. 1050-1055.
91. Sreekanth, M., and Ajit Kumar Kolar, "Transient Thermal Behavior and Stress Development within a Cylindrical Wooden Disk during Drying in a Fluidized Bed Dryer", *Drying Technology*, Vol. 27, pp. 344 – 358.
92. Manoj Kumar, P., and Ajit Kumar Kolar, "Effect of Cathode Design on the Performance of an Air-Breathing PEM Fuel Cell", *Int. Journal of Hydrogen Energy*, vol. 35, 2010, pp 661-668.
93. Manoj Kumar, P., and Ajit Kumar Kolar, "Effect of Cathode Channel Dimensions on the Performance of an Air-breathing PEM Fuel Cell", *International Journal of Thermal Sciences*, Volume 49, 2010, pp. 844-857.
94. Anand, K., Avishek Ranjan and Pramod S. Mehta, "Estimating the Viscosity of Vegetable Oil and Biodiesel Fuels", *Energy and Fuels*, Vol. 24, No. 1, 2010, pp 664-672.
95. Pramod S. Mehta and K. Anand, "Estimation of Lower Heating Value of Vegetable Oil and Biodiesel Fuel", *Energy & Fuels*, Vol. 23, Nov. 8, 2009, pp 3893-3898
96. Sendhil Kumar, M., Ramesh, A. and Nagalingam, B., "The Comparison of Different Methods of Using Jetropa Oil as a Fuel in a Compression Ignition Engine", *ASME Journal of Engg. for Gas Turbines and Power*, USA, Vol. 131, Nov. 2009, pp 1-11 (Paper No. GTB-08-1170).
97. Murali Krishna, B. and Mallikarjuna, J.M., "Effect of Cavity in a Pentroof Piston on the Engine In-cylinder Tumble Flows – An Investigation by Particle Image Velocimetry", *Journal of Engineering Letters*, Vol. 17, Issue 3, pp 195-199, 2009
98. Murali Krishna, B. and Mallikarjuna, "Effect of Engine Speed on In-cylinder Tumble Flows in a Motored Internal Combustion Engine – An Experimental Investigation using Particle Image Velocimetry", Accepted for publication in *Journal Applied Fluid Mechanics*, Vol. 4, July 2010.
99. Swaminathan, S., Mallikarjuna, J.M. and Ramesh, A., "An Experimental Study of the Bio-gas Diesel HCCI Mode of Engine Operation", *Energy Conversion and Management*, Vol. 51, Issue 7, July 2010, pp 1347-1353
100. Murali Krishna, B. and Mallikarjuna, J.M., "Comparative Study of In-cylinder Tumble Flows in an Internal Combustion Engine Using Different Piston Shapes – An Insight Using Particle Image Velocimetry", *Journal of Experiments in Fluids*, DOI 10.1007/s00348-009-0783-6, Nov. 2009.
101. Murali Krishna, B. and Mallikarjuna, J.M., "Properties and Performance of Cotton Seed Oil – diesel Blends as a Fuel for Compression Ignition Engines, *Renewable and Sustainable Energy*, 1,023106, DOI: 10.1063/1.3117342
102. Jagadeesh, S.K., Ramesh, C.S., Mallikarjuna, J.M. and Keshavamurthy, R., "Prediction of Cooling Curves During Solidification of I 6061-SiCp Based Metal Matrix Composites using Finite Element Analysis", *Materials Processing Technology*, Nov. 2009 (available online)
103. Murali Krishna, B., Bijucherian, A. and Mallikarjuna, J.M., "Effect of Intake Manifold Inclination on Intake Valve Flow Characteristics of a Single Cylinder Engine using Particle Velocimetry", *International Journal of Natural Sciences and Engineering*, 1:1, 2009.
104. Anand, K., Sharma, R.P. and Pramod S. Mehta, "Experimental Investigations on Combustion, Performance and Emission Characteristics of Neat Biodiesel Fueled Turbocharged Direct Injection Diesel Engine", *Proc. of I Mech Engg., Part D: Journal of Automobile engineering* 10.1243/09544070 JAUTO 1342

105. Mopuru Deepa Raj, Deepak Kumar Mandal, Navaneethakrishnan, S. and Shamit Bakshi, "Measurement of the Surface Concentration (liquid) of an Evaporating Multicomponent Droplet Using Pendant Droplet Method", *Experiments in Fluids*, DOI 10.1007/s00348-0, 2010.
106. Vijayashree, Tamilporai, P. and Ganesan, V., "Global Energy Scenario – An Overview", *Int.Journal of Green Energy, Energy and Environment*, Vol. No. 1, April 2010, pp 1-12.
107. Bolem Siva Nageswara Rao and Ganesan, V., "CFD Analysis of Combustion Chamber Geometry for the Possibility of Hydrogen Fueling in a Spark-Ignition Engine", *Int. Journal of Green Energy, Energy and Environment*, Vol. No. 1, April 2010, pp 50-57.
108. Ajilkumar A, T. Sundararajan, U. S. P. Shet: Numerical modeling of a steam-assisted tubular coal gasifier, *International Journal of Thermal Sciences*, U.S.A, 48 (2009), pp 308-321.
109. Ajilkumar. A, U. S. P. Shet and Sundararajan. T: Numerical Simulation of Pressure Effects on the Gasification of Australian and Indian Coals in a Tubular Gasifier, *International Journal: Heat Transfer Engineering*, (in press) Vol 31(6), Dec 2009.
110. Anirudh Sen, Vasudevan Raghavan, U.S.P.Shet: Experimental Investigation of Characteristics of a Diffusion Flame Established over Liquid Ethanol Surface under Opposed Air Flow, *Experimental Thermal and Fluid Science*, 33 (2009), pp 538-541.
111. A. Subramani, S. Jayanti, U. S. P. Shet and P. Selvaraj: Dynamics of Liquid Sodium Pool Spreading under Sodium Fire Conditions, *Nuclear Engineering and Design*, 239 (2009), pp1354-1361.
112. S. Karthikeyan, T. Sundararajan, U. S. P. Shet and P. Selvaraj : Effect of turbulent natural convection on sodium pool combustion in the steam generator building of a fast breeder reactor, *Nuclear Engineering and Design*, 239 (2009), pp 2992-3002.
113. K. Srinivasan, T.J.S. Jothi, U.S.P.Shet, S. Elangovan and E. Rathakrishnan: Relationship between shock-cell length and noise of jets from rectangular and elliptic disk nozzles, *International Journal of Turbo and Jet Engines*, 26, (2009), pp 145-153.
114. Aditya S. Mulmule, Mahesh S. Tirumkudulu and K. Ramamurthi, Instability of a Moving Liquid Sheet in the Presence of Acoustic Forcing, *Physics of Fluids*, vol. 22, 022101, 2010.
115. T. J. Tharakan and K. Ramamurthi, Influence of liquid and gas compressibility on growth of waves in thin liquid sheets, *Fluid Dynamics Research*, vol. 42, 035508, 2010.
116. Nagabhushana Rao, V. and K. Ramamurthi, Internal Instability of Thin Liquid Sheets, *Physics of Fluids*, vol. 21, 092106, 2009.
117. K. Ramamurthi, Bhadracham Kamam and S. Srinivasa Murthy, Influence of temperature of hydrogen release on formation of hydrogen-air clouds, *Int. J. Hydrogen Energy*, vol. 34, pp. 8428-8437, 2009.
118. P. S. Tide and K. Srinivasan, "Effect of chevron count and penetration on the acoustic characteristics of chevron nozzles," *Applied Acoustics*, vol. 71, Issue 3, March 2010, pp. 201-220. (DOI: 10.1016/j.apacoust.2009.08.010).
119. T.J.S. Jothi and K. Srinivasan, "Role of initial conditions on the noise from underexpanded pipe jets," *Physics of Fluids*, vol. 21, Issue 6, 066103, 2009. (DOI: 10.1063/1.3153909)
120. G. Raman and K. Srinivasan, "The powered resonance tube: from Hartmann's discovery to current active flow control applications," *Progress in Aerospace Sciences*, vol. 45, Issues 4-5, May-Jul 2009, pp. 97-123. (DOI:10.1016/j.paerosci.2009.05.001)
121. K. Srinivasan, T.J.S. Jothi, U.S.P. Shet, S. Elangovan, and E. Rathakrishnan, "Relationship between shock-cell length and noise of jets from rectangular and elliptic disk nozzles," *International Journal of Turbo and Jet Engines*, Freund Publishing House Ltd., vol. 26, No. 2, 2009, pp. 145-153.
122. K. Srinivasan, P. Panickar, G. Raman, B. Kim, and D. Williams, "Study of coupled supersonic twin jets of complex geometry using higher order spectral analysis", *Journal of Sound and Vibration*, (DOI:10.1016/j.jsv.2009.01.011), vol. 323, Issues 3-5, June 2009, pp. 910-913
123. K. Srinivasan, T. Sundararajan, S. Narayanan, and T.J.S. Jothi, "Effects of Acoustic Source and Filtering on Time-of-Flight Measurements," *Applied Acoustics*, vol. 70, Issue 8, 2009, pp. 1061-1072. (DOI:10.1016/j.apacoust.2009.02.008).
124. S. Narayanan, P. Bhawe, K. Srinivasan, K. Ramamurthi, and T. Sundararajan, "Spectra and Directivity of a Hartmann Whistle", *Journal of Sound and Vibration* vol. 321, Issues 3-5, April 2009, pp. 875-892. (DOI: 10.1016/j.jsv.2008.10.023).

125. P.S. Tide and K. Srinivasan, "Novel chevron nozzle concepts for jet noise reduction," *Proceedings of the Institution of Mechanical Engineers, Part-G: Journal of Aerospace Engineering*, vol. 223, No.1, 2009, pp. 51-67 (DOI: 10.1243/09544100JAERO347).
126. B. Susanta, P.R. Suresh, K. Srinivasan, and S.K Das, "Effect of upstream developing length on the flow field of twin pipe-jets," *Proceedings of the Institution of Mechanical Engineers, Part-G: Journal of Aerospace Engineering*, vol.222, No.6, pp.773-782, 2008.
127. Somashekhar S.Hiremath and M.Singaperumal. Investigations on Actuator Dynamics through Theoretical and Finite Element Approach. *International Journal of Mathematical Problems in Engineering*, Hindawi Publishing Corporation, Volume 2010, Article ID 191898, 22 pages, doi:10.1155/2010/191898,
128. Gokul Balakrishnan and Somashekhar S Hiremath. Design, Development and Investigation on an Embedded System Based Control for Networking Mobile Robots. *International Journal of Recent Trends in Engineering* [ISSN 1797-9617], vol. 2, No. 1-6, Nov 2009, p. 57-61. Academy Publisher in cooperation with the ACEEE (Association of Computer Electronics & Electrical Engineers), Finland.
129. Kuppan Chetty, RM., Singaperumal, M., Nagarajan, T. and Tetsunari Inamura. Coordination Control of Wheeled Mobile Robots – A Hybrid Approach, *Int. J. Modelling, Identification and Control*, Accepted for Publication in Vol.12, No.2, 2011, manuscript No. PCR03_IJMIC. Accepted on July 2009.
130. Kuppan Chetty, RM., Singaperumal, M. and Nagarajan, T. Behaviour Based Planning and Control of Leader Follower Formations in Wheeled Mobile Robots, *Int. J. Advanced Mechatronic Systems*, Accepted for Publication, Manuscript No. IJMMechS_09301. (Accepted on OCT 2009).
131. M.Suresh and A.Mani, "Heat and mass transfer studies on R134a bubble absorber in R134a/DMF solution based on phenomenological theory", *International Journal of Heat and Mass transfer* vol.53,no.13-14, 2010 2812 - 2825
132. Harikrishnan L., Shaligram Tiwari, Maiya M.P., Numerical study of heat and mass transfer characteristics on a horizontal tubular falling film absorber for R134a-DMAC, *International Journal of Thermal Sciences*, Submitted on 28th sep. 2009.
133. Pratish P. Patil, Shaligram Tiwari, "Three-dimensional numerical investigations on flow and heat transfer for flow past a channel confined square cylinder", *Progress in Computational Fluid Dynamics*, Vol. 10, No. 3, 2010.
134. S. Jayavel, Shaligram Tiwari, "Kinematics of a fluid particle due to interaction of fixed vortex filaments in presence of external translation and pulsation", *International Journal Fluid Mechanics Research*, Vol. 37, Issue 2, 2010.
135. Shaligram Tiwari, Koichi Nishino, "Effect of confined and heated ambient air on onset of instability in liquid bridges of high Pr fluids", *Fluid Dynamics and Material Processing*, Vol. 182, No. 1, 2010.
136. S. Jayavel, Shaligram Tiwari, "Finite volume algorithm to study the effect of tube separation in flow past channel confined tube banks", *Engineering Applications of Computational Fluid Mechanics*, Vol. 4, No. 1, pp. 39-57, 2010.
137. S. Jayavel, Shaligram Tiwari, "Effect of vortex generators and integral splitter plate on heat transfer and pressure drop for laminar flow past channel confined tube banks", *Heat Transfer Engineering*, Vol. 31, No. 5, pp. 383-394, 2010.
138. L. Harikrishnan, M.P. Maiya, S. Tiwari, A. Wohlfeil, F. Ziegler, Heat and mass transfer characteristics of absorption of R134a into DMAC in a horizontal tube absorber, *Heat and Mass Transfer*, Vol. 45, pp.1483-1491, 2009.
139. L. Harikrishnan, M.P. Maiya, S. Tiwari, A. Wohlfeil, F. Ziegler, Heat and mass transfer characteristics of absorption of R134a into DMAC in a horizontal tube absorber, *Heat and Mass Transfer*, Vol. 45, pp.1483-1491, 2009.
140. S. Jayavel, Shaligram Tiwari, "Numerical study of heat transfer and pressure drop for flow past inline and staggered tube bundles", *International Journal of Numerical Methods for Heat and Fluid Flow*, Vol. 19, No. 8, pp. 931-949, 2009.
141. Shaligram Tiwari, Gautam Biswas, Mihir Sen, "Interaction of inviscid vortices having orthogonal orientations", *International Journal of Dynamics of Fluids*, Vol. 5, pp. 93-117, 2009.
142. Pratish P. Patil, Shaligram Tiwari, "Effect of longitudinal and transverse vibrations of upstream square cylinder on vortex shedding behind two inline square cylinders", *Fluid Dynamics Research*, Vol. 41, pp. 1-26, 2009.
143. Pratish P. Patil, Shaligram Tiwari, "Numerical investigation of laminar unsteady wakes behind inline square cylinders confined in a channel", *Engineering Application of Computational Fluid Mechanics*, Vol. 3, pp. 369-386, 2009.

144. Pratish P. Patil, Shaligram Tiwari, "Computation of flow past complex geometries using MAC algorithm on body-fitted coordinates", *Engineering Application of Computational Fluid Mechanics*, Vol. 3, No. 1, pp. 15-27, 2009.
145. Hari Krishnan L., Maiya M.P., Tiwari S., Wohlfel A., Ziegler F., Heat and mass transfer characteristics of absorption of R134a into DMAC in a horizontal tube absorber, *Heat Mass Transfer*, 45(2009) 1483-1491.
146. N. Lakshmi Narasimhan, G. Venkatarathnam "A method for estimating the composition of the mixture to be charged to get the desired composition in circulation in a single stage JT refrigerator operating with mixtures" *Cryogenics*, Volume 50, Issue 2, February 2010, Pages 93-101.
147. G. Venkatarathnam "The coefficient of performance of an ideal air conditioner" *International Journal of Refrigeration*, Volume 32, Issue 8, December 2009, Pages 1929-1931.
148. H. Gurudath Nayak, G. Venkatarathnam "Performance of an auto refrigerant cascade refrigerator operating in gas refrigerant supply (GRS) mode with nitrogen-hydrocarbon and argon-hydrocarbon refrigerants" *Cryogenics*, Volume 49, Issue 7, July 2009, Pages 350-359.
149. Verma P., Chatterjee, D. and Nagarajan, T., 2009, "Design and development of a modular valveless micropump on a printed circuit board for integrated cooling", *Proc. I.MechE, Part C: J Mechanical Engineering Science*, 223(4), pp 953-963.
150. Ramana, PV, Arunn Narasimhan and Dhiman Chatterjee, "Experimental investigation of the effect of tube-to-tube porous medium interconnectors on the thermofluid-hydraulics of confined tube", *Heat Transfer Engineering*, 31(6), pp 518-526.
151. Rammohan, S., Saseendran, S. and Kumaraswamy, S., 2009, "Effect of multi-jets on cavitation performance of globe valves", *Jl. Of Fluid sci. and Tech., JSME*, 4(1), pp128-137.
152. Ramakrishna, P.V., and Govardhan, M., "Study of Sweep and Induced Dihedral Effects in Sub-Sonic Axial Flow Compressor Passages Part 1: Design Considerations – Changes in Incidence, Deflection and Streamline Curvature", *Journal of Rotating Machinery*. Vol. 2009, Article ID 787145, doi:10.1155/2009/487145, pp. 1-11
153. Ramakrishna, P.V., and Govardhan, M., "Aerodynamic Performance of Low Speed Axial Flow Compressor Rotors with Sweep and Tip Clearance", *Engineering Applications of Computational Fluid Mechanics*, Vol.3, No.2, pp. 195-206, 2009
154. Ramakrishna, P.V., and Govardhan, M., "Stall Characteristics and Tip Clearance Effects in Forward Swept Axial Compressor Rotors" *Journal of Thermal Sciences*, Vol. 18, No.1, pp. 40-47, 2009
155. Sreenivasulu, T. and Prasad, B.V.S.S.S., "Flow and heat transfer characteristics in an annulus wrapped with a helical wire", *International Journal of Thermal sciences* Vol. 48, pp.1377-1391,2009.
156. S. Anish and N. Sifaram, "Computational investigation of impeller-diffuser interaction in a centrifugal compressor with different types of diffusers, accepted for publication in *Proc. of the Institution of Engineers, Part A: Journal of Power and Energy*, Vol. 219, No. 1, pp. 167-178, 2009.
157. Muneeswarababu, U., Sifaram, N. and Prasad, B.V.S.S.S., "Computational investigation of effect of axial spacing on blade row interaction in a 1½ stage axial flow turbine", *Engineering Applications of Computational Fluid dynamics*, Vol.3, No.1, pp.56-70, 2009.
158. Sreekanth M., Prasad B.V.S.S.S., Ajit Kumar Kolar., Thunman H. and Leckner B., "Stresses in a Cylindrical Wood Particle Undergoing Devolatilization in a Hot Bubbling Fluidized Bed", *Energy and Fuel*, 22(3), 1549-1559, 2009
159. Sreekanth M., Ruben Sudhakar D., Prasad B.V.S.S.S., Ajit Kumar Kolar and Leckner B., "Modelling and experimental investigation of devolatilizing wood in a fluidized bed combustor", *Fuel*, 87(12), 2698-2712, 2009
160. Kulasekharan N and Prasad B.V.S.S.S., "Conjugate Heat Transfer Analysis in the Trailing Region of a Gas Turbine Vane", Accepted for publication in the special issue of *Heat Transfer Engineering*, Special Issue, 2009
161. Kulasekharan, N. and Prasad, B.V.S.S.S., "Performance of 2-D Turbulence RANS Models for Prediction of Flow Past a Staggered Tube Bank Array", *Engineering Applications of Computational Fluid dynamics*, Vol.3, No.3, pp.386-407, 2009.
162. Ashok Kumar, M. and Prasad, B.V.S.S.S., "Computational Investigations of Flow and Heat Transfer on an Effused Concave Surface with a Single Row of Impinging Jets for Different Exit Configurations", *Engineering Applications of Computational Fluid dynamics*, Vol.3, No.4, pp.530-542, 2009.

In Proceedings of National Conferences:

1. B. Janarthanan, C. Padmanabhan and C. Sujatha, 2009, "Automotive Engine Modeling and Simulation using MATLAB/SIMULINK," IPRoMM 2009, Proceedings National Conference on Design and Manufacturing Issues in Automotive and Allied Industries, IIT Madras, Chennai, July 10-11, pp. 323-328.
2. Anand, K, Avishek Ranjan, Sharma, R.P. and Promod S. Mehta, "Experimental and Simulation Studies of Biodiesel Combustion in a CI Engine", Proc. of the XXI National Conference on I.C. Engines and Combustion, DIET, Davanagere, India, Dec. 10-12, 2009, Pp 291-300
3. Saleel Ismail and Pramod S. Mehta, "A Second Law Analysis of the Constant Volume Combustion of Hydrogen and Hydrocarbon Fuels", Proc. of the XXI National Conference on IC Engines & Combustion, DIET, Davanagere, India, Dec. 10-12, 2009, pp 633-640.
4. Murali Krishna, B. and Mallikarjuna, J.M., "Effect on In-Cylinder Tumble Flows with Intake Manifold Orientations – An Analysis with PIV", Proc. of the XXI National Conference on IC Engines and Combustion (NICEICE 2009), BIET, Davanagere, Karnataka, Dec. 10-12, 2009, pp 457-464.
5. Kantha Rao, M. and Mallikarjuna, "Effect of Piston Crown Shape on In-Cylinder Flows – A CFD Analysis", Proc. of the XXI National Conference on IC Engines and Combustion (NICEICE 2009), BIET, Davanagere, Karnataka, Dec. 10-12, 2009, pp 565-572.
6. Purushothama, H.R., Mallikarjuna and Ganesan, V., "Modulation of Inlet Valve Closure Timing to Enhance Part-Load Performance in Fuel Injected Spark Ignition Engine – An Experimental Investigation", Proc. of the XXI National Conference on IC Engines and Combustion (NICEICE 2009), BIET, Davanagere, Karnataka, Dec. 10-12, 2009, pp 465-474.
7. Murali Krishna, B. and Mallikarjuna, J.M., "Engine In-Cylinder Tumble Flows – A Study using Particle Image Velocimetry", Proc. of National Conference on New Advances in thermal, Design, Materials and Manufacturing Engineering (NATDMME 2009), March 5-7, 2009, MCE, Hassan, India.
8. Suresh Kumar, A., Ramesh, A. and Gajendra Babu, M.K., "Experimental Studies on a LPG Fueled HCCI Engine", Proc. of the XXI National Conference on IC Engines and Combustion (NICEICE 2009), BIET, Davanagere, Karnataka, Dec. 10-12, 2009, 129-136.
9. Maheshwara Reddy, N, Tulapurkara, G. and Ganesan, V., "Aerodynamic Analysis of Flow Inside an Aero Engine Afterburner", 15th National Conference on Fluid Mechanics and Fluid Power, Nov.11-13, 2009, PES Institute of Technology, Bangalore, pp.733-738.
10. Maheshwara Reddy, N., Tulapurkara, G. and Ganesan, V., "Aerodynamic Analysis of Flow Inside an Aero Engine Afterburner", 15th National Conference on Fluid Mechanics and Fluid Power, PES Institute of Technology, Bangalore, Nov. 11-13, 2009, pp 733-738.
11. S. Narayanan, K. Srinivasan, and T. Sundararajan, Acoustic characteristics of a cylindrical Hartmann resonator, IISc Centenary International Conference and Exhibition on Aerospace Engineering, pp. 281-286, IISc, Bangalore, India, 18-22 May, 2009.
12. S. Narayanan, K. Srinivasan, and T. Sundararajan, Experimental study of the behavior of a single droplet and sprays in a sound field of Hartmann acoustics , pp. 281-286, IISc, Bangalore, India, 18-22 May, 2009.
13. Dr. Somashekhar S. Hiremath delivered a invited talk on "Actuator dynamics through Finite Element Method" during National Conference on Mechanical Engineering Trends – COMET – 2010, organized by Department of Mechanical Engineering, Ballari Institute of Technology and Management Ballari, 19th – 20th February 2010. The paper is published in the proceeding p.10 – p.20. Also he chaired a Technical Session on "Engineering Design" Stream on 19th February 2010.
14. Goutham, K. and Dhiman Chatterjee, 2009, "Study of shear layer cavitation", 36th National Conference on Fluid Mechanics and Fluid Power, Pune, India.
15. Kumaraswamy, S., 2009, "Challenges for choice of micro-hydro power in remote areas", Prof.Subir Kar memorial lecture, 36th Natl. Conf. on Fluid Mech. And Fluid Power, Pune India.
16. B. Rahul Kumar and N. Sitaram, "Miniature Two Hole Probe for Turbomachinery Three Dimensional Flow Measurements", paper No. 71-FM-14, CD-ROM Proc. of 36th National Conference on Fluid Mechanics & Fluid Power, Dec. 17-19, 2009, Pune, India.
17. Prasad, B.V.S.S.S. "Computational and experimental study of Conjugate Heat transfer for a Flat Plate with Impinging Jet", 36th National Conference on Fluid Mechanics & Fluid Power, Dec. 17-19, 2009 Pune, India

In Proceedings of International Conferences:

1. B. Janarthanan, C. Sujatha and C. Padmanabhan, 2009, "Skid Steering Analysis of Tracked Vehicles," Proceedings International Mobility Engineering Congress, Chennai, December 13-15, SAE Paper No. 2009-28-0063.
2. M. Bhat, K. Marudachalam and C. Padmanabhan, 2009, "Mount Force Reduction in a Scooter Engine Mounting System," Proceedings Small Engine Technology Conference (SETC), Japan, SAE Paper no. 2009-32-0054/20097054.
3. S. Ganesan and C. Padmanabhan, 2009, "Influence of Centrifugal Stiffening on The Rotor Dynamics of a System with Flexible Diaphragm Coupling," Proceedings VETOMAC V, Wuhan, China, August 26-28.
4. Unnikrishnan S. Nair and C. Padmanabhan, 2009, "Strategies for Noise Control in Payload Fairings," Keynote Paper, Noise and Vibration: Emerging Methods (NOVEM), Oxford University, April 5-8.
5. Sreedhar babu, G., Sekhar A.S., and Lingamurthy, A., "Condition monitoring of BLDC motor based Electromechanical linear actuators", 16th Int. congress on Sound and Vibration, 5-9 July, 2009, Krakow, Poland - paper 683.
6. Ankit Gupta, A.S. Sekhar and R. Velmurugan, "Damping estimation and Dynamics of a composite shaft- rotor system", 16th Int. congress on Sound and Vibration, 5-9 July, 2009, Krakow, Poland – paper 679.
7. Kuldeep Singh and A. S. Sekhar "Design of Portable Cell Phone Charger for Commuters" Proc. Of International Conference NPDC 09, IIT Madras, 17-19 December 2009, p.266.
8. K.Saravanan and A.S. Sekhar " Vibrations of composite material beam and shaft- Laser Vibrometer Vs Accelerometer " NACOMM-09, 17-18 December, 2009, NIT, Durgapur, pp.360-365, paper code: DVAMAS16
9. Ankit Gupta, V. Alwan, A.S. Sekhar and R. Velmurugan, "Vibrations Analysis of shafts of composite materials", Proc. Of the National Seminar on Aerospace Structures (NASAS), November 19-20, 2009 , IIT Bombay , P. 48.
10. V.Alwan, R Velmurugan, A S Sekhar" Mechanical characterization and DMA studies of carbon/epoxy composites" Proc. Of ISAMPE National Conference on Composites (INCCOM-8), Thiruvananthapuram, Dec. 4-5, 2009, pp 376-384.
11. Megalingam, A., and Mayuram, M.M., "A FEM based Multiple Asperity Deterministic Contact Model," presented in 'ASME/STLE International Joint Tribology Conference' held on 19th to 21st Oct. 2009, at Tennessee, USA
12. Kantha Babu, M., Shunmugam, M. S. and Singaperumal M. (2009), Multi-objective optimization of plateau honing process parameters using non-dominated sorting genetic algorithm, 12th CIRP International Conference on Modeling of Machining Operations, Spain, 2009, 605-612.
13. Dinesh Thakur, Vijayaraghavan, L. and Ramamoorthy, B. (2009), Optimization of minimum quantity lubrication in high speed turning of super alloy Inconel 718 for sustainable development, World Academy of Science Engineering and Technology, Paris, June 24-26, 2009, 224 -226.
14. Dinesh Thakur, Vijayaraghavan, L. and Ramamoorthy, B. (2009), Effect of high speed cutting parameters on the surface characteristics of super alloy INCONEL 718, World Congress on Engineering, London, July 1-3, 2009.
15. Priya and Ramamoorthy, B. (2009), Machine Vision for Surface Roughness Assessment of Inclined Components, 9th ISMTII, St Petersburg, Russia, June 29-July 2, 2009, 2, 033-037.
16. Dinesh Thakur, Vijayaraghavan, L. and Ramamoorthy, B. (2009), Evaluation of surface roughness in high speed turning of super alloy Inconel 718 using Taghuchi Method, 9th ISMTII, St Petersburg, Russia, June 29-July 2, 2009, 273-277.
17. Prasan Kumar, N., Srikanth, R. and Ramesh Babu, N. (2009), Modeling and analysis of kerf geometry in pocket milling with abrasive waterjets, 12th CIRP Conference on Modeling of Machining Operations, Donostia-San Sebastián, Spain, May 7-8, 2009, 613-620.
18. Chiddarwar, S. S. and Ramesh Babu, N. (2009), Dynamic priority allocation for conflict free coordinated manipulation of multiple agents, Proceedings of IEEE Conference on Automation Science and Engineering, Bengaluru, August 22-24, 2009, 549-554.
19. Vimal Nandhan, R. K. and Ramesh Babu, N. (2009), Reverse engineering of PLC control programs for their re-use in manufacturing systems, 7th Global Conference on Sustainable Manufacturing, IIT Madras, Chennai, December 2-4, 2009, 361-366.

20. Chiddarwar, S. S. and Ramesh Babu, N. (2009), Agent based framework for coordinated motion planning of multiple robots, 7th Global Conference on Sustainable Manufacturing, IIT Madras, Chennai, December 2-4, 2009, 373-378.
21. Srikanth, R. and Ramesh Babu, N. (2009), A precision kerfing approach for milling of precise cavities with abrasive waterjets, Copen 6 – Sixth International Conference on Precision, Meso, Micro and Nano Engineering, PSG Tech and Amirtha University, Coimbatore, December 11-12, 2009, A13-A17.
22. Mohan, R. and Ramesh Babu, N. (2009), A feasibility study on ice bonded abrasive polishing of metallic materials, Copen 6 – Sixth International Conference on Precision, Meso, Micro and Nano Engineering, PSG Tech and Amirtha University, Coimbatore, December 11-12, 2009, B18-B23.
23. Rajakumar, S., Vijayaraghavan, L. and Mayuram, M. M. (2009), Flexure Response of D-Gun Sprayed Functionally Graded Coating of Alumina and Alumina-Zirconia Ceramic Composite, 12th CIRP Conference on Modeling of Machining Operations, Donostia-San Sebastián, Spain , May 7-8, 2009, 827-834.
24. Rajakumar, S., Vijayaraghavan, L. and Mayuram, M. M. (2009), Response of Detonation-Gun Sprayed Functionally Graded Ceramic Composite Coatings to Flexural Characterization by AE Monitoring, National Conference on Design and Manufacturing Issues in Automotive and Allied Industries (IPRoMM), IITD&M Kancheepuram, India, July 17-19, 2009, 37-44.
25. Rajakumar, S., Vijayaraghavan, L. and Mayuram, M. M. (2009), Response of D-Gun Sprayed Alumina-Zirconia Ceramic Composite to Particle Erosion and Sliding Wear, ASME International Joint Tribology Conference (IJTC/STLE), IJTC2009-15186, Tennessee, USA, October 19-21, 2009.
26. Rajakumar, S., Vijayaraghavan, L. and Mayuram, M. M. (2009), Characterization and Response Evaluation of D-Gun Sprayed Alumina-Titania Ceramic Composite, International Conference on Advances in Materials and Processing Technologies (AMPT), Surface Engineering 07, ID 300, Kuala Lumpur, Malaysia, October 26 - 29 2009.
27. Rajakumar, S., Vijayaraghavan, L. and Mayuram, M. M. (2009), Characterization and Response Evaluation of D-Gun Sprayed Alumina Ceramic Coating, International Conference on Advances in Mechanical and Building Sciences in the 3rd millennium (ICAMB-2009), VIT university, Vellore, Tamil Nadu, India, December 14-16, 2009.
28. Janardhan, V. and Samuel, G. L. (2009), Investigation into Turning of Cylindrical Components using Wire Electrical Discharge Machine, Proceedings of the International Conference on Advances in Mechanical Engineering, S. V. National Institute of Technology, Surat, August 3 – 5, 2009, 835 – 839.
29. Denis Ashok, S. and Samuel, G. L. (2009), Least Square Estimation of Harmonic Components in Radial Error Measurement of a Miniaturized Machine Tool Spindle, Proceedings of 24th annual meeting of American Society for Precision Engineering, Monterey, CA, USA, October 4-9, 2009, 347-350.
30. Denis Ashok, S. and Samuel, G. L. (2009), Segmented Fitting Method for Radial Error Analysis of a Miniaturized Machine tool Spindle, Proceedings of 6th International Conference on Precision, Meso, Micro and Nano Engineering, PSG College of Engineering, Coimbatore, December 9-11, 2009, I-35 to I-40.
31. Murugarajan, A. and Samuel, G. L. (2009), Prediction of Surface Characteristics of a Machined Surface using Discrete Element Model, Proceedings of 6th International Conference on Precision, Meso, Micro and Nano Engineering, PSG College of Engineering, Coimbatore, December 9-11, 2009, I-59 to I-64.
32. Karthikeyan, P. and Srinivas Reddy, K.S., "Effect of Inclusions on Effective Thermal Conductivity Estimation of Two-phase Materials", Proc. of the 30th International Thermal Conductivity Conference and 18th International Thermal Expansion symposium, held at Seven Springs Mountain Resort, Pittsburgh, Pennsylvania, USA, between 29th Aug. & Sept. 2, 2009, hosted by M/s Anter Corporation, USA.
33. Reddy, K.S., "Energy Auditing and Energy Conservation in a Starch and Glucose Industry", Proc. of the Int. Conference on Advances in Energy Conservation Technologies, MIT Manipal, Jan. 7-10, 2010, pp 94-99
34. Ravi Kumar, K and Reddy, K.S., "Investigation of Heat Transfer Characteristics of Solar Parabolic Trough Concentrator with line Focus Porous Disc", Proc. of the 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, Jan. 4-6, 2010, pp 487-494.
35. Shinu M. Varghese and Reddy, K.S., "Numerical Study of Solar Reactor for Thermo Chemical Production of Hydrogen", Proc. of the 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, Jan. 4-6, 2010, pp 506-513.
36. Reddy, P.P.C. and Reddy, K.S., "Investigation of Flux Distribution on the Receiver of Solar Linear Fresnel Reflector Power Plant", 3rd Int. Conference on Power systems, December 27-29, 2009, IIT Kharagpur, India.

37. Reddy, K.S. and Veershetty, G., "Flux Distribution of 20 m² Fuzzy Focal Solar Parabolic Dish Concentrator", Int. conference on Advances in Energy Research (ICAER), IIT Bombay, Dec. 9-11, 2009, pp 386-391.
38. Reddy, K.S., "Performance Analysis of Concentrating Solar Power (CSP) Technologies", UK- India Young Scientists Networking conference on Low Carbon Technologies and Energy Research, Chennai, March 23-24, 2009.
39. Gnanasekaran, N. and Balaji, C., "Estimation of Multiple Parameters in Transient Cooling Using Bayesian Method", Proc. of the 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, Jan. 4-6, 2010, Paper No. 317.
40. Anil Kumar Sharma, Velusamy, K. and Balaji, C., "Influence of Debris Bed Shape on Buoyancy Driven Flow of Low Prandtl Number Fluid", Proc. of the 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, Jan. 4-6, 2010, Paper No. 170.
41. Parthasarathy, U., Sundararajan, T., Balaji, C. and Velusamy, K., "Characterization of Sodium Cross Flow Over Hexagonal Subassemblies", Proc. of the 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, Jan. 4-6, 2010, Paper No. 196.
42. Venugopal, G., Venkateshan, S.P. and Balaji, C., "An Inverse Thermal Problem for Simultaneous Estimation of Temperature Dependent Thermal Conductivity and Specific Heat", Proc. of the 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, IIT Bombay, Jan. 4-6, 2010, Paper No. 306.
43. Anil Kumar Sharma, Velusamy, K. and Balaji, C., "Turbulent Natural Convection of Heat Generating Low Prandtl Fluids in a Cylindrical Enclosure", (accepted for publication in the International Journal of Heat and Technology)
44. Patel, H.E., Sundararajan, T. and Das, S.K., "An Experimental Investigation into the Thermal Conductivity Enhancement in Oxide and Metallic Nanofluids", (accepted for publication in Journal of Nanoparticle Research 2009).
45. Ruben Sudhakar, D. and Ajit Kumar Kolar, "Digital X-Ray Radiography Technique for the Study of Char Formation", Int. conference on Advances in Energy Research (ICAER), IIT Bombay, Dec. 9-11, 2009.
46. Vasanth, P. and Ajit Kumar Kolar, "Numerical Study on Start-up Time of DMFC", Int. Conference on Advances in Energy Research (ICAER), IIT Bombay, Dec. 9-11, 2009.
47. Krishna Sabaresh, R., Prasanna, S., Venkateshan, S.P., Estimation of Thermal Conductivity and Emissivity using Conjugate Heat Transfer Experiments", 7th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermodynamics, HMT-7, 2009, Poland, pp 1215-1222.
48. Vasanth, P. and Ajit Kumar Kolar, "Dynamic behaviour of a single free breathing direct methanol fuel cell", Int. Symposium – FUCETECH 2009, Mumbai, Nov. 2009.
49. Anand, K, Sharma, R.P. and Pramod S. Mehta, "Experimental Investigations on Combustion, Performance and Emission Characteristics of Karanja and Jatropa Biodiesel Fuels in a Turbocharged Direct Injection Diesel Engine", Proc. of the 7th Asia-Pacific Conference on Combustion, National Taiwan University, Taipei, Taiwan, May 24-27, 2009.
50. Anand, K., Sharma, R.P. and Pramod S. Mehta, "Effect of Long Storage Stability of Karanja (Pongamia) Derived Biodiesel Fuel on the Performance, Combustion and Emission Characteristics of a Multi-Cylinder Turbocharged Direct Injection Diesel Engine", Proc of the 2009 Fall Technical Conference of the ASME Internal Combustion Engine Division, ICEF 2009, Lucerne, Switzerland, Sep. 27-30, 2009.
51. Gajendra Babu, M.K., Alok Kumar and Khatri, D.S., "An Investigation of Potential and Challenges with Higher Gasoline Blend on a Single Cylinder Spark Ignition Research Engine", Proc. of the SAE World Congress-2009, COBO Centre, Detroit, USA, April 20-23, 2009 (SAE Paper No. 2009-01-0137).
52. Murali Krishna, B. and Mallikarjuna, J.M., "Tube Flow Analysis in an Unfired Engine Using Particle Image Velocimetry", Proc. of World Academy of Science, Engineering and Technology, Vol.54, ISSN 2070-3724, Paris France, June 24-26, 2009
53. Saleel Ismail and Pramod S. Mehta, "A Comparison of the Combustion Efficiencies of Hydrogen and Hydrocarbon Fuels – A Second Law Approach", Proc. of the Int. Conf. on Advances in Energy Research, (ICAER-2009) IIT Bombay, Dec. 9-11, 2009, pp 38-43
54. Muralikrishna and Mallikarjuna, J.M., "Effect of Cavity in a Pent Roof Piston on the Engine In-cylinder Tumble Flows - An Investigation by Particle Image Velocimetry", Proc. of the World Congress on Engineering, London, UK, July 1-3, 2009

55. Murali Krishna, B. and Mallikarjuna, J.M., "Effect of Intake Manifold Orientation on In-Cylinder Tumble Flow Structure in an Internal Combustion Engine – An Analysis Using Particle Image Velocimetry", Proc. of the SAE India International Mobility Congress & Exposition 2009, Dec.13-15, 2009, Chennai, India (SAE Paper No. 2009-28-0004);
56. Purushothama, H.R., Mallikarjuna, J.M. and Ganesan, V., "Part Load Efficiency Improvement in a Spark Ignition Engine by Fuel Injection and Extended Expansion – An Experimental Study", Proc. of International Conference and Exhibition on Advances in Energy Research (ICAER 2009), Dec. 9-11, 2009, IIT Bombay, Mumbai, India.
57. Murali Krishna, B. and Mallikarjuna, J.M., "Tumble Flows in Gasoline Direct Injection Engine – A Study Using Particle Image Velocimetry", Proc. of the International Conference on Applications and Design in Mechanical Engineering 2009 (ICADME 2009), Oct. 11-13, 2009, Penang, Malaysia.
58. Purushothama, H.R., Mallikarjuna, J.M. and Ganesan, V., "Performance Characteristics of Fuel Injected Extended Expansion Spark Ignition Engine – An Experimental Investigation", Proc. of the International Conference on Emerging Research and Advances in Mechanical Engineering (ERA2009), March 19-21, 2009, VCE, Chennai, India.
59. Bejoy, M.D., Shamit Bakshi and Ramesh, A., "On the Effect of GDI Injector Configuration on Charge Preparation", Int. Conf. on Liquid Atomization and Spray systems (ICLASS 2009), Vail-Colorado, USA, July 26-30, 2009.
60. Bejoy, M.D., Shamit Bakshi and Ramesh, A., "On the Effect of GDI Injector Configuration on Charge Preparation", Int. Conf. on Liquid Atomization and Spray systems (ICLASS 2009), Vail-Colorado, USA, July 26-30, 2009.
61. Rajkumar, S., Shamit Bakshi and Mehta, P.S., "Predicting Mixing Rates in Multiple Injection CRDI Engines", Proc. of the ASME Internal Combustion Engine Division 2009 Fall Technical Conference, Lucerne, Switzerland, Sept. 27-30, 2009.
62. Nikhil Babu, P., Deepak Kumar Mandal and Shamit Bakshi, "Computational Simulation of Single Droplet Evaporation using Volume of Fluid Method", International Workshop on Bubbles and Drop Interfaces, Thessaloniki, Greece, Sept. 23-25, 2009.
63. Prasad G.M.V., Dhiman Chatterjee, Shamit Bakshi, "Computational Study of the Motion of Oscillating Gas Bubbles Through a Nozzle", International Workshop on Bubbles and Drop Interfaces, Thessaloniki, Greece, Sept. 23-25, 2009.
64. Davinder Kumar, Ramesh, A., Gajendra Babu, M.K. and Manivannan, P.V., "An Ionization Current Based Cylinder Gas Pressure Estimation for Knock Detection and Control in a Single Cylinder SI Engine", Proc. of the 15th Small Engine Technology Conference, Hotel Equatorial, Penang, Malaysia, Nov. 3-5, 2009, organized by SAE International.
65. Vijayashree, Tamilporai, P. and Ganesan, V., "Thermodynamic Modelling of Progressive Combustion in Spark-Ignition and Compression Ignition Engines", 18th Annual Int. Conf. on Mechanical Engineering (ISME 2010), School of Mech. Engg., Sharif University of Technology, Iran, May 11-13, 2010.
66. Muthuveerappan, N., Venkataraman Shankar and Ganesan, V., "Numerical Study on the Effect of Droplet Size on the Gas Turbine Combustor Exit Temperature Quality", 10th ICCEU 2010 Int. Conf. on Combustion and Energy Utilization, Mugla University, Turkey, May 4-8, 2010.
67. Krishnasamy, M. Ramachandra Babu, Y., Ramesh, A. and Gajendra Babu, M.K., Studies on Reducing Cycle by Cycle Variations and Improving Performance of a Small Carbureted Gasoline engine, Proc. of the 15th Small Engine Technology Conference, Hotel Equatorial, Penang, Malaysia, Nov. 3-5, 2009, organized by SAE International
68. Subramaniam, A., Jayanti, S. and Shet U.S.P., Experimental Study of Liquid Sodium Pool Fire in a Table-Top Set-up: 7th Asia Pacific Conference on Combustion: ASPACC-2009, National Taiwan University, Taipei, Tiwan, May 24-27, 2009.
69. Manjunath B.C, U. S. P. Shet * and V. Raghavan Numerical Predictions of NOx in A Swirl Burner Operating With Partially Premixed Fuel Jet: 7th Asia Pacific Conference on Combustion: ASPACC-2009, National Taiwan University, Taipei, Tiwan, May 24-27, 2009.
70. K. Harinath Babu, U. S. P. Shet and Ramnath Bhagat., Experimental Studies on Stability of Multiple Interacting Jet Flames, 7th Asia Pacific Conference on Combustion: ASPACC-2009, National Taiwan University, Taipei, Tiwan, 24-27 May 2009.

71. Ajilkumar, A, T. Sundararajan, U. S. P. Shet: Effects of Steam on Gasification of High-Ash Content Coal: A Numerical Study: International Conference on Applications and Design in Mechanical Engineering (ICADME), 11-13 October 2009, Universiti Malaysia Perlis, Malaysia.
72. Manjunath B.C, U. S. P. Shet and V. Raghavan; A Numerical Study on Effects of Swirl and Primary Aeration of Fuel Jet on Pollution Emissions in A Swirl Burner: International Conference on Applications and Design in Mechanical Engineering (ICADME), 11-13 October 2009, Universiti Malaysia Perlis, Malaysia, pp232-236.
73. U.S.P.Shet and K.Kumaran: Flame-Flow Visualization in A Swirl Burner, The 10th Asia Symposium on Visualization, March 1-5, 2010, organized in association with Asian Society for Visualization and by the School of Mechanical Engineering, Faculty of Engineering and Technology, SRM University, Kattankulathur - 603 203, Kanchipuram District, Tamilnadu, India, pp 303-338
74. U. S. P. Shet, K. Siva Krishna, P. Senthil Kumar and T. Sundararajan: Flame Structure Analysis of Partially Premixed LPG-Air Flames by Digital Image Processing, The 10th Asia Symposium on Visualization, ibid, March 1-5, 2010, pp 505-509.
75. P. S. Tide and K. Srinivasan, "Experimental Investigation on the Effect of Chevron Penetration on 4 Lobed Chevron Nozzles", AIAA-2009-0852, 47th AIAA Aerospace Sciences Meeting, Orlando, Florida, USA, January 5-8, 2009.
76. S. Narayanan, K. Srinivasan, and T. Sundararajan, "Aeroacoustic studies on chamfered resonance tubes," AIAA-2009-0703, 47th AIAA Aerospace Sciences Meeting, Orlando, Florida, USA, January 5-8, 2009.
77. T.J.S. Jothi and K. Srinivasan, "Aeroacoustic Studies of Underexpanded Pipe Jets," AIAA-2009-0286, 47th AIAA Aerospace Sciences Meeting, Orlando, Florida, Jan 5-8, 2009.
78. P. S. Tide and K. Srinivasan, "Aeroacoustic Studies of Beveled and Asymmetric-Chevron Nozzles," AIAA 2009-3404, 15th AIAA/CEAS Aeroacoustics Conference, 30th AIAA Aeroacoustics Conference, Miami, Florida, May 2009
79. S. Narayanan, K. Srinivasan, and T. Sundararajan, "Aeroacoustic Features of Cavities with Chamfered Outlets," AIAA-2009-3351, 15th AIAA/CEAS Aeroacoustics Conferences (30th AIAA Aeroacoustics Conference), Miami FL, 11-13 May, 2009
80. Somashekhar S. Hiremath and M. Singaperumal. Fluid Structure Interaction in Electrohydraulic Servo Valve: A Finite Element Approach. Proceedings of the 2009 International Conference on Mechatronics and Information Technology (ICMIT) organized by Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea, during 3-5 December 2009. Paper Number F2D-6.
81. Somashekhar S. Hiremath and B. Gokul. Embedded System Based Control for Networking Mobile Robots. Proceedings of the 2009 International Conference on Mechatronics and Information Technology (ICMIT) organized by Gwangju Institute of Science and Technology (GIST), Gwangju, South Korea, during 3-5 December 2009. Paper Number T2B-3.
82. Jagannatha N., Somashekhar S. Hiremath and K. Sadashivappa, "Experimental Study on Etching of Glass Plate using Abrasive Hot Air Jet Machining" Proceedings of Sixth International Conference on "Precision, Meso, Micro and Nano Engineering", PSG, 11-12 December 2009, B-1 to B-5.
83. A. S. Sharan, Somashekhar S. Hiremath and C. S. Venkatesha, "Torque Motor Modeling of an Electrohydraulic Servo Valve" Proceedings of Sixth International Conference on "Precision, Meso, Micro and Nano Engineering", PSG, 11-12 December 2009, p. J-17 to J-21.
84. K. C. Devendrappa, A. S. Sharan, K. Sadashivappa and Somashekhar S. Hiremath "Mechanical Characterization of Wood Plastic Composite under Varied Wet Conditions" Proceedings of Sixth International Conference on "Precision, Meso, Micro and Nano Engineering", PSG, 11-12 December 2009, p. H-9 to H-13.
85. Somashekhar S. Hiremath and M. Singaperumal, "Fluid structure interaction in electrohydraulic servo valve; a finite element approach," in ICMIT 2009: Mechatronics and Information Technology, edited by Jeha Ryu, Kil To Chong, Ryojun Ikeura, Qingkai Han, Proceedings of SPIE Vol. 7500 (SPIE, Bellingham, WA, 2010) 75000D.
86. M.Suresh and A.Mani, "Experimental evaluation of heat and mass transfer coefficients for R134a/DMF bubble absorber", accepted in International conference on plant equipment and reliability, Universiti Teknologi PETRONAS (UTP), Malaysia, June 15 - 17, 2010
87. M.Suresh and A.Mani, "Heat and Mass Transfer Studies on Plate Heat Exchangers in R134a/DMF based vapour absorption refrigeration system", communicated to International conference on refrigeration and airconditioning, Purdue University, USA July 12 - 15, 2010 (Abstract accepted)

88. S. Jayavel, Shaligram Tiwari, "Numerical investigation of heat transfer enhancement in fin-tube heat exchangers by vortex generators in common-flow-up and common-flow-down configurations", 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, Anushakti Nagar/ IIT Bombay, India, January 4-6, 2010.
89. S. Jayavel, Shaligram Tiwari, "Lagrangian study of particle trajectories due to vortices generated by vortex generators in various configurations", 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, Anushakti Nagar/ IIT Bombay, India, January 4-6, 2010.
90. Sita Ramaraju, Shaligram Tiwari, S. Srinivasa Murthy, "Unsteady heat and mass transfer analysis of hydrogen absorption in liquid-cooled metal hydride beds", 20th National and 9th International ISHMT-ASME Heat and Mass Transfer Conference, Anushakti Nagar/ IIT Bombay, India, January 4-6, 2010.
91. Prasad, GMV, Shamit Bakshi and Dhiman Chatterjee, 2009, "Computational study of the motion of oscillating gas bubbles through a nozzle", Intl Workshop on Bubble and Drop Interfaces 2009, Thessaloniki, Greece.
92. Rammohan, S., Saseendran, S. and Kumaraswamy, S., 2009, "Numerical prediction and experimental verification of cavitation of globe type control, valves", Proc. Intl. Sym. On Cavitation, CAV 2009, Paper No.22, Ann Arbor, Michigan, USA.
93. Senthil Kumar, R., Kumaraswamy, S. and Mani, A., 2009, "Analysis of mixing characteristics of flow in a two phase flow jet pump used in flash desalination system", Intl. Sem. On ejector/jet-pump technology and application, paper No.12, Louvain-la-Neuve, Belgium.
94. Vinid J Nair, Kumaraswamy, S. and Krishnakumar, R., 2009, "design and numerical studies on axial flow blood pump", 3rd Intl. Congr. On Computational mechanics and simulation, IIT Bombay, Mumbai, India
95. Mathew Skaria and N. Sitaram, "Computational Investigation of Effect of Vane Inlet Angle on Flow Field and Performance of Partial Vane Diffuser of a Centrifugal Compressor", Paper No. 127, International Conference on Materials, Mechanics and Management, Jan. 14-16, 2010, Trivandrum, India.
96. Ramakrishna PV and Govardhan M, "Performance Improvements of Axial Flow Compressor Stage with Forward Blade Sweep" GT2009-59840, ASME Turbo Expo 2009, Orlando, Florida, USA, June 8-12, 2009.
97. Ashok Kumar, M. and Prasad, B.V.S.S.S., "Computational Investigations of Flow and Heat transfer on an Effused Concave Surface with a Single row of Impinging Jets for different exit configurations; Proceedings of ASME Turbo Expo 2009, Orlando, USA.
98. M. Govardhan, M., and Seralathan, S., "Studies on Freely Rotating Vaneless Diffusers of a Centrifugal Impeller", 9th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows (ISAIF9), 8-11, September 2009, Gyeongju, Korea
99. Govardhan, M., Seralathan, S., "Effect of Forced Rotating Vaneless Diffusers on Centrifugal Compressor Stage Performance", International Conference on Applications and Design in Mechanical Engineering (ICADME), University Malaysia, Perlis, Malaysia, October 11-13, 2009.
100. Prasad, B.V.S.S.S. "Design and Performance Analysis of turbine for 100kW Closed Cycle Otec Plant", (10th AICFM) 21-23, October 2009, Kuala Lumpur, Malaysia
101. Ramakrishna PV and Govardhan M, "On Rotor Blade Loading and Tip Leakage Phenomena in a Low Speed Axial Compressor With Forward Blade Sweep", Proceedings of the International Conference on Power Engineering -09,(ICOPE 09), Kobe, Japan, November 16-20, 2009.
102. Govardhan, M., Pramod Kumar Maharia, "Effect of Streamwise Fences on Secondary Flows and Losses in a Reaction Turbine Cascade", 4th International Conference on Experimental Mechanics 2009, 18-20 November 2009, Singapore.
103. Ashokkumar, M and Prasad, B.V.S.S.S. "Influence of Height to Diameter Ratio on Impingement Heat Transfer on Effused Concave Surface", International Symposium on Heat Transfer in Gas Turbine systems, Antalya, Turkey, August 9-14, 2009.

5.8 Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Prof. Srichand Hinduja University of Manchester, UK		Collaborative Research
2.	Dr. Raj Ranganathan Director, Heat Transfer Development M/s C D Adapco, U.S.A.	25.1.2010	To deliver a lecture on Heat Transfer – CFD in IC Engines Lab
3.	Prof. T. Obakata Gunma University, Japan	13.12.2009	For a collaboration on GDI Engine and for providing GDI equipment for research purpose
4.	Mr. MIKIRO SASAJIMA, Sr. Manager, Engg. Dept., Aerospace Company, Nabtesco Corporation, Japan	04.11.2009	Regarding project proposals on the "Development of Jet Pipe Electrohydraulic Survovale"
5.	Dr. KHAI T.VU, Ph.D, Sr. Director of Engineering, Nabtesco Aerospace. Inc. USA	04.11.2009	Regarding project proposals on the "Development of Jet Pipe Electrohydraulic Survovale"
6.	Prof. Kshirsagar, J.T., Vice President, Corporate R & D Division, Kirloskar Brothers Ltd.	07.05.2009	R & D activities and placement
7.	Mr. Jaidev Singh, Director, Anticorrosive Equipment Pvt. Ltd., Gundlav	01.12.2009	Possible consultancy work and placement
8.	M.S. Konnur, Sr. General Manager, R & D Hydraulics, Jyoti Ltd., Vadodara	05.1.2010	Sponsorship of their engineers for Master's programme & placement
9.	Anil Patel, Asst.. General Manager, Jyoti Ltd., Vadodara	05.1.2010	Sponsorship of their engineers for Master's programme & placement
10.	Dr.P. Muthukumar, Associate Professor and Concordia Research Chair of Concordia University, Canada	09.2.2010	For possible collaborative research activities
11.	B.R. Muralidhar, Managing Partner, Prakriti Hydro labs., Bangalore	26.3.2010	Requesting for Retainer Consultancy services
12.	N Sampath Kumar, Partner, Prakriti Hydro labs., Bangalore	26.3.2010	Requesting for Retainer Consultancy services

4.13.6 Other Activities of the Department/Centre:

Reviewed Papers:

- Reviewed 2 papers for "Sandhana" & "Journal of Sound and Vibration" July 2009 - Dr. P. Chandramouli
- Reviewed 1 paper for ASME Journal (GT) + 3 papers for NPDC Conference, Aug 2009 - Dr. A. Seshadri Sekhar
- Reviewed 4 papers for Acoustical Soc. of India, 1 for SADHANA & 1 for INSA proceedings, Aug 2009
- Reviewed a paper for ASME Journal of Vibration & Acoustics, Sep 2009
- Reviewed 6 papers for SAE Mobility Conference, one paper for ASME Journal of Vibration and Acoustics, Oct 2009
- Reviewed 2 papers, one for ASME Journal of Vibration & Acoustics, one for International Journal of Modelling, Identify & Control, Nov 2009 - Dr. P. Chandramouli

Invited Talk

- Delivered an Invited talk on "A Brief Introduction to Continuum Mechanics" at The Mechanical Engineering Department, Government Engineering College, Trissur, Kerala on 29th July 2009 - Dr. Parag Ravindran
- Invited talk on "Research on Random and Nonlinear Vibrations: State of Art and Future Trend" at University of Technology Mara (UITM), Malaysia on 27 and 28, August 2009 - Dr. S. Narayanan
- Delivered a 3 hour lecture for ID101 at IIT – Hyderabad, Nov 2009 - Dr. Sujatha Srinivasan
- February 13, 2010: Invited Lecture: Low-NOx Burner System, presented at the ISTE Staff Chapter, Entrepreneurship Development Cell (EDC), Thiagarajar Polytechnic College, Salem, Tamil Nadu. – Dr. U S P Shet
- December 10, 2009 Invited Lecture: Low-Emission and High Stability Swirl Burners, National Conference on I. C. Engines and Combustion, Dec 10-12, 2009, Babuji Institute of Engineering and Technology, Davangere-577004. - Dr. U S P Shet

Results obtained in research work (from M.S. & Ph.D thesis) of the scholar/faculty (last year sample enclosed from Director's Speech)

- **R.S. PRABAKAR (Ph.D.):** Thesis entitled 'Optimal semi-active control of road vehicles with magnetorheological damper

This thesis investigates the performance of MR dampers used as semi-active suspension devices in both quarter car and half car models in improving the ride comfort, road holding and suspension working space of a vehicle traversing a rough road at constant velocity.

Ph.D :

C. Venkateswara Babu, Dr. N. Sitaram & Dr. M. Govardhan "Secondary and Tip Clearance Flows in an Annular Turbine Rotor Cascade"

- **PARMATMA DUBEY (M.S.):** Intelligent diagnostics of induction motor faults

This thesis investigates the use of vibration and Motor Current Signature Analysis (MCSA) in conjunction with Wavelet Transform (WT) and Artificial Neural Network (ANN) for the detection of mechanical and electrical faults in a three-phase induction motor.

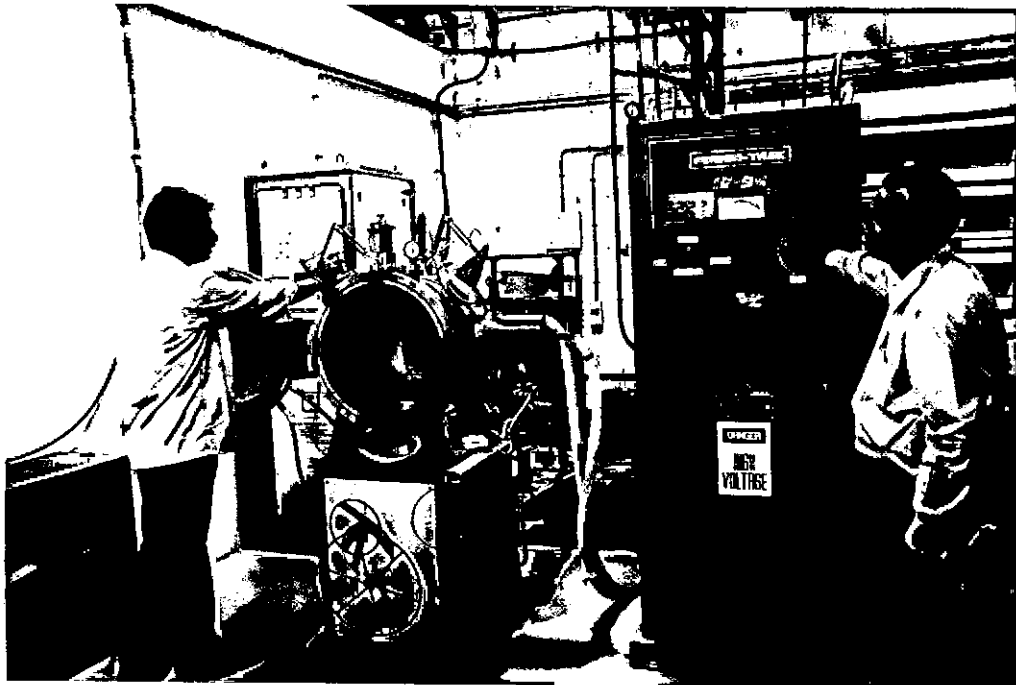
Activities initiated

- Dr. Ajit Kumar Kolar was an invited speaker on "Current Trend and Future Challenges of Environmentally Friendly and Energy Saving Technologies in India" at the Hindu-Hitachi (Indo-Japan) Scholarship Golden Jubilee symposium on "Energy and Environment" held at Chennai on 12.4.2009.
- Dr. Ajit Kumar Kolar, chaired a session on "Fuel Cells and Hydrogen Energy" at the UK-India Young Scientists Network Conference on Low Carbon Technologies and Energy Research held at Chennai on 3.4.2009.
- Dr. Ajit Kumar Kolar served as selection committee member in the Centre of Fuel Cell Technologies, Chennai on 29.4.2009
- Dr. C. Balaji conducted an Intensive Workshop on Atmospheric Radiation for Scientists/ Engineers of Space Applications Centre, ISRO, Ahmedabad from 7th to 10th December 2009
- Dr. Ajit Kumar Kolar nominated as an expert member of research council of SSN College of Engg. , Chennai
- Dr. Ajit Kumar Kolar attended the first joint IIT meeting on Energy, environment, Climate change as IIT representative in IITB, in March, 2010
- A free training program on STAR-CD and es-ice by M/s CD-adapco, Bangalore was organized by Dr. J.M. Mallikarjuna for the students of IIT Madras from June 29 to July 3, 2009
- Dr. A. Ramesh has been nominated as a Member of Expert Groups on Analytical Instrumentation, Sensors, Allied Instrumentation and Industrial Instrumentation by DST
- Dr. J.M. Mallikarjuna chaired a session on "Biodiesel and Fuel Blends", at XXI National Conference on IC Engines and Combustion (NICEICE 2009), BIET, Davanagere, Karnataka, Dec. 10- 12, 2009.
- Dr. A. Ramesh, has been nominated as an expert member of the national mission on engine development in 2010 for the development of engine for armed forces.

Major infrastructure development made in the Department

- (i) Establishment of Particle Image Velocimetry facility at I.C.E. lab under DST-FIST project
- (ii) A common rail fuel injection system facility has been development for combustion study

METALLURGICAL AND MATERIALS ENGINEERING



4.14 DEPARTMENT OF METALLURGICAL & MATERIALS ENGINEERING

4.14.1 Introduction:

The Department of Metallurgical and Materials Engineering (MME) is one of the oldest departments of IIT Madras, established in 1959 as Department of Metallurgy at the very inception of the Institute. The Department is actively engaged in research, education and industrial consultancy. It offers B.Tech., M.Tech., M.S. and Ph.D. degrees. The Department's teaching, research and consultancy activities cover a broad spectrum of materials science & engineering and industrial metallurgy (metal casting, metal joining, metal forming and materials technology). The Department developed a unique character at the outset owing to its strong linkages with the industry and the expertise of the faculty in industrial metallurgy. Over the years, the research interests of the faculty have diversified into many areas of materials science & engineering. The Department has excellent research infrastructure in the broad areas of materials processing (forming, joining, casting, particulate processing, nanostructured materials), characterisation (X-ray diffraction, electron microscopy, thermal analysis, scanning probe microscopy), mechanical testing, environmental degradation, surface engineering, and computational materials science. The Department continues to strive for excellence and realising its vision of becoming 'a pioneering Department in the country for teaching, research, and consultancy in emerging areas of materials science and engineering, while consolidating the Department's strength in traditional areas of metallurgical engineering.' The activities for the year 2008-09 bear testimony to a vibrant department's progress in keeping with its vision.

4.14.2 Academic Programmes:

Programme	I year	II year	III year	IV year	V year & others	Total
B.Tech.	24	23	23	26	4	100
Dual Degree	11	8	9	9	9	46
M.Tech.	22	17	0	0	0	39
M.S.	7	6	4	3	4	24
Ph.D.	15	8	9	14	23	69
Total	79	62	45	52	40	278

Names of students/scholars who attended conference/seminar and symposia abroad or in India

Sl. No	Name of the student/scholar	Name of the conference/seminar/symposium/workshop	Date and venue	Financial assistance from
Abroad				
1.	A. Udayakumar, Ph.D. scholar	14th International Conference on Fusion Reactor Materials held in Sapporo, Japan	Sapporo, Japan, September 6-11, 2009	
India				
2.	A. Udayakumar, Ph.D. scholar	International Conference on Advanced Functional Materials, Trivandrum, India	09-12-2009 Trivandrum, India	
3.	R. Sangeetha	Workshop on bioleaching (metal extraction) and bioremediation (treatment of acid mine drainage) at Dept. of Materials Engineering, Indian Institute of Science, Bangalore, India.	14-12-2009 IISc, Bangalore, India	
4.	L. Archana	International Conference on Advanced Functional Materials (ICAFM-2009), Thiruvananthapuram	09 to 10 Dec., 2009	IITM
5.	Narendar Reddy B.	47 th National Metallurgists' Day and 63 rd Annual Technical Meeting of Indian Institute of Metals, Kolkata	14 to 17 Nov. 2009	IITM

Names of students/scholars who won outside prizes and awards:

Sl. No.	Name of the student/scholar	Roll No.	Name of the prize	Prize awarded by
1.	Sumantra Mandal		"2009 Young Metallurgist of the Year" award	14 th November, 2009 Science City Complex, Kolkata

4.14.3 Faculty and their activities:

Sl. No.	Name & qualification	Major areas of specialisation (Only 3 areas)
1	Kesavan Nair, P. [Head] Ph.D. (IIT Madras)	X-ray diffraction, residual stress analysis, electroless coatings, synthesis and characterization of carbon nanotubes
2	Bhattacharya, S.S. Ph.D. (IIT Madras)	Superplasticity of materials (analytical and experimental) super plastic forming, high temperature deformation behaviour of materials, metal forming, advanced materials testing
3	Ganesh Sundara Raman, S. Ph.D. (IIT Madras)	Fatigue, fracture mechanics, fretting fatigue, short cracks, mechanical behaviour of materials
4	Guha, B. [#] Ph.D. (IIT Madras)	Fatigue fracture mechanics of welded joints, FEM/CAD application to weld joint design and fatigue life prediction, computer simulation in welding technology, testing and design of weldments' strength and stability
5	Kamaraj, M. Ph.D. (IIT Madras)	Creep deformation and fracture mechanisms of titanium aluminides, superalloys and welded joints, development of wearsurfacing materials; tribological tests on weld deposits (plasma transferred arc, plasma spray, HVOF processes etc.), studies of the relationships between processing, microstructure, deformation and fracture processes in advanced materials, fretting fatigue of structural materials, development of marine propeller materials
6	Murty, B.S. Ph.D. (IISc Bangalore)	Thermodynamics and kinetics of phase transformations, mechanical alloying and rapid solidification processing, nanocrystallization of bulk metallic glasses, nanocrystalline metals, alloys and intermetallic compounds, nanocomposites, grain refinement of Al alloys, in-situ composites, transmission electron microscopy
7	Pathak, S.D. Ph.D. (IIT Madras)	Mechanical metallurgy, fatigue and fracture mechanics, short crack initiation and propagation, fracture toughness of HSLA steels, stress rupture behaviour and life assessment of high temperature materials
8	Prasad Rao, K. Ph.D. (IIT Madras)	Welding, Surface Engineering (corrosion and wear)
9	Prasanna Kumar, T.S. Ph.D. (IIT Madras)	Process modeling, CAD/CAM, finite element analysis, higher level automation, establishment of mathematical modeling techniques related to steel plant technology
10	Raghavan, S. Ph.D. (IISc Bangalore)	Thermodynamics of metal oxide systems using solid electrolyte galvanic cells, solid state chemical sensors in industry, hot corrosion and creep of superalloys, computer simulation of phase diagrams and theoretical models
11	Sampath, V. Ph.D. (IISc Bangalore)	Shape memory alloys and smart materials, composite materials, powder metallurgy, sol-gel processing, physical metallurgy, structure-property correlations
12	Sampath Kumar, T.S. Ph.D. (IISc Bangalore)	Biomaterials, microwave processing, surface science, intermetallics, high T _c superconductors, analytical instrumentation
13	Paramanand Singh Ph.D. (IIT Bombay)	Study of advanced ceramics (both functional and structural ceramics), nanostructured materials, shape memory alloys and electronic materials, ceramic matrix composites, metal matrix composites, mechanical alloying, metallic foam and warm compaction, powder metallurgy, powder characterization.

Associate Professors:

- | | | |
|----|---|--|
| 14 | Balasubramanian, M.
Ph.D. (IIT Madras) | Advanced ceramics & composites, nanocomposites processing, materials characterisation |
| 15 | Uday Chakkingal
Ph.D. (Rensselaer Polytechnic Institute) | Metal forming and materials processing, severe plastic deformation processes, aluminium alloys, fatigue |
| 16 | Prathap Haridoss
Ph.D. (U. Wisconsin – Madison) | Production and characterization of carbon nanotubes, synthesis of CdS nanocrystals, CO tolerant PEM fuel cell catalysts |
| 17 | Hari Kumar, K.C.
Ph.D. (IIT Delhi) | Computational thermodynamics, CALPHAD: computer coupling of phase diagrams and thermochemistry, thermodynamic database for technology important materials, process metallurgy, physical metallurgy, Ab Initio methods, microstructure simulation |

Assistant Professors:

- | | | |
|----|---|--|
| 18 | Bauri, R.
Ph.D. (IISc Bangalore) | Metal matrix composites, aluminium alloys, solid oxide fuel cells |
| 19 | Gandhi, A.S.
Ph.D. (IISc Bangalore) | Physical ceramics; ceramic nanomaterials; high temperature protective coatings (environmental and thermal barrier coatings); materials for energy systems (solid oxide fuel cells, SOFC's); phase stability and transformations; metastable effects; thermally driven interactions in layered systems; surface engineering; zirconia ceramics; non-equilibrium phenomena in oxides |
| 20 | Janaki Ram, G.D.
Ph.D. (IIT Madras) | Joining of materials, rapid manufacturing, aerospace materials, biomaterials, surface engineering |
| 21 | Phanikumar, G.
Ph.D. (IISc Bangalore) | Solidification using electromagnetic levitation and melt spinning, transport phenomena in manufacturing processes, microstructure simulation and characterization. |
| 22 | Ravi Kumar, N.V.
Ph.D. (MPI-Stuttgart) | Polymer derived ceramics, silicon carbide/silicon nitride ceramics, nanostructured materials, high temperature mechanical properties, object oriented finite element programming-for prediction of macroscopic properties |
| 23 | Ravi Sankar, K.
Ph.D. (IISc Bangalore) | High temperature deformation, superplasticity, nanocrystalline materials, size effects in plastic deformation |
| 24 | Sabita Sarkar *
Ph.D. (IISc) | Process modeling/design of metallurgical and chemical processes, modelling and simulation of flow through packed bed, fluidized bed, heat and mass transfer, granular flow, multi-phase flow, reacting flow etc. |
| 25 | Sankaran, S.
Ph.D. (IIT Kanpur) | Mechanical behaviour of materials, electron microscopy, structure property correlations |
| 26 | Subramanya Sama, V.
Ph.D. (IIT Madras) | Materials processing, development, characterization and microstructure-mechanical properties correlations in engineering materials |

Emeritus Professors:

- | | | |
|----|---|---|
| 27 | Seshadri, S.K. *
Ph.D. (Imperial College London) | Electroless deposition of nickel and its composites. evaluation of wear and corrosion characteristics of electro and electroless composite coatings. high temperature oxidation studies of composite coatings. stress corrosion behaviour of maraging steel weldments |
| 28 | Venugopal, P. *
Ph.D. (IIT Madras) | Metal forming processes, component development, press tool design (inclusive of applied maths), metal forming machine tools dynamics, design & applications (inclusive of applied maths), cold extrusion of materials, solid state joining of dissimilar powder metallurgical preforms, ironing of friction prone materials, deep drawing and bending of sheet materials - powder metallurgical |

characterization, viscous extrusion of ceramics (ybco, nano-materials etc). energy related aspects relevant to metal deformation the main focus is towards ensuring cost effectiveness in metal forming with conservation of energy in terms of machines, tools and processes

AICTE-INAE Distinguished Visiting Professor

29 Baldev Raj
Ph.D. (IISc Bangalore)

Non-destructive testing, materials development and performance assessment, technology management

* Joined during 2009-10; * Re-appointed.

Short term courses/workshops/seminar/symposia/conferences organised by the faculty members:

Sl. No	Coordinator(s)	Title	Period
Conferences			
1.		National Conference on Design and Manufacturing issues in Automotives and Allied Industries	July 1 – 3, 2009
2.	Prof. B.S. Murty Dr. G. Phanikumar	4 th International Conference on Solidification Science and Processing	November 19 – 23, 2009
3.	Prof. B.S. Murty and Dr. Ashutosh S. Gandhi	Two-Day Course on Testing & Characterisation of Materials, under the aegis of ASM International Chennai Chapter and Kalpakkam-Chennai Human Resource Development Centre of Indian Institute of Metals, , Chennai.	19-20 December 2009

Short term courses/workshops/seminar/symposia/conferences/training attended by the faculty members in academic institutions and public sector undertakings:

Sl. No	Name of the faculty member	Title	Institution	Period
Conferences				
1	Dr. N. V. Ravi Kumar	Seventh International Conference "The beginnings of the use of metals and alloys".	National Institute for Advanced Studies, Bangalore, India	13-09-2009
2	Dr. Ravi Sankar Kottada	NMD-ATM-2009, Science City, Kolkata	IIM, Kolkata	17-11-2009
3	Dr. V. Subramanya Sarma	Seattle, USA	TMS	14-02-2010 to 18-02-2010
4	Dr. Ashutosh S. Gandhi	International Symposium & Exhibition on Fuel Cell Technology, FUCETECH2009	NMRL	11.11.2009 to 13.11.2009
5	Prof. B. S. Murty	Lectures on Advanced Thermodynamics	IGCAR, Chennai	March 2010
6	Prof. B. S. Murty	Excitements and challenges in Advanced materials research by non-equilibrium processing	Academy of Sciences Meeting, Coorg	February 2010
7	Prof. B. S. Murty	Nanostructured materials synthesised by high energy ball milling	Course. on Nanotechnology, BHEL, Bangalore	December 2009
8	Prof. B. S. Murty	Synthesis of nano composites with exceptional properties by high energy ball milling	ATM-NMD-2009, Key-note lecture, Kolkata	November 2009
9	Prof. B. S. Murty	Nano materials with exceptional properties	Conf. on Nanotechnology, Surat	November 2009
10	Prof. B. S. Murty	High strength Composites	UGC Course, IISc, Bangalore	October, 2009
11	Prof. B. S. Murty	Advanced composites	Advanced Materials, NMRL, Mumbai	September, 2009 Mumbai

12	Prof. B. S. Murty	Excitements in nanostructured materials synthesised by Non-equilibrium processing	Conference of Shanti Swarup Bhatnagar Awardees, Indore	April 2009
13	Prof. B. S. Murty	Synthesis and Properties of Nanocrystalline Cu doped NiZn-Ferrites and their Nanocomposite Multiferroics with BaTiO ₃	MRS-Spring 2009, San Francisco	April 2009
14	Prof. T. S. Sampath Kumar	Chaired a session and delivered an invited talk on "Bone Regeneration Bioceramics from Egg Shell Waste"	International Conference on Biomaterials, Artificial Organs & Tissue Engineering (ICBAT), Cochin.	28-02-2010 to 01-03-2010
Seminars				
1.	Dr. rer. nat. Ravi Kumar, N. V	Synthesis of nano composites with exceptional properties by high energy ball milling	ATM-NMD-2009, Key-note lecture	November 2009, Kolkata
		Nano materials with exceptional properties	Conf. on Nanotechnology	November 2009, Surat
Symposia				
1	Prof. T. S. Sampath Kumar	Chief guest and delivered the inaugural address at the National level Technical Symposium	Karpaga Vinayaga College of Engineering, and Technology, Maduranthakam	24-02-2010
2	Prof. T. S. Sampath Kumar	Delivered an invited talk on "Nanostructured Titanium For Orthopaedic Applications"	The Fourth Asian Particle Technology Symposium (APT 2009), New Delhi	14-09-2009 to 16-09-2009
Workshops				
1	Prof. Prasanna Kumar, T.S	National Workshop on Process modelling in ironmaking & steelmaking	NITK, Surathkal	08-09-2009
2	Prof. Ganesh	Fretting Fatigue	DMRL, Hyderabad	27-02-2010
3	Prof. Kamaraj	Thermal Spray Coatings		19.02.2010
Short term courses				
1	Prof. T. S. Sampath Kumar	on "Nanobiomaterials" at the short term course on "Nanotechnology & Applications"	NITTTR, Chennai	01-02-2010 to 05-02-2010

Special lectures delivered by the faculty members in other institutions:

Sl. No.	Name of the faculty member	Topic of lecture	Institution	Date
1	Prof. T. S. Sampath Kumar	Nanophase bioceramics for hard tissue regeneration	IIT Bombay, Mumbai	24-05- 2009
2	Prof. D. R. G. Achar	Current Developments in Resistance Welding and MIG/MAG Welding in Automobile Industries	Toyota Plant, Bidadi, Bangalore	29-07-2009
3	Dr. A. S. Gandhi	Thermal barrier coatings	NIT Surathkal	15-07-2009
4	Dr. Ravi Kumar	Bio-inspired Materials Science- Nature's way of Solving Engineering Problems	Department of Physics, NBKR Science & Arts College, Nellore	19-07-2009
5	Prof. M. Kamaraj	Advanced surface Modification processes for Industrial Applications	Hotel Taj Coromandal, Chennai	18-07-2009
6	Prof. M. Kamaraj	Surfacing by Hard facing and Thermal Spraying	Department of Metallurgical and Materials Engineering,	15-07-2009

			NITK Surathkal	
7	Prof. Prasanna Kumar, T. S.	Approach to Development of Mathematical Models for On-line Applications	NITK, Surathkal	07-09-2009
8	Prof. Prasanna Kumar, T. S.	Blast Furnace Burden Distribution Modeling and Hearth Wear Estimation	NITK, Surathkal	08-09-2009
9	Prof. Prasanna Kumar, T. S.	inverse Modeling and its Application to Heat Transfer Estimation in the CC Mould	NITK, Surathkal	08-09-2009
10	Prof. Prasanna Kumar, T. S.	An Adaptive Mathematical Model for thickness control in the Plate Mill	NITK, Surathkal	08-09-2009
11	Prof. Hari Kumar	Computational Thermodynamics	Kalpakkam	24-09-2009
12	Dr. Phani Kumar	Elements of Phase Field Simulation	Kalpakkam	24-09-2009
13	Dr. ravi sankar Kottada	High Temperature Deformation Behavior of HCP Metallic Systems: Mg-0.7Al and cp-Ti	Department of Materials Engineering, IISc, Bangalore	13-10-2009
14	Dr. Uday Chakingal	Workability of aluminium processed by equal channel angular pressing	IISc, Bangalore	12-10-2009
15	Prof. K. C. Hari Kumar	Guest lecture on CALPHAD		23-10-2009
16	Prof. M. Kamaraj	Surface Modification Methods	IC&SR Seminar Hall	27-12-2009
17	Prof. M. Kamaraj	Damage Mechanisms and Microstructural Changes during service	IC&SR Seminar Hall	28-12-2009
18	Dr. A. S. Gandhi	Thermal Barrier Coating Systems	Indian Ceramic Society - Chennai Chapter	12-03-2010
19	Prof. T. S. Sampath Kumar	Thermal Spray Coatings	Dental School of Annamalai University, India	19-03-2010
20	Prof. T. S. Sampath Kumar	Delivered STEPING STONE GUEST LECTURE 2010 on "Nanobiomaterials for Minor Dental Surgery"	Anamalai University, Chidambaram,	19-03-2010 March
21	Dr. M. Balasubramanian	Delivered invited lecture in AICTE-QIP course on Composite Materials: Processing Challenges & Opportunities	National Institute of Technology, Trichy	20-7-2009

Visits abroad by faculty:

Sl. No.	Name of the faculty member	Country visited	Date	Purpose of visit
1	Dr. Ravi Kumar	Germany	20-10-2009	to be the judge for the "Zwick Science Award 2009" being held concurrent to the 17 th International Forum for Materials Testing
2	Dr. N. V. Ravi Kumar	Max Planck Institute for Metals Research, Stuttgart, Germany	22-10-2009 to 25-10-2009	Visited for scientific discussions and possible collaborations with Prof. Joachim Bill (Max Planck Institute) and Dr. Ing- Andre Zimmermann (Robert Bosch GmbH).
3	Prof. K. Prasad Rao	USA	09-04-2008 To 30-06-2009	Visiting Professor at Utah State University, Logan and University of Nevada, Reno
4	Prof. K. Prasad Rao	Canada	07-07-2009 To 14-07-2009	Visited Ryerson University, Toronto to have collaborative research discussions with Prof. Ravi (Ravindran) and delivered lectures on friction stir welding of non-ferrous alloys
5	Prof. B. S. Murty	USA	April, 2009	Attended MRS Spring meeting at San Francisco
6	Prof. B. S. Murty	USA	June, 2009	Attended the IAFOE-3 Coordinators Meeting, Washington

7	Prof. Kamaraj	Rutgers University, New Jersey, USA	18-03-2010	Development of high strength and cube textured substrates for coated high temperature superconducting (HTS) cables.
8	Prof. T. S. Sampath Kumar	Kuala Lumpur, Malaysia.	19-01-2010-20-01-2010	Organising Chair of the session on "Nano/Bio Materials" and delivered an invited talk on "Nanostructured Biocomposites for Engineering Bone Tissues" at the 2010 SAMPE Asia (Society for the Advancement of Material and Process Engineering) Conference,
9	Prof. T. S. Sampath Kumar	Nagoya, Japan.	8-12-2009-11-12-2009	Chaired a session and delivered an invited talk on "Egg Shell Derived Nanophase Bioceramics" at the 9 th Asian Bioceramics Symposium (ABC 2009),

Honours and awards won by the faculty members:

Sl. No.	Name of the faculty member	Name of the honour/award	Awarded by	Awarded for	Date of award
Honours:					
1	Dr. V. Subramanya Sarma	Indo US Science and Technology Forum (IUSSTF) Research Fellowship.	Indo US Science and Technology Forum (IUSSTF)	Dr. Sarma will spend a year at North Carolina State University. Project: mechanical properties of nanostructured	25/04/2009
2	Prof. K. Prasad Rao	Honorary Fellow of the Indian Welding Society	Indian Welding Society	For the contributions to welding research and education	10/02/2009
Awards:					
1	Dr. Ravi Kumar	IEI Young Engineers Award – 2010	The Institution of Engineers (India)		

Books, monographs authored/co-authored:

Sl. No.	Name of the faculty member	Title	Publisher	Co-author(s)
Books				
1	Dr. N. V. Ravi Kumar	High temperature mechanical properties of amorphous and nano-crystalline Si-B-C ceramics	Research Signpost	A Zimmermann, F. Aldinger
2	Dr. G.D. Janaki Ram	Weldability of Metallic Materials	Springer	
3	Prof. M. Kamaraj	Joining of dissimilar steels for high temperature service, pressure vessels and piping: manufacturing and performance		S. Sundaresan, M.Sireesha, S.K. Albert
4	Prof. M. Kamaraj	Use of flux-cored arc welding for joining modified 9Cr-1Mo Steel, Pressure Vessels and Piping: Manufacturing and performance		B.Arivazhagan, S.K. Albert, S. Sundaresan and P. Ravikumar

Fellowships of academies and professional societies:

Sl. No.	Name of the faculty member	Year of admission
INAE		
1	Prof. B. S. Murty, [Member, Selection Committee, Young Engineers, INAE]	2009-2012
2	Prof. B. S. Murty, [Member, Sectional Committee (Mining, Metallurgical and Materials Eng.), INAE]	2009-2012

Sl. No.	Name of the faculty member	Year of admission
ISCA		
1	Prof. B. S. Murty, [Member, Sectional Committee, Materials Science Section, ISCA]	2009-2010
2	Prof. T. S. Sampath Kumar [Fellow, International Medical Sciences Academy]	2007
3	Prof. T. S. Sampath Kumar [Vice President, Society for Biomaterials & Artificial Organs – India]	2008-2010

Journal editorial boards

Sl. No.	Name of the faculty member	Position (editor/member)	Journal name
1.	Prof. T. S. Sampath Kumar	Editorial Board Member, 2010-13	Journal of Chinese Clinical Medicine
2.	Prof. T. S. Sampath Kumar	EDITORIAL BOARD MEMBER, , since 1992	Trends in Biomaterials and Artificial Organs- India

4.14.4 Design and Development Activities:

New facilities added or major equipment procured:

Sl. No.	Name of the equipment	Value (Rs. In lakhs)
1	Olympus IX71 inverted optical microscope fitted with a digital camera DP71 (12.5 megapixel) has been procured through a NRB project (2008 – 2010). It is possible to perform bright field imaging, phase contrast and differential interference contrast (Nomarski DIC) and comes with fluorescence attachments.	14.5
2	Thermal cycling furnace	2.938
3	Solatron 1260 Impedance Analyzer	
4	FEI Tabletop SEM	30.00
5	Two Wolpert microhardness testers	25.00
6	Spark Plasma Sintering Unit	
7	XRD	
8	Nanoindenter	
9	Spray Drier	
10	High temperature (1800°C) furnace	
11	DSC	
12	Single mode microwave furnace	

Patents:

Patents filed:

Sl. No.	Name of the faculty member	Topic of patent
1	Dr.T.S. Sampath Kumar (PI), Prof. S.K. Seshadri and A. Siddharthan	A composition containing nanophase calcium deficient hydroxyapatite with Mg, Sr and Si synthesized from egg shell by microwave processing
2	Prof. B. S. Murty, Dr. S. Sankaran, P. Jayakanth and C. Ganesh, BHEL	A new cost effective material for the emitting wire of electro static precipitator.
3	Prof. B. S. Murty, A. Chattopadhyay, V. Subramanya Sarma and D. Bhattacharjee	Procedure for improvement in Zn coatability of hot rolled steel sheets.
4	Prof. B. S. Murty, A. Chattopadhyay, V. Subramanya Sarma and D. Bhattacharjee	Process window for the production of hot rolled galvanised steel sheets.
5	Prof. B. S. Murty, A. Chattopadhyay, V. Subramanya Sarma and D. Bhattacharjee	A novel sample preparation technique for evaluation of sub-surface morphology of hot rolled steel sheets under transmission electron microscopy.

Patents awarded:

Sl. No.	Name of the faculty member	Topic of patent
1	Prof. T.S.Sampath Kumar, Prof. S.K.Seshadri and Sahu.	"Boron Carbide Powder and a Method of Manufacture Thereof", on 08/02/2010 from 12th May 2005.

4.14.5 Research and Consultancy

Sponsored research projects:

Sl. No	Title	Period		Funding agency	Amount (Rs. In Lakhs)	Co-Ordinators
		Start	End			
New Projects						
1.	Synthesis and evaluation of impact energy absorption characteristics of Al-SiC composite foams			DRDO	41.86	Dr. Ranjit Bauri
2.	Development of scandia stabilised zirconia electrolyte with rare earth co-doping for solid oxide fuel cells			DST	33.96	Dr. Ranjit Bauri and Dr. Ashutosh Gandhi
3.	A new route to manufacture fiber-reinforced metal matrix composites - diffusion bonding of ultrasonically consolidated monotapes			NRB	35	Dr. Janaki Ram, G.D.
4.	A rapid manufacturing approach to facilitate joining of stainless steel to titanium pipes			IGCAR	18.356	Dr. Janaki Ram, G.D.
5.	High Temperature Mechanical Behavior of High strength High-entropy Alloys			NRB	48.2	Dr. Ravi Sankar Kottada and Prof. B.S.Murty
6.	Research and Development into Borated Steel Machining and HAZ Studies for Shielding Structures in Vacuum Vessel	05-04-10	04-04-11	Board of Research in Fusion Science & Technology	47.00	K.Prasad Rao,GD Janaki Ram and N.Ramesh babu (ME)
7.	Centre on Nano Science and Technology	2009	2013	MHRD	200	Prof. B. S. Murty
8.	Synthesis of Copper and copper alloy nano powders through herbal route and study of their corrosion behaviour.	2009	2011	NRB	8	Prof. B. S. Murty, Dr. A.B.S. Sastry, SRIVT, Guntur, Dr. B.L.V. Prasad, NCL Pune
On-Going Projects						
9.	Evaluation of high cycle fatigue behaviour of repair welds of AISI 410 stainless steels made using (a)ER 316L and (b) ER 410 filler wires and its comparison with the AISI 410 base metal	22-04-2008	21-04-2010	Indira Gandhi Centre for Atomic Research	18.96	M. Kamaraj
10.	Semisolid processing of Al-TiB ₂ and Al-TiC in-situ composite foams	29-01-2009	28-01-2011	Naval Research Board	3146400	Sankaran S
11.	Processing of preceramic polymers in the quaternary Si-B-C-N system for ultra-high temperature applications beyond 2000°C	22-10-2008	21-10-2010	Indian Space Research Organisation	2055600	Ravi Kumar
12.	Electrospinning of ceramic nanofibers for biomedical applications	09-01-2008	08-01-2011	Council of Scientific and Industrial Research	846000	Sampath Kumar T S
13.	Effect of rare-earth dopants on thermal stability and fracture toughness of nanocrystalline zirconia-based thermal barrier materials	22-05-2008	21-05-2011	Department of Science & Technology	33.52107	Ashutosh S. Gandhi, M. Kamaraj & D. Srinivasa Rao (Arci Hyderabad)

14.	Understanding the adhesion mechanisms, quantification of adhesion strength and characterization of the adhesive of barnacles	09-05-2008	08-05-2010	Naval Research Board	41.2	N.V. Ravi Kumar
15.	Large scale production W based nanocomposites by mechanical alloying	13-05-2008	30-04-2010	Defence Metallurgical Research Laboratory	91.6	Murty B S
16.	Development and characterization of nano-electrode materials for novel complex hydride fuel cell	25-06-2008	24-06-2010	Department of Science & Technology	13.5	Balasubramanian M
17.	Hot corrosion behaviour of rare-earth stabilised zirconia for thermal barrier applications	26-06-2008	25-06-2010	Naval Research Board	27.31	Ashutosh S. Gandhi, K.C. Hari Kumar & M. Kamaraj
18.	Development of bulk nanocrystalline materials: nanoparticle synthesis and consolidation	06-08-2008	05-08-2011	Department of Science & Technology	215.42	Murty B S
19.	Synthesis, characterization, functionalization and investigation of electrochemical properties of aligned carbon nanotubes	13-09-2008	31-08-2010	Department of Science & Technology	39.48	Prathap Haridoss
20.	Processing of preceramic polymers in the quaternary Si-B-C-N system for ultra-high temperature applications beyond 2000°C	22-10-2008	21-10-2010	Indian Space Research Organisation	20.556	Ravi Kumar
21.	Estimation of heat flux on Plasma Facing Components (PFC) from temperature measurement by inverse conduction method	28-11-2008	27-11-2010	Board of Research in Fusion Sciences	12.288	Prasanna Kumar T S
22.	Mechanically activated leaching of chromite concentrates	29-01-2009	28-01-2012	Council of Scientific and Industrial Research	29.36	Murty B S
23.	Semisolid processing of Al-TiB ₂ and Al-TiC in-situ composite foams	29-01-2009	28-01-2011	Naval Research Board	31.464	Sankaran S
24.	Friction stir spot welding of aluminum alloy 2014	05-03-2009	04-03-2011	Indian Space Research Organisation	14.9712	G.D. Janaki Ram
25.	Ultra fine grain refinement of metals for implant applications			Defence Research and Development Organisation	14.96	Sampath Kumar T S

Industrial consultancy projects:

Sl. No.	Name of the faculty member	Title	Industry	Amount (Rs. In lakhs)
1	Prof. D. R. G. Achar	Welding related issued in the manufacture of stainless steel rail coaches	Tube Investments of India Ltd. Chennai	3.0
2	Dr. Janaki Ram	Failure analysis of elbow to flange weld	CPCL	0.72
3	Prof. Pathak	Material Selection for Wind Power System for Low Temp. Zones	Pioneer Wincon Pvt. Ltd. Chennai	0.075 per day

RBIC projects (on-going and new):

Sl. No.	Name of the faculty member	Title	Industry	Amount (Rs. In lakhs)
1	Prof. K.Prasad Rao and Dr GD Janaki Ram	Welding related issued in the manufacture of rail and automobile components	Tube Investments of India Ltd. Chennai	4.8

Research publications of the faculty members and research scholars:

Total number of papers published in refereed national journals	.....	04
Total number of papers published in refereed international journals	.....	109
Total number of papers published in national conferences	.....	03
Total number of papers published in international conferences	.....	16

Refereed National Journals:

1. S.D.Pathak et al, "Effects of Ageing Treatment on FCG and Threshold Behaviour of AA2219 Al- alloy", MJ Sharma, ., Trans.IIM, 2008.
2. K. Mondal and B.S. Murty, "Determination of kinetic parameters for devitrification of metallic glass - a theoretical approach", Trans IIM., 61 (2008) 319-324.
3. R. Rakesh Radhakrishnan, G. Srinivasulu and B.S. Murty, "Structural, electrical and magnetic properties of nano sized Ni-Co ferrite prepared by high energy ball milling", Trans. PMAI, 34 (December 2008) 49-54.
4. P. Mallikarjuna Rao and S.S. Bhattacharya, Hot Deformation Behaviour of a 316LN Austenitic Stainless Steel", Transactions of the Indian Institute of Metals, accepted (2009).

Refereed International Journals:

1. Md. Imteyaz Ahmad, S.S. Bhattacharya and Horst Hahn, "Structure, thermal stability and optical properties of boron modified nanocrystalline anatase prepared by CVS", Journal of Applied Physics, in press (2009)
2. Gaurav Jetly, Shankar Swaminathan, Richie Khandelwal, Imteyaz Ahmad and S.S. Bhattacharya, "Oxidative electrodeposition of nanocrystalline zinc oxide powders", Journal of Physics D: Applied Physics, in press (2009)
3. Imteyaz Ahmad Md., S.S. Bhattacharya and Horst Hahn, "In-situ nitrogen doping and boron modification of nanocrystalline titania powders by chemical vapour synthesis", Processing and Application of Ceramics, in press (2009)
4. Sumantra Mandal, Bhaduri, A.K. and Subramanya Sarma, V, "Twinning and grain boundary character distribution during anomalous grain growth in a Ti-modified austenitic stainless steel" Materials Science and Engineering, 515 (2009) 134-140.
5. Niranjani, V.L. Hari Kumar, K.C. Subramanya Sarma, V., "On the microstructure, texture and mechanical properties of an Al-Mg-Si alloy processed through severe cold rolling and ageing" Materials Science and Engineering, 515 (2009) 169-174.
6. Priya R., Subramanya Sarma V., Prasad Rao K., "Effect of post weld heat treatment on the microstructure and tensile properties of dissimilar friction stir welded AA 2219 and A", Transactions of the Indian Institute of Metals, 62 (2009) 11-19.
7. D. Baskar and T. S. Sampath Kumar, "Effect of deacetylation time on the preparation, properties and swelling behavior of chitosan films", Carbohydrate Polymers, 2009 (accepted).
8. A Siddharthan, T. S. Sampath Kumar and S. K. Seshadri, "Synthesis and characterisation of nanocrystalline apatites from eggshells at different Ca/P ratios", Biomedical Materials, 2009 (accepted).
9. Ravi Kumar, C. Eswarapragada, A. Zimmermann, and F. Aldinger, "High temperature compression creep behavior of amorphous Si-B-C-N ceramics in controlled atmosphere", Ceramic Transactions (American Ceramic Society), 2009, (accepted).
10. Aravind Vadiraj, G. Balachandran, M. Kamaraj, B. Gopalakrishna, K. Prabhakara Rao, "Studies on mechanical and wear properties of alloyed hypereutectic gray cast irons in the as-cast pearlitic and austempered condition", Materials & Design, 2009 (in press).
11. Aravind Vadiraj, G. Balachandran, M. Kamaraj, "Effect of misch metal inoculation on microstructure, mechanical and wear properties of hypoeutectic gray cast irons", Materials & Design, 30 (2009) 4488-4492.
12. B. Arivazhagan, S. Sundaresan, M. Kamaraj, "A study on influence of shielding gas composition on toughness of flux-cored arc weld of modified 9Cr-1Mo (P91) steel", Journal of Materials Processing Technology, 209 (2009) 5245-5253.

13. Kulvir Singh, M. Kamaraj, "Creep ductility of 1Cr1Mo1/4V low alloy forging and casting steels", *Materials Science and Engineering: A*, 510-511 (2009) 51-57.
14. R.C. Shivamurthy, M. Kamaraj, R. Nagarajan, S.M. Shariff, and G. Padmanabham, "Influence of microstructure on slurry erosive wear characteristics of laser surface alloyed 13Cr-4Ni steel", *WEAR*, 267 (2009) 204-212.
15. Mubarak Ali, M., Ganesh Sundara Raman, S., Pathak, S. D. and Gnanamoorthy, R. "Influence of Plasma Nitriding on Fretting Wear Behaviour of Ti-6Al-4V", *Tribology International*, 43 (2010) 152-160.
16. Aravind Vadiraj, G. Balachandran, M. Kamaraj, B. Gopalakrishna, K. Prabhakara Rao, "Studies on mechanical and wear properties of alloyed hypereutectic gray cast irons in the as-cast pearlitic and austempered condition", *Materials and Design*, 31 (2010) 951-955.
17. T. Priyatham, Ranjit Bauri, "Synthesis and characterization of nanocrystalline Ni-YSZ cermet anode for SOFC", *Materials Characterization*, In press (2009).
18. Ranjit Bauri, "Development of Ni-YSZ cermet anode for Solid Oxide Fuel Cells by electroless Ni coating", *Journal of Coatings Technology & Research (Springer)*, 2009 (accepted).
19. Ranjit Bauri, "Synthesis of Al-TiC in-situ composites: Effect of processing temperature and Ti:C ratio", *Transactions of Indian Institute of Metals (Springer)*, In press (2009).
20. V.M.J.Sharma, K.Sreekumar, B.Nageswara Rao, and S.D.Pathak, "Studies on the Work-hardening Behavior of AA2219 under Different Aging Treatments" *Springer Link Online* 27 Oct.2009,- *Met & Mats Trans.* (2009)
21. K. BABU and T.S. PRASANNA KUMAR, *Mathematical Modelling of Heat Flux during Quenching Metallurgical Transactions B*, (2009)
22. H. Khalid Rafi, G.D. Janaki Ram, G. Phanikumar, K. Prasad Rao "Microstructure and Tensile Properties of Friction Welded Aluminum Alloy AA7075 -T6" *Materials and Design*, 2009 (Accepted).
23. H. Khalid Rafi, G.D. Janaki Ram, G. Phanikumar, K. Prasad Rao, "Microstructure and properties of friction surfaced stainless steel and tool steel coatings", *Materials Science Forum*, 638-642 (2010) 864-869.
24. R. Sangeetha, Ravi Kumar et al., "Understanding the structure of the adhesive plaque of *Amphibalanus reticulatus*", *Materials Science and Engineering C: Materials for Biological Applications*, 30 (2010) 112-119.
25. Jatin Kumar Rana, Sivaprahasam, D. Sitarama Raju, K. Subramanya Sarma, V. "Microstructure and mechanical properties of nanocrystalline high strength Al-Mg-Si (AA6061) alloy by high energy ball milling", *Materials Science and Engineering A*, 527 (2009) 292-296.
26. Kumar, S. Subramanya Sarma, V. Murty, B.S. "Functionally graded Al-alloy matrix in-situ composites", *Metallurgical and Materials Transactions A*, 41A (2010) 242-254
27. Freudenberger, J. Kaufmann, A. Kaluss, H. Marr, T. Nenkov, K. Subramanya Sarma, V. Schultz, L. "Studies on recrystallisation of single phase Cu alloys by resistance measurements", *Acta materialia*, in press (2010)
28. Huehne, R. Eickemeyer, J. Subramanya Sarma, V. Gueth, A. Thersleff, T. Freudenberger, J. de Haas O. Weigand, M. Durrel, J.H., "Application of textured highly alloyed Ni-W tapes for coated conductor architectures", *Superconductor Science and Technology*, in press (2010)
29. Ravi Kumar, C. Eswarapragada, A. Zimmermann and F. Aldinger, "High temperature compression creep behavior of amorphous Si-B-C-N ceramics in controlled atmosphere", *Ceramic Transactions: American Ceramic Society*, 210 (2010) 26-31.
30. Devinder Yadav, Ranjit Bauri, "Nickel particle embedded aluminium matrix composites with high ductility", *Materials Letters*, In Press (2010).
31. Karupiah Murugan, Tata N. Rao, Ashutosh S. Gandhi, B.S. Murty, "Effect of aggregation of methylene blue dye on TiO₂ surface in self-cleaning studies", *Catalysis Communications*, 11 (2010) 518-521.
32. Aravind Vadiraj, G. Balachandran, M. Kamaraj, B. Gopalakrishna, D. Venkateshwara Rao, "Wear behavior of alloyed hypereutectic gray cast iron", *Tribology International*, 43 (2010) 647-653.
33. Aravind Vadiraj, G. Balachandran, M. Kamaraj, B. Gopalakrishna, K. Prabhakara Rao, "Studies on mechanical and wear properties of alloyed hypereutectic gray cast irons in the as-cast pearlitic and austempered cond", *Materials & Design*, 31 (2010) 951-955.
34. J. Chandradass, M. Balasubramanian and K. H. Kim, "Solution phase synthesis of t-ZrO₂ nanoparticles in ZrO₂-SiO₂ mixed oxide", *Journal of Experimental Nanoscience*, In Print (2010).
35. P. Susila, D. Sturm, M. Heilmaier, B.S. Murty, V. Subramanya Sarma, "Microstructural studies on nanocrystalline oxide dispersion strengthened austenitic (Fe-18Cr-8Ni-2W-0.25Y2O₃) ODS alloy", *Journal of Materials Science (Special issue on Ultra fine grained materials)*, in press (2010)

36. V. Subramanya Sarma, W.W. Jian, J. Wang, H. Conrad, Y.T. Zhu, "Effect of rolling temperature on the evolution of defects and properties of an Al-Cu alloy", *Journal of Materials Science (Special issue on Ultrafine grained materials)*, in press (2010).
37. Sumantra Mandal, P.V. Sivaprasad, V. Subramanya Sarma, "Dynamic Recrystallization in a Ti Modified Austenitic Stainless Steel During High Strain Rate Deformation", *Materials and Manufacturing Processes*, 25 (2010) 54-59.
38. J.Chandradass, M.Balasubramanian, D.S.Bae, J.Kim, K.H.Kim, Effect of water to surfactant ratio on the particle size of $MgAl_2O_4$ nanoparticles prepared through reverse micelle process, *Journal of Alloys and Compounds*, 491 (2010) L25-L28.
39. G.Amirthan, A.Udayakumar, V.V.Bhanu Prasad, M.Balasubramanian, Solid particle erosion studies on biomorphic Si/SiC ceramic composites, *Wear*, 268 (2010) 145-152.
40. J.Chandradass, M.Balasubramanian, S.Kumar, Dong-sik Bae and Ki Hyeon Kim, Effect of Fe doping on the room temperature ferromagnetism in chemically synthesized $(In_{1-x}Fe_x)_2O_3$ ($0 \leq x \leq 0.07$) magnetic semiconductors, *Current Applied Physics*, 10 (2010) 333-336.
41. B.Praveenkumar, G.Sreenivasalu, H.H.Kumar, D.K.Kharat, M.Balasubramanian, B.S.Murty, Size effect studies on nanocrystalline $Pb(Zr_{0.53}Ti_{0.47})O_3$ synthesised by mechanical activation route, *Materials Chemistry and Physics*, 117 (2009) 338-342.
42. G.Amirthan, A.Udayakumar, V.V.Bhanu Prasad, M.Balasubramanian, Properties of Si/SiC ceramic composite subjected to chemical vapour infiltration, *Ceramics International*, 35 (2009) 2601-2607.
43. J.Chandradass, Dong-sik Bae, Ki Hyeon Kim, K.Prasad, G.Balachandar, S.Athisaya Divya and M.Balasubramanian, Starch consolidation of alumina: Fabrication and mechanical properties, *Journal of the European Ceramic Society*, 29 (2009) 2219-2214.
44. J.Chandradass, M.Balasubramanian, Dong-sik Bae and Ki Hyeon Kim, Effect of different fuels on the alumina-ceria composite powders synthesized by sol-gel auto combustion method, *Journal of Alloys and Compounds*, 479 (2009) 363-367.
45. E.Deenadayalan, A.K.Lele, M.Balasubramanian, Reactive extrusion of poly (L-Lactic acid) with Glycidol, *Journal of Applied Polymer Science*, 112 (2009) 1391-98.
46. Mubarak Ali, M. and Ganesh Sundara Raman, S., Influence of Plasma Nitriding Environment and Time on Plain Fatigue and Fretting Fatigue Behaviour of Ti-6Al-4V, *Tribology Letters* (accepted).
47. Satendra Kumar, Sankara Narayanan, T. S. N., Ganesh Sundara Raman, S. and Seshadri, S. K., Surface Modification of CP-Ti to Improve the Fretting Corrosion Resistance: Thermal Oxidation Vs. Anodizing, *Mater Sci Engg C* (accepted).
48. Satendra Kumar, Sankara Narayanan, T. S. N., Ganesh Sundara Raman, S. and Seshadri, S. K., Thermal Oxidation of CP-Ti: An Electrochemical and Structural Characterisation, *Mater. Charac.* (accepted).
49. Sankara Narayanan, T. S. N., Satendra Kumar, Siva Kumar, B., Ganesh Sundara Raman, S. and Seshadri, S. K., Fretting Corrosion Mapping of CP-Ti in Ringer Solution, *Wear* (accepted).
50. Satendra Kumar, Sankara Narayanan, T. S. N., Ganesh Sundara Raman, S. and Seshadri, S. K., Evaluation of Fretting Corrosion Behaviour of CP-Ti for Orthopaedic Implant Applications, *Tribology Inter* (accepted).
51. Satendra Kumar, Sankara Narayanan, T. S. N., Ganesh Sundara Raman, S. and Seshadri, S. K., Fretting Corrosion Behaviour of Thermally Oxidized CP-Ti in Ringer Solution, *Corro. Sci.*, 52 (2010) 711-721.
52. Satendra Kumar, Sankara Narayanan, T. S. N., Ganesh Sundara Raman, S. and Seshadri, S. K., Thermal Oxidation of Ti-6Al-4V Alloy: Microstructural and Electrochemical Characterisation, *Mater. Chemistry Physics*, 119 (2010) 337-346.
53. Satendra Kumar, Sankara Narayanan, T. S. N., Ganesh Sundara Raman, S. and Seshadri, S. K., Thermal Oxidation of CP-Ti: Evaluation of Characteristics and Corrosion Resistance as a Function of Treatment Time, *Mater Sci Engg C*, 29 (2009) 1942-1949.
54. Navaneethakrishnan, P., Ganesh Sundara Raman, S., Gnanamoorthy, R. and Ravi, N., Relative Performance of Hydrogenated, Argon-incorporated and Nitrogen-incorporated Diamond-like Carbon Coated Ti-6Al-4V Samples under Fretting Wear Loading, *Thin Solid Films*, 517 (2009) 4365-4371.
55. Mubarak Ali, M., Ganesh Sundara Raman, S., Pathak, S. D. and Gnanamoorthy, R., Fretting Wear Behaviour of Plasma Nitrided Ti-6Al-4V Fretted Against Unnitrided Ti-6Al-4V and Alumina Counterbodies, *Trans. IIM*, 62 (2009) 59-64.
56. Navaneethakrishnan, P., Ganesh Sundara Raman, S., Pathak, S. D., Gnanamoorthy, R. and Ravi, N., Fretting Wear Studies on Diamond-like Carbon Coated Ti-6Al-4V, *Surf. Coat Technol.*, 203 (2009) 1205-1212.

57. Navaneethkrishnan, P., Ganesh Sundara Raman, S. and Gnanamoorthy, R., Influence of Counterbody Material on Fretting Wear Behaviour of Uncoated and DLC Coated Ti-6Al-4V, *J Engg. Tribology (Proc. I Mech. Eng., Part J)*, 223 (2009) 227-232.
58. Rajasekaran, B., Ganesh Sundara Raman, S., Joshi, S. V. and Sundararajan, G., Effect of Grinding on Plain Fatigue and Fretting Fatigue Behaviour of Detonation Gun Sprayed Cu-Ni-In Coating on Al-Mg-Si Alloy, *Int J Fatigue*, 31 (2009) 791-796.
59. S.K.S. Parashar, R.N.P. Choudhary and B.S. Murty, "Nanoscale structure-property relations in Sm Modified PZT", *J. Nanosci. Nanotech.* 9 (2009) 3106-3111.
60. S. Scudino, G. Liu, K.G. Prashanth, B. Bartusch, K.B. Surreddi, B.S. Murty and J. Eckert, "Mechanical properties of Al-based metal matrix composites reinforced with Zr-based glassy particles produced by powder metallurgy", *Acta Mater.*, 57 (2009) 2029-2039.
61. A Mandal, B.S. Murty and M. Chakraborty, "Sliding wear behaviour of T6 treated A356-TiB₂ in-situ composites", *Wear*, 266 (2009) 865-872.
62. G.S. Vinod Kumar, M. Chakraborty and B.S. Murty, "Grain refinement response of LM25 alloy towards Al-Ti-C and Al-Ti-B grain refiners", *J. Alloys Comp.*, 472 (2009) 112-120.
63. G. Sreenivasulu, V. Hari Babu, G. Markandeyulu and B.S. Murty, "Magnetolectric effect of (100-x)BaTiO₃-(x)NiFe_{1.98}O₄ (x = 20-80 wt.%) particulate nanocomposites", *Appl. Phys. Lett.*, 94 (2009) 112902(1-3).
64. S. Kumar, V. Subramanya Sarma and B.S. Murty, "Effect of temperature on the wear behavior of Al-7Si-TiB₂ in-situ composites", *Metall. Mater. Trans.*, 40A (2009) 223-231.
65. K.G. Prashanth, S. Scudino, K.B. Surreddi, M. Sakaliyska, B.S. Murty and J. Eckert, "Crystallization kinetics of Zr₆₅Ag₅Cu_{12.5}Ni₁₀Al_{7.5} glassy powders produced by ball milling of pre-alloyed ingots", *Mater. Sci. Eng. A*, 513-514 (2009) 279-285.
66. S. Kumar, V. Subramanya Sarma and B.S. Murty, "Influence of room temperature and cryogenic temperature rolling on the aging and wear behaviour of Al-Cu-5TiB₂ in-situ composites", *J. Alloys Comp.*, 479 (2009) 268-273.
67. Sheela Singh, M. M. Godkhindi, R.V. Krishnarao and B.S. Murty, "Effect of Milling Energy and Grinding Media on Mechanical Activation of (Mo+Si₃N₄) Powders during the Synthesis of MoSi₂", *J. Euro. Cer. Soc.*, 29 (2009) 2069-2077.
68. K. Mondal, Ajay Kumar, G. Gupta and B.S. Murty "Temperature and structure dependency of solid-liquid interfacial energy", *Acta Mater.* 57 (2009) 3422-3430.
69. K.G. Prashanth, S. Scudino, B.S. Murty and J. Eckert, "Crystallization kinetics and consolidation of mechanically alloyed Al₇₀Y₁₆Ni₁₀Co₄ glassy powders", *J. Alloys Comp.*, 477 (2009) 171-177.
70. Surekha Krishnan, B.S. Murty and K. Prasad Rao, "Effect of processing parameters on the corrosion behavior of friction stir processed AA 2219 aluminium alloy", *Solid State Sci.*, 11 (2009) 907-917.
71. A Mandal, B.S. Murty and M. Chakraborty, "Wear behaviour of near eutectic Al-Si alloy reinforced with in-situ TiB₂ particles" *Mater. Sci. Eng. A*, 506 (2009) 27-33.
72. A K. Prasada Rao, K. Das, B.S. Murty and M. Chakraborty, "Al-Ti-C-Sr master alloy - A melt inoculant for simultaneous grain refinement and modification of hypoeutectic Al-Si alloys", *J. Alloys Comp.*, 480 (2009) L49-L51.
73. M. Venkata Ramana, N. Ramamanohar Reddy, G. Sreenivasulu, K.V. Siva Kumar, B.S. Murty and V.R.K. Murthy, "Enhanced magnetolectric voltage in multiferroic particulate Ni_{0.83}Co_{0.15}Cu_{0.02}Fe_{1.9}O₄-δ/PbZr_{0.52}Ti_{0.48}O₃ composites - dielectric, piezoelectric and magnetic properties, *Current Appl. Phys.*, 9 (2009) 1134-1139.
74. Sree Vardhan Lalam, G. Madhusudhan Reddy, T. Mohandas, M. Kamaraj and B.S. Murty, "Continuous drive friction welding of INCONEL 718 and EN24 dissimilar metal combination", *Mater. Sci. Technol.*, 25 (2009) 851-861.
75. B. Praveenkumar, G. Srinivasulu, H.H. Kumar, D.K. Kharat, M. Balasubramanian and B.S. Murty, "Size effect studies on nanocrystalline Pb(Zr_{0.53}Ti_{0.47})O₃ synthesized by mechanical activation route, *Mater. Chem. Phys.*, 117 (2009) 338-342.
76. A Chattopadhyay, V. Subramanya Sarma, B.S. Murty, A. Haldar and D. Bhattacharjee, "Studies on hot rolled galvanized steel sheets: Effect of reheating on galvanising", *Surface and Coating Technol.*, 203 (2009) 3465-3471.
77. C.R. Das, M. Divya, S.K. Albert, A.K. Bhaduri and B.S. Murty, "Microstructural evolution in the intercritical heat affected zone of a boron containing modified 9Cr-1Mo steel", *Welding World*, 53 (2009) 511-515.
78. B.C. Mohanty, P. Malar, T. Osipowicz, B.S. Murty, S. Varma and S. Kasiviswanathan, "Characterization of silver selenide thin films grown on Cr-covered Si substrates", *Surface and Interface Analysis*, 41 (2009) 170-178.

79. M. Venkata Ramana, V.R.K. Murthy and B.S. Murty, "Studies on lead free nano Ba_{0.9}Sr_{0.1}TiO₃ ferroelectric ceramics: synthesis, characterization and properties, *Trans PMAI*, 35 (2009) 38-43.
80. T. Shanmugasundaram, B.S. Murty and V. Subramanya Sarma, "Microstructure and mechanical properties of nanostructured Al-4Cu alloy produced by mechanical alloying and vacuum hot pressing", *Metall. Mater. Trans.* 40A (2009), 2798-2801.
81. Jatin Bhatt and B.S. Murty "Identification of Bulk Metallic Forming Compositions through Thermodynamic and Topological Models" *Mater. Sci. Forum*, 649 (2010) 67-73.
82. S. Kumar, V.Subramanya Sarma and B.S. Murty, "Functionally graded Al-alloy matrix in-situ composites", *Metall. Mater. Trans.*, 41A (2010) 242-254.
83. K. Murugan, T.N. Rao, A.S. Gandhi and B.S. Murty, "Effect of aggregation of methylene blue dye on TiO₂ photocatalyst surface in self-cleaning studies", *Catalysis Commun.*, 11 (2010) 518-521
84. V. Udhayabanu, K.R. Ravi, V. Vinod and B.S. Murty, "Synthesis of in-situ NiAl – Al₂O₃ nanocomposite by reactive milling and subsequent heat treatment", *Intermetallics*, 18 (2010) 353-358.
85. S. Varalakshmi, M. Kamaraj and B.S. Murty, "Processing and Properties of Nanocrystalline CuNiCoZnAlTi High Entropy Alloys by Mechanical Alloying", *Mater. Sci. Eng.*, 527 (2010) 1027-1030.
86. S.S. Nayak, M. Wollgarten, J. Banhart, S.K. Pabi, B.S. Murty, "Nanocomposites and an extremely hard nanocrystalline intermetallic of Al-Fe alloys prepared by mechanical alloying", *Mater Sci. Eng. A.*, 527 (2010) 2370-2378.
87. S.S. Nayak, S.K Pabi, B.S. Murty, "Al-L₁₂ Al₃Ti nanocomposites prepared by mechanical alloying: Synthesis and Mechanical Properties", *J Alloy Comp.*, 492 (2010) 128-133.
88. S.S. Nayak, D.H. Kim, S.K. Pabi and B.S. Murty, "Microstructure-Hardness Relationship of Al-(L₁₂)Al₃Ti Nanocomposites Prepared by Rapid Solidification Processing", *Intermetallics*, 18 (2010) 487-492.
89. G.S. Vinod Kumar, M. Chakraborty and B.S. Murty, "Effect of TiAl₃ particle size and distribution on their settling and dissolution behaviour in Al", *J. Mater. Sci.*, 45 (2010) 2921-2929.
90. K.Prasad Rao, G.D. Janaki Ram, B.E. Stucker, Effect of friction stir processing on corrosion resistance of aluminum-copper alloy gas tungsten arc welds, *Materials & Design*, 31 (2010) 1576-1580
91. Prasad Rao Kalvala, Anand Patil, RaghuRaj Rangaraju, K.S.Raja, M.Misra , "Particle Distribution and Tool Wear in Friction Stir Processed Al-Si C p Coatings", *Prakt. Metallogr.* 47 (2010) 1-10.
92. Sudheer Baral, Raghu Raj Rangaraju, Mr. Anand Patil, Prasad Rao Kalvala, K.S. Raja & M. Misra, "Comparison of Micro Arc Oxidation and Friction Stir Processed Coatings on Aluminum Alloy", *Plating & Surface Finishing* (In press)
93. H. Khalid Rafi, G.D. Janaki Ram, G. Phanikumar, K. Prasad Rao, "Microstructure and tensile properties of friction welded aluminum alloy AA7075-T6", *Materials & Design*, 2009 (in Press)
94. G. Madhusudhan Reddy, C.V. Srinivasa Murthy , A. Sambasiva Rao , K. Prasad Rao, "Microstructural Studies on Electron Beam welded Inconel 718", *Practical Metallography*, (accepted)
95. H.C. Dey, M. Ashfaq, A.K. Bhaduri, K. Prasad Rao, "Joining of titanium to 304L stainless steel by friction welding", *Journal of Materials Processing Technology*, 209 (2009) 5862-5870.
96. D. Ananthapadmanaban, V. Seshagiri Rao, Nikhil Abraham, K. Prasad Rao, A study of mechanical properties of friction welded mild steel to stainless steel joints. *Materials & Design*, 30, (2009) 2642-2646.
97. S. Bhaskar Reddy, K. Prasad Rao, M.S. Ramachandra Rao, Effect of La substitution on the structural and dielectric properties of BaZr_{0.1}Ti_{0.9}O₃ ceramics *Journal of Alloys and Compounds*, 481 (2009) 692-696.
98. K. Surekha, B.S. Murty, K. Prasad Rao, Effect of processing parameters on the corrosion behaviour of friction stir processed AA 2219 aluminum alloy *Solid State Sciences*, 11 (2009) 907-917.
99. N. Rameshbabu, K. Prasad Rao, Microwave synthesis, characterization and in-vitro evaluation of nanostructured biphasic calcium phosphates, *Current Applied Physics*, 9 (2009) S29-S31
100. G. Madhusudhana Reddy, C. V. Srinivasa Murthy , K. Srinivasa Rao and K. Prasad Rao , Improvement of mechanical properties of Inconel 718 electron beam welds-influence of welding techniques and postweld heat treatment, *International Journal of Advanced Manufacturing Technology*, 43 (2009) 671-680
101. R.V.S. Prasad, Manivel Raja, G. Phanikumar, "Microstructure and Magnetic Properties of Rapidly Solidified Ni₂(Mn,Fe)Ga Heusler alloys", *Advanced Materials Research*, 74 (2009) 215-218.
102. R.V.S. Prasad and G. Phanikumar, "Amorphous and nanocrystalline phase formation in Ni₂MnGa ferromagnetic shape memory alloy synthesized by melt spinning", *Journal of Materials Science*, 44 (2009) iss. 10, pp.2553.
103. K. Balachandar, V.S. Sarma, Bhanu Pant, G. Phanikumar, "Microstructure and mechanical properties of GTA welded Ti-15-3 beta titanium alloy", *Metallurgical and Materials Transactions A*, 40 (2009) 2685-2693.

104. R.V.S. Prasad, G. Phanikumar, "Martensite and nanocrystalline phase formation in rapidly solidified Ni₂MnGa alloy by meltspinning", *Materials Science Forum*, 649 (2009) 35-40,
105. A Thirugnanam, T.S. Sampath Kumar and Uday Chakkingal "Bioactivity of grain refined Titanium sheets by groove pressing", *Materials Science and Engineering C*, 30 (2010) 203 – 208.
106. G. Ganesh Niranjan and Uday Chakkingal, "Improvement in drawability (r value) of an aluminium alloy subjected to groove pressing", *Materials Science Forum*, 638-642 (2010) 1911-1916.
107. Patil Basavaraj, Uday Chakkingal and T.S. Prasannakumar, "Study of channel angle influence on material flow and strain inhomogeneity in equal channel angular pressing using finite element simulations", *J. Materials Processing Technology*, 209 (2009) 85-89.
108. A Thirugnanam, T.S. Sampath Kumar and Uday Chakkingal, "Bioactivity enhancement of commercial pure titanium by commercial treatments", *Trends in Biomaterials and Artificial Organs*, 22 (2009) 198-206.
109. P. Chakravarthy, Uday Chakkingal and P. Venugopal, "Deformation and temperature aided sintering during hooker extrusion of sintered P/M performs of steel", 2009, *Powder Metallurgy*. DOI: 10.1179/174329009X434301 (accepted)

Proceedings of National Conferences:

1. Prahlad Kumar, Narender Reddy, K.C. Harikumar, Ashutosh S. Gandhi, "Molten Salt Attack on Yttria and Ytterbia Stabilised Zirconia for Thermal Barrier Application", 63rd Annual Technical Meeting of Indian Institute of Metals, Kolkata, 2009.
2. R. Sangeetha, Ravi Kumar, R. Venkatesan, and Mukesh Doble, "Localized corrosion of stainless steel 316L under the base-plate of the barnacle, *Amphibalanus reticulatus*", 47th National Metallurgists' Day-67th Annual Technical Meeting 2009, Indian Institute of Metals, 2009.
3. Sridhar, A., Vikas Kumar, Gogia, A. K. and Ganesh Sundara Raman, S., Effect of Temperature and Strain Rate on Tensile Properties of Alloy 718, 63rd Annual Technical Meeting, IIM, Kolkatta, November, 2009.

Proceedings of International Conferences:

1. B. Manjith Kumar, S.S. Bhattacharya and U.S.P. Shet, "Design and performance characteristics of a burner for controlled production of nanoparticles in a flame reactor", *International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering, ISRS-2008, Proceedings of ISRS-08 on Metallurgy, Materials Science & Engineering, Dept. MME, IIT Madras, ISSN 2009.*
2. R. C. Shivamurthya, M. Kamaraj, R. Nagarajan, S. M. Shariff, G. Padmanabham, "Slurry jet erosion performances of B4C added Colmonoy 88 laser surface alloyed 13Cr-4Ni stainless steel", 4th International Conference on Recent Advances in Materials, Minerals and Environment and 2nd Asian Symposium on Materials and , 2009.
3. Y. Ragupathy, Sayan Ganguly, Satish Kotupalli, Ashutosh S. Gandhi, "Chemical synthesis of nano-composite NiO-YSZ anode precursor material for solid oxide fuel cells through metastable effects" *International Symposium & Exhibition on Fuel Cell Technology, FUCETECH2009, 2009.*
4. N.Arun Prakash, R. gnanamoorthy and M.Kamaraj, "Formation of nanocrystalline structure in aluminium alloy by severe surface deformation process", 23rd International conference on Surface Modification Technologies (SMT23), 2009.
5. C. Swetha and Ravi Kumar, "Mechanical Characterization of Syntactic Foams based on Hollow Glass Microspheres", *International Conference on Advanced Functional Materials (ICAFM2009)*, December 9-12, 2009, Trivandrum.
6. Lakshmi, K, Aravinthan, Sangeetha, R, Ravi Kumar, Venkatesan, R, and Mukesh Doble, "Characterization of cement proteins of *Amphibalanus Reticulatus* from artificial and natural substrate", *International Conference on Emerging Trends in Biotechnology (ETBT)-*, December 4-6, 2009, Banaras Hindu University, Varanasi.
7. Mohan Babu, L. Archana and A.S. Gandhi, "Phase stability and fracture toughness of yttria stabilised Zirconia for Thermal Barrier Coatings", *International Conference on Advanced Functional Materials*, December 9-12, 2009, Thiruvananthapuram, India.
8. R. Suresh Kumar, A.K.Shukla, S.Babu, D.Sivakumar, M.V. Gopinath Pai and A.S.Gandhi, "Processing and properties of silicon carbide mirror blanks for space applications", *International Conference on Advanced Functional Materials*, December 9-12, 2009, Thiruvananthapuram, India.
9. S. Sarkar, M. A. van der Hoef, J. A. M. Kuipers, "Fluid-particle interaction force for polydisperse system from DNS study", *International conference on advances in theory of ironmaking and steelmaking*, December 9-11, 2009, Indian Institute of Science, Bangalore.
10. Susila, P. Sturm, D. Heilmaier, M. Murty, B.S. Subramanya Sarma, V. , "Compression creep studies of mechanically alloyed nanostructured Fe-12Cr-2W-0.25Y₂O₃ ODS alloy", 15th International Conference on Strength of Materials (ICSMA-15), August 16-21, 2009, Dresden, Germany.

11. Ranjit Bauri, "Synthesis and characterization of nanocrystalline ScSZ electrolytes for SOFCs", Fuel Cells Technology (FUCETECH) 2009, which is to be peer reviewed and published in International journal of Hydrogen Energy (Elsevier).
12. Satendra Kumar, Sankara Narayanan, T. S. N., Ganesh Sundara Raman, S. and Seshadri, S. K., Electrochemical Oxidation of CP-Ti and Ti6Al4V Alloy: Evaluation of Fretting Corrosion Resistance, Presented at 23rd International Conference on Surface Modification Technologies (SMT 23), November 2-5, 2009, Chennai, India.
13. Ganesh Sundara Raman, S., Watanabe, M., Kuroda, S., Sato, K. and Kitamura, J., Influence of Heat Treatment on the Microstructure and Mechanical Properties of Warm Sprayed WC-12Co Coating, Autumn Meeting of The Japan Institute of Metals, September 15-17, 2009, , Kyoto University, Japan.
14. Prasad Rao Kalvala, K. S. Raja, Manoranjan Misra, Ricard A. Tache, Overview of Welding of Oxide Dispersion Strengthened (ODS) Alloys for Advanced Nuclear Reactor Applications, Proceedings of International Congress on Advances in Nuclear Power Plants ,ICAPP '09, May 10-14, 2009, Tokyo, Japan.
15. Sudheer Baral, Raghu Raj Rangaraju, Mr. Anand Patil, Prasad Rao Kalvala, K.S. Raja & M. Misra Comparison of Micro Arc Oxidation and Friction Stir Processed Coatings on Aluminum Alloys, Proceedings of Conference SUR/FIN 2009, June 16-17, Louisville, Ky, USA.
16. Patil, K. Prasad Rao, K. S. Raja, M. Misra, "Al-Si Cp Surface Composites by Friction Stir Processing-Effect of Initial Particle Size", 20th Annual Advanced Aerospace Materials and Processes Conference & Exhibition (Aero Mat), June 7-11, 2009, Dayton, Ohio USA

Distinguished visitors to the Department:

Sl. No.	Name of the visitor and designation	Date of visit	Purpose of visit
1	Dr. Branko Matovic, Director of the Materials Science Laboratory at the Vinca Institute of Nuclear Sciences, Belgrade, Serbia (former Yugoslavia).	15/12/2009	Guest lecture on 'Synthesis and characterisation of ceria nanopowders'.

OCEAN ENGINEERING



4.15 DEPARTMENT OF OCEAN ENGINEERING

4.15.1 Introduction:

The Department offers following academic programs:

1. B. Tech (Naval Architecture and Ocean Engineering)
2. Dual Degree (Naval Architecture and Ocean Engineering)
3. M. Tech (Ocean Engineering)
4. M. Tech (Ocean Technology and Management)
5. M. Tech (Petroleum Engineering)
6. M. S. (Ocean Engineering)
7. Ph. D (Ocean Engineering)

The major areas of teaching and research at the Department are:

Offshore structures, Deepwater technologies, Ships and underwater vehicles, Marine hydrodynamics, Coastal engineering, Port and harbour structures, Ocean energy, Marine instrumentation, Ocean acoustics, Ocean optics Oceanography, Oil and gas exploration and production, Reservoir engineering.

4.15.2 Academic Programmes:

New discipline/branch introduced:

M.Tech in Petroleum Engineering

New Courses introduced:

Sl. No.	Course No.	Title
1	PE6010	Petroleum Geology
2	PE6030	Reservoir Engineering, (Civil Engineering Dept.)
3	PE6050	Oil and Gas Exploration
4	PE 6060	HSE Management in Petroleum & Offshore Engg.
5	PE6070	Reservoir Rock Mechanics, (Civil Engineering Dept.)
6	PE6020	Drilling Technology
7	PE6040	Seismic Data Collection and Interpretation
8	PE6120	Practical Training
9	PE6200	Thesis Project
10	PE6320	Subsea Engineering for Oil and gas fields
11	PE6031	Reservoir Simulation (Civil Engineering Dept.)
12	PE6080	Petroleum Refining Technology (Chemical Engineering Dept.)

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	25	22	20	17	0	84
Dual Degree	14	10	8	8	4	44
M.Tech.	30	17	1	0	0	48
M.S.	13	3	7	3	1	27
Ph.D.	12	5	4	2	14	37
Total	94	57	40	30	19	240

Names of Student/Scholar who attended Conference/Seminar and Symposia Abroad/India:

Sl. No.	Name of the Student/Scholar	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad:				
1.	Sheeja Janardhanan Ph.D Scholar	12th Numerical Towing Tank Symposium (NuTTS)	Tuscany, Italy	Oct 4-6, 2009
2.	Manas Ranjan Behera	5th Intl. Conf. on Asian and Pacific Coasts (APC)	Singapore	Oct 13-16, 2009
3.	Anand K.V			

Names of students/scholars who won outside prizes and awards:

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Siddhartha Deb		Best Project	RINA
2.	V. Swetha	NA05B017	American Bureau of shipping Prize	
3.	J. Vijay Kumar	NA04B032	Goodearth shipbuilding Pvt Ltd	
4.	Hima M. Titus	OE07M004	American Bureau of shipping Prize	
5.	R. Gopinath	OE07M023	Institute Merit Prize	
6.	Ankita Deepak Jain		Class NK 100 award	First prize
7.	E. Porko		Class NK 100 award	Second prize

4.15.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major Area of Specialization

Professors:

V. Anantha Subramanian, Ph.D.
(IIT Madras)

Computer aided ship design, Ship hydrodynamics and CFD applications.

S.K. Bhattacharyya, Ph.D.
(IIT Madras)

Computer aided structural analysis, Analysis of motion characteristics of floating bodies, Model studies.

K. Ganesh Babu, Ph.D.
(IIT Madras)

Analysis and design of ocean structures, Behaviour of materials in ocean environment.

V.G. Idichandy, Ph.D.
(IIT Madras)

Experimental techniques, Instrumentation, Analysis and testing of structural models and prototypes.

J.S. Mani, Ph.D.
(IIT Madras)

Coastal engineering, wave hydrodynamics.

R. Natarajan, Ph.D.
(IIT Madras)

Ship hydrodynamics, Design of small crafts, Model testing of launches, tugs, trawlers etc., Mooring analysis of floating structures.

V. Sundar, Ph.D.
(IIT Madras)

Wave-structure interaction, Coastal protection, Port & harbour structures, Fluid flow problems.

SP.Subramanian, Ph.D.
Madras University

Geological oceanography, Engineering geology.

R. Sundaravadivelu, Ph.D.
IIT Madras

Computer aided analysis, Design and experimental studies of coastal and offshore structures, Port and harbour structures.

C.P. Vendhan, Ph.D.
IIT Kanpur

Structural dynamics, Offshore structures, Finite element method, Ocean acoustics.

S.A. Sannasiraj, Ph.D.
IIT Madras

Wind-wave generation, Data assimilation, Breaking wave simulation and its dynamics, Wave-structure interaction, Dynamics of floating bodies.

K. Murali, Ph.D.
IIT Madras

Numerical modeling of coastal hydrodynamics, Sediment transport & pollutant transport. CFD modelling for pollutant transport, CFD application to ship and underwater hydrodynamics.

Associate Professors:

P. Krishnankutty, Ph.D.
IIT Madras

Numerical marine hydrodynamics, Ship motions, Wave wash and passenger comfort.

S. Nallayarasu, Ph.D.
National University of Singapore

Analysis and design of offshore structures, Wave-structure interaction, Reliability in offshore structural design.

S. Surendran, Ph.D.
Yokohama National Univ., Japan
S. Chandrasekaran, Ph.D.
IIT Delhi

Naval architecture, Ship motion control, Ship structures.

Nonlinear-dynamics of offshore structures, Earthquake resistant analysis and design of structures.

Assistant Professor:R. Panneer Selvam, Ph.D.
IIT Madras

System identification, Nonlinear dynamics.

P. Shanmugam, Ph.D.
Madras University

Satellite oceanography, Ocean optics.

Visiting Asst Professor:Rajiv Sharma, Ph.D.
IIT Kharagpur

CAD/CAM in ship design and production, Deepwater drilling technology

Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Short term Course:			
1.	S.Chandrasekaran and R. Panneer Selvam	Offshore Structures: Materials, Analysis, Design& Construction	Dec 14-18, 2009

Short-term Courses/ Workshops/ Seminars/ Symposia/ Conferences/ Training attended by the faculty members in Academic institutions and Public Sector Undertakings:

Sl.No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	R. Sundaravadivelu	International Workshop, Conference and Expo Marine (IWCEM – 2010)	Nerul, Navi Mumbai	Jan 14-16, 2010
2.	P. Shanmugam	Society of Petroleum Engineers (SPE)	Ahmedabad	April 27-30, 2009
3.	K. Murali	Nansen Winter School, SWE	Cherai, Kerala.	Feb 11, 2010
4.	C.P. Vendhan S.K. Bhattacharyya	Indo-US Workshop on Shallow Water Acoustics	NIO, Goa.	Feb 3-4, 2010
Seminar:				
1.	V. Sundar	National conference HYDRO 2009	CWPRS, Pune	Dec 17-18, 2009
2.	S.A. Sannasiraj	Seminar on Breakwaters	Ministry of Shipping Bhubaneshwar	Oct 23-24, 2009
3.	S.K. Bhattacharyya	International Ship and Offshore Structure Congress 2012 Committee Meeting	Ifremer Paris	Feb 24-27, 2010
4.	C.P. Vendhan S.K. Bhattacharyya	National Symposium on Acoustics- NSA 2009	RCI, Hyderabad	Nov 26-28, 2009
5.	V. Sundar	Seminar on Breakwaters	Ministry of Shipping Bhubaneshwar	Oct 23-24, 2009
6.	K. Murali	Seminar on Breakwaters	Ministry of Shipping Bhubaneshwar,	Oct 23-24, 2009
Conference:				
1.	R. Sundaravadivelu	Conference on Fluid Structure Interaction 2009	Crete, Greece	May 25-27, 2009
2.	R. Sundaravadivelu	28 th International Conference on Ocean, Offshore and Arctic Engineering (OMAE) 2009	Honolulu, Hawaii, USA	May 31-June 5, 2009
3.	R. Sundaravadivelu	Oil and gas India Conference and exhibition Renaissance Mumbai Hotel & Conf. centre	Mumbai	Jan 20-22, 2010
4.	V. Sundar	European Geo-Sciences Union General Assembly	Vienna, Austria	April 19-24, 2009
5.	V. Sundar	28 th Intl. conf on Ocean, Offshore and Arctic engg	Honolulu	May 31-June 5, 2009

6.	V. Sundar	5th International Conference on Asian and Pacific Coasts (APAC 2009)	Singapore	Oct 13-16, 2009
7.	V. Sundar	17th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering & Research	Auckland, New Zealand	Feb 21-24, 2010
8.	V. Sundar	International conference on coastal zone management of river deltas and low land coastlines 2010	Alexandria, Egypt	March 6-10, 2010
9.	P. Krishnankutty	17th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering & Research	Auckland, New Zealand	Feb 21-24, 2010
10.	K. Murali	17th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering & Research.	Auckland, New Zealand	Feb 21-24, 2010
11.	P. Shanmugam	IOC/UNESCO Conf. On Ocean Optics.	Venice, Italy	Sept 21-25, 2009
12.	Rajiv Sharma	International Conference on Systemics, Cybernetics and Informatics [ICSCI – 2010].	Pentagram Research Centre Private Limited, Hyderabad, India	Jan, 2010
13.	Rajiv Sharma	First International Conference on Ship and Offshore Technology – Developments in Ship Design and Construction 2009.	IIT Kharagpur	Dec, 2009
14.	Rajiv Sharma	International Conference on Computer Applications in Shipbuilding (ICCAS - 2009).	China.	Sept, 2009
15.	K. Murali	5th International Conference on Asian and Pacific Coasts (APAC2009)	NTU Singapore.	Oct 12-16, 2010
16.	K. Murali	HYDRO 2009	CWPRS, Pune	Dec 17-18, 2009
17.	V. Anantha Subramanian	Offshore Supply Vessel Workshop, 22 nd – 24 th April, 2009.	Singapore	April 22-24, 2009
Training:				
1.	S.A. Sannasiraj	Tsunami hazards and tsunami resistant design. Training programme on Earthquake Risk Mitigation and Management	Anna Inst. Management Chennai	June 11, 2009.
2.	S.A. Sannasiraj	Coastal Numerical models. Training program on physical and numerical models in river engineering	Centre for water resources, Anna University	June 11, 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No	Name of faculty	Topic of Lecture	Institution	Date
1.	R Panneer Selvam	Support structures for offshore wind turbine in shallow and deep waters – An overview	C-WET	Dec 11, 2010
2.	R. Panneer Selvam	Fixed and floating support structures for offshore wind turbine	C-WET	Feb 16, 2010
3.	R. Panneer Selvam	Introduction to Offshore Structures	Indian Maritime University, Vizag	Nov, 2009

Visits abroad by faculty (excluding conferences/symposia/seminars):

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	S. Nallayarasu	Malayasia	04.05.09 to 05.05.09, 22.07.09 to 25.07.09, 02.11.09 to 03.11.09, 28.12.09 to 30.12.09, 04.03.10 to 06.03.10, 10.04.10 to 13.04.10	Meeting and Discussion with Client	Client

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
Honours:					
1.	P. Shanmugam	IUSSTF Research Fellowship	Indo-US Science & Technology Forum (IUSSTF)	Conducting research in ocean optics at University of South Florida	March, 2010
2.	Rajiv Sharma	Best Academician	Pentagram Research Centre Private Limited, Hyderabad, India organizer of the International Conference on Systemics, Cybernetics and Informatics [ICSCI – 2010].	Significant contribution to the scientific community	Jan, 2010
3.	Rajiv Sharma	Best Paper	International Conference on Systemics, Cybernetics and Informatics [ICSCI – 2010].	Research Paper	Jan, 2010
4.	Rajiv Sharma	The Marine Engineering Division Prize	The Institution of Engineers (India), India	Research Paper	Dec, 2009

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	S. Chandrasekaran, Lead author of the book	Seismic design aids for nonlinear analysis of reinforced concrete structures	CRC Press, Florida, USA 2009	Giorgio Serino, Luciano Nuziante and Federico Carannante
2.	Prof. SP. Subramanian	Glossary of technical terms in Ocean Engineering in Tamil	NCBH – Chennai 2010	

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	V. Sundar	Member	Indian Journal of Marine Sciences
2.	V. Sundar	Associate Editor	Journal of Hydro-Environment Research
3.	V. Sundar	Member	Journal of Engineering for the Maritime Environment
4.	V. Sundar	Member	Indian Society of Hydraulics Journal
5.	V. Sundar	Associate Editor	Ocean Engineering
6.	S.K. Bhattacharyya	Member	Journal of Ship Technology
7.	V. Anantha Subramanian	Member	Journal of Ship Technology
8.	Rajiv Sharma	Assistant Editor	International Journal of CAD/CAM (IJCC)

4.15.4 Design and Development Activities:

Brief and specific details of Process/Instruments/Equipment/ Software designed and developed:

V. Anantha Subramanian

1. Planning and installation of precision model fabrication machines (Felder planer thicknesser and universal circular saw) in the Dept.
2. Planning and design of upgradation and automation of towing carriage facility (ROCKWELL AUTOMATION for carriage drive system).
3. Planning and setting up of propeller open water dynamometer test facility (from Cussens Technology, UK).

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	PIV facility	80 lakhs

4.15.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Improvement and validation GOCI data processing algorithms	2009-2010	Korea Ocean Research and Development Institute, Seoul, Korea	11.70	P. Shanmugam
2	Detection and classification of algal blooms in Indian coastal waters using OCM-2 data	2009-2012	ISRO-IITM Cell	19.70	P. Shanmugam
3	System identification for nonlinear maneuvering and seakeeping of ships	2004-2009	Naval Research Board	30.00	S K Bhattacharyya R Panneer Selvam
4	Study of automation in maneuvering / control of ships	2007-2009	Naval Research Board	13.38	R Panneer Selvam S K Bhattacharyya
5	Interaction of ships with basins, entrance at approach channel	2008-2011	Min of Shipping	32.77	S. Surendran R. Sundaravadivelu
6	Flow Visualisation and measurement around damping elements for floating bodies in waves	2009-2012	Naval Research Board	31.12	S. Nallayarasu S. K. Bhattacharyya
7	Investigations into vortex Induced oscillations of a spring-mass system under currents and waves	2009-2012	Naval Research Board	33.20	K. Murali V. Sundar
8	Investigations on functional performance of coastal structures through numerical modeling	2010-2013	NIOT	59.69	K. Murali V. Sundar
9	Enhancing wave forecasting capabilities in Indian ocean using buoy and altimeter derived wave data	2008-2010	Indian National Centre for Ocean Information Services	25.00	S.A. Sannasiraj V. Sundar

10	Assimilation of satellite data to improve wave forecast	2009-2012	Space Applications Centre	21.05	S.A. Sannasiraj V. Sundar
11	Coupled dynamics of sloshing of liquid in a container and the barge	2009-2012	Naval Research Board	22.42	S.A. Sannasiraj V. Sundar
12	Performance of newly developed turbulence models in cfd simulation of low and high speed underwater vehicles	2009-2011	Naval Research Board	26.34	S. Vengadesan S.K. Bhattacharyya
13	Development of computer aided tutorials and lecture notes for training scientists and engineers in ocean acoustics	2009-2011	NIOT	15.00	S.K. Bhattacharyya C.P. Vendhan
14	Low frequency acoustic propagation in shallow water ocean with seabed effects	2008-2010	NIOT	17.04	S.K. Bhattacharyya C.P. Vendhan
15	Study on the non-linear effects of free surface waves on fixed and floating marine structures	2008-2011	Naval Research Board	18.62	P. Krishnankutty C.P. Vendhan
16	Generic design methodology for underwater towed bodies	2009-2010	NPOL	10.00	V. Anantha Subramanian P. Krishnankutty
17	National Program in Marine Hydrodynamics	2008-2013	Naval Research Board	450.00	V.G. Idichandy S.K. Bhattacharyya

Exchange programme with other Universities including Institutions/Universities under MOU:

Faculty members participation with other institution under MoU:

Dr. R. Panneer Selvam, Visiting Professor, Department of Civil and Environmental Engineering, University of Windsor, Windsor, Canada May-Aug, 2009

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals : 03
Total No. of papers published in Refereed International Journals : 29
Total No. of papers presented in National Conferences : 16
Total No. of papers presented in International conferences : 38

In Refereed National Journals:

1. Balaji R., Sundar V., Laju K. and Sundaravadivelu R. (2009) "Wave reflection characteristics of chambered breakwater" *Indian Society for Hydraulics journal of Hydraulic Engineering*, 15 (2), pp 50-68.
2. Balaji R., Sannasiraj S.A. and Sundar V, (2010) "Simulation of variety of waves in a physical wave tank", *Journal of Ship Technology*, 6 (1), pp 49-60.
3. Balaji R., Sannasiraj S.A. and Sundar V. (2010) "Simulation of variety of waves in a physical wave tank", *Journal of Ship technology*, 6 (1), pp 49-60.

In Refereed International Journals:

1. Madheswaran C.K., Natarajan K., Sundaravadivelu R. and Boominathan A. (2009) "Effect of open or concrete infilled trenches on screening of ground vibration during pile driving", *Experimental Technique*, 33(2), pp 43-51.
2. Madheswaran C.K., Sundaravadivelu R., Boominathan A. and Natarajan K. (2009) "Response of berthing structure due to underwater blasting for rock dredging", *Experimental Technique*, 33(3), pp 61-72.

3. Devadoss S., Sannasiraj S.A. and Murali K. (2009) "Experimental study on beach deposition of oil spill", *Journal of Environmental Research and Development*, 3(2), pp 371-379.
4. Suneel Kumar M., Alagusundaramoorthy P. and Sundaravadivelu R. (2009) "Interaction curves for stiffened panel with circular opening under axial and lateral loads", *Ships and Offshore Structures*, 2 (2), pp 1-11.
5. Suneel Kumar M., Alagusundaramoorthy P. and Sundaravadivelu R. (2009) "Ultimate strength of stiffened plates with a square opening under axial and out-of-plane loads", *Engineering Structures*, 31, pp 2568-2579.
6. Suneel Kumar M., Lavana Kumar C., Alagusundaramoorthy P. and Sundaravadivelu R. (2009) "Ultimate strength of orthogonal stiffened plates subjected to axial and lateral loads", *KSCE Journal of Civil Engineering*, 14(2), pp 197-206.
7. Murali K, Sundar V. and Setti K. (2009) "Wave induced pressures and forces on deck slabs near the free surface", *Journal of Waterways, Harbours, Coastal and Ocean Engineering*, 135 (6), pp 269 -277.
8. Dhinakaran G., Sundar V., Sundaravadivelu R. and Graw K.U. (2009) "Effect of perforations and rubble mound height on wave transformation characteristics of surface piercing semicircular breakwaters", *Ocean Engineering*, 36 (15-16), pp 1182-1198.
9. Krishnakumar C., Sundar V. and Sannasiraj S.A. (2010) "Hydrodynamic performance of single and double-wave screens", *Journal of Waterway, Port, Coastal and Ocean Engineering*, 136 (1), pp 59-65.
10. Mani J.S. (2009) "Experimental and numerical investigations on zigzag porous screen breakwater", *Journal of Natural Hazards*, 49(2), pp 401-409.
11. Sivakholundu K. M., Mani J. S, Idichandy V. G. and Kathirolu S. (2009) "Estuarine channel stability assessment through tidal asymmetry parameters", *Journal of Coastal Research*, 25(2), pp 315-323.
12. Nanda Kishore Y., Narasimha Rao S. and Mani J. S. (2009) "Behaviour of laterally loaded piles subjected to scour in marine environment", *KSCE Journal, Korea*, 113 (6), pp 403-408.
13. Nasar T., Sannasiraj S.A. and Sundar V. (2009) "Wave induced sloshing pressure in a liquid tank under random sea state", *Journal of Engineering for the Maritime Environment*, 223 (2), pp 145-161.
14. Krishnakumar C., Sundar V. and Sannasiraj S.A. (2010) "Hydrodynamic performance of single- and double-wave screens", *Journal of Waterway, Port, Coastal and Ocean Engineering*, 136 (1), pp 59-65.
15. Chandrasekaran S., Gupta S.K. and Carnanante F. (2010) "Design aids for fixed support reinforced concrete cylindrical shells under uniformly distributed loads", *International Journal of Engineering Science and Technology*, 1(1), pp 148-171.
16. Sharma R., Tae-wan Kim, Sha O.P. and Misra S.C. (2009), "Semisubmersible design faces challenges", *Offshore Marine Technology*, pp 22-30.
17. Sharma R., M. Ghosh, and Sha O.P. (2009) "A D-NURBS based integrated approach to the design and analysis of heterogeneous objects", *International Journal of Mechanical Engineering and Materials Science*, 2(1), pp 1-12.
18. Sharma R. and Sha O.P. (2009) "Optimal fuzzy system design using a real-coded genetic algorithm with imbedded constraints", *International Journal of Systemics, Cybernetics and Informatics*, pp 20-26.
19. Sharma R., Misra S.C. and Sha O.P. (2009) "Deepwater drilling designs - system integration", *Marine Engineers Review*, pp 41 - 44.
20. Sharma R., Misra S.C. and Sha O.P. (2009) "Drill ships or semisubmersibles for deep waters", *Marine Engineers Review*, pp 36-41.
21. Panneer Selvam R. and Bhattacharyya S.K. (2010) "System identification of coupled heave-pitch motion of ships with forward speed in random ocean waves", *Ships and Offshore Structures*, 5(1), pp 33- 49.
22. Jagadeesh P., Murali K. and Idichandy V.G. (2009) "Experimental investigation of hydrodynamic force coefficients over an AUV hull form", *Ocean Engineering*, 36(1), pp 113-118.
23. Murali K., Sundar V. and Setty K. (2008) "Wave induced pressures and forces on deck slabs near free surface", *Journal of Waterway, Port, Coastal and Ocean Engineering*, 135(6), pp 269-277.
24. Dinesh G., Murali K. and Ananthasubramanian V. (2009) "Estimation of hull-propeller interaction of a self-propelling model hull using RANSE solver", *Ships and Offshore Structures*, iFirst, pp 1-15.
25. Jagadeesh P. and Murali K. (2010) "RANS predictions of free surface effects on axisymmetric underwater body", *Engineering Applications of Computational Fluid Mechanics*, 4(2), pp 301-313.

26. Lex G., Surendran S. and Sang-Hyun Kim (2009) "Algorithms to control the moving ship during harbour entry", *Applied Mathematical Modelling*, 33, pp 2474-2490.
27. Surendran S. and Goutam M. (2009) "Reduction in the dynamic amplitude of moored cable system", *Ships and Offshore Structures*, 4(2), pp 145-163.
28. Rajesh G. and Bhattacharyya S.K. (2008) "System identification for nonlinear maneuvering of large tankers using artificial neural network", *Applied Ocean Research*, 30(4), pp 256-263.
29. Rajesh G., Rajasekhar G. and Bhattacharyya S.K. (2010) "System identification for nonlinear maneuvering of ships using neural network", *Journal of Ship Research*, 54(1), pp 1-14.

In Proceedings of National Conferences:

1. Anand K.V. and Sundar V. (Dec 17-18 2009) "Dynamic pressures on vertical and curved seawall models due to random waves", *Hydraulics, water resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune, pp 366-371.
2. Behera M. R., Murali K. and Sundar V. (Dec 17-18 2009) "Risk evaluation along Tamilnadu coast due to 2004 Indian Ocean tsunami", *Hydraulics, water resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune, pp 356-365.
3. Suresh P.K. and Sundar V. (Dec 17-18 2009) "Simulation of shoreline changes and estimation of littoral drift", *Hydraulics, water resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune, pp 301-313.
4. Norayanan L., Murali K. and Sundar V. (Dec 17-18 2009) "Role of Vegetal configuration on wave induced pressures on wall", *Hydraulics, water resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune, pp 301-313.
5. Murali.K. and Sundar V (2009) "National Round Robinon Tsunami Modelling for Kalpakkam Site", *Dept of Atomic Energy Commission, DAE report on National Round Robinon Tsunami Modelling for Kalpakkam Site, BARC*.
6. Suresh P.K. and Sundar V (Feb 5-7 2010) "Performance of protection measures along the west coast of Tamilnadu", *Coastal Processes, Resources & Management*, CESS, Kerala, pp 203-206.
7. Sundar V. (Feb 5-7 2010) "Protection Measures for Perrenial Erosion", *Coastal Processes, Resources & Management*, CESS, Kerala, pp 175-176.
8. Sundar V. and Anand K.V. (Feb 5-7 2010) "Dynamic Pressures and run-up on curved seawalls". *Coastal Processes, Resources & Management*, CESS, Kerala, pp 203-206.
9. Mani J.S and Sudarshan J. (Feb 5-7 2010) "Effect of wave and current on mooring forces for a floating breakwater", *Coastal Processes, Resources & Management*, CESS, Kerala, pp 203-206.
10. Nanda Kishore , Narasimha Rao S. and Mani J.S. (Feb 5-7 2010) "Laterally loaded piles in the coastal environment subjected to scour", *Coastal Processes, Resources & Management*, CESS, Kerala, pp 203-206.
11. Muralidharan N. and Mani J.S. (Feb 5-7 2010) "Design of suspended seawater intake system", *Coastal Processes, Resources & Management*, CESS, Kerala, pp 203-206.
12. Muralidharan N. and Mani J.S. (Dec 17-18 2009) "Experimental investigation on pressure distribution around a suspended sea water intake system", *Hydraulics, Water Resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune.
13. Behera M.R., Murali. K. and Sundar V (Dec 17-18 2009), "Risk evaluation along Tamilnadu coast due to 2004 Indian Ocean tsunami" *Hydraulics, Water Resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune, pp 356-365.
14. Norayanan L., Murali K. and Sundar V. (Dec 17-18 2009) "Role of Vegetal configuration on wave induced pressures on wall", *Hydraulics, Water Resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune, pp 301-313.
15. Mayilvahanan A.C., Panneer Selvam R. and Balachandar R. (Dec 17-18 2009), "Hydrodynamic investigations on barge type floaters for an offshore wind turbine", *Hydraulics, water resources, Coastal and Environmental Engineering, Hydro 2009*, CWPRS, Pune.
16. Diwan Ganesh C., Vendhan C.P. and Bhattacharyya S.K. (Nov 26-28 2009) "Finite element analysis of the Pekeris waveguide", *Proc. National Symposium on Acoustics- NSA 2009*, RCI, Hyderabad.

In Proceedings of International Conferences:

1. Jeyalekshmi R., Sundaravadivelu R. and Idichandy V.G. (May 25- 27 2009) "Hull-tether- riser dynamics of deep water tension leg platforms", *Fluid Structure Interaction 2009*, Crete, Greece, pp 215-223.
2. Srinivasan N., Sundaravadivelu R., Selvakumar R. and Kanotra R. (May 31–June 5 2009) "Innovative harsh environment dry-tree support semi-submersible for ultra deepwater applications" , *28 th conference on Ocean, Offshore and Arctic Engineering (OMAE-2009)*, Honolulu, Hawaii, Paper No. OMAE2009 – 80085.
3. Sundaravadivelu R. (Jan 14 – 16 2010) "Latest trends in design, retrofitting and rehabilitation of berthing structures" , *International Workshop, Conference and Expo Marine (IWCEM – 2010)*, Pune , paper No. I13.
4. Srinivasan N., Sundaravadivelu R., Selvakumar R. and Kaundinya V.P.K (Jan 20 – 22 2010) "Dry-tree support semi-submersible for drilling and production from deepwater of East Coast India" *Oil and gas India Conference and exhibition Renaissance Mumbai Hotel & Conf. centre, Mumbai*, paper No. SPE 127721.
5. Noarayanan L., Sundar V. and Murali K.(April 19-24 2009) "Role of vegetation on the attenuation of forces on structures due to cnoidal waves" , *European Geo-Sciences Union General Assembly*, Vienna, Austria.
6. Nasar T, Sannasiraj S.A., Sundar V. (May 31–June 5 2009) "Experimental investigation of sloshing dynamics coupled with barge responses" , *28 th conference on Ocean, Offshore and Arctic Engineering" (OMAE 2009)*, Honolulu, Hawaii.
7. Sriram V., Sannasiraj S. A. , Sundar V. and Schlenkhoff A. (June 21-26, 2009) "Nonlinear Wave Simulations using Finite Element Method based on Spring Analogy Techniques", *International Offshore and Polar Engineering Conference (ISOPE 2009)*, Osaka, Japan.
8. Rajasekaran C., Sannasiraj S.A. and Sundar V. (Sep 21–23 2009), "Experimental study on acoustics of different intensities of breaking waves", *10th Western Pacific Acoustics Conference*, Beijing, China.
9. Krishnakumar C., Sundar V. and Sannasiraj. S.A (Oct 13-16), "Energy dissipation by wave screens due to oblique wave incidence", *5th International Conference on Asian and Pacific Coasts (APAC 2009)*, Singapore, pp 275-281.
10. Sundar V., Maiti D.K., Sannasiraj S.A. and Venkatraman M. (Oct 13-16 2009) "Geosynthetic application for coastal protection at Shankarpur, West Bengal, India" , *5th International Conference on Asian and Pacific Coasts (APAC 2009)*, Singapore, pp 58-64.
11. Anand K.V. and Sundar V. (Oct 13-16 2009) "Run-up and dynamic pressures on vertical and curved seawall models due to cnoidal waves", *International Conference on Asian and Pacific Coasts (APAC 2009)*, Singapore, pp 290-296.
12. Suresh P.K. and Sundar V. and Selvarajah A. (Feb 21-24 2010) "Estimation of longshore sediment transport and shoreline evolution", *17th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering & Research*, Auckland, New Zealand.
13. Anand K.V. and Sundar V. (Mar 6-10 2010), "Dynamic pressures on curved front seawall models under regular and cnoidal waves" , *International conference on coastal zone management of river deltas and low land coastlines (czmrdlc) 2010*, Alexandria, Egypt.
14. Ramanamurthy M.V. , Mani J.S., Ranga Rao and Reddy N.T. (Feb 1-5 2009) "Numerical model studies on the long shoals for coastal protection against tsunami", *International conference on Ocean Engineering, IIT Madras*, pp 807-817.
15. Sivakholundu M.K., Mani J.S., Kathiroti S. and Idichandy V.G. (Feb 1-5 2009) "Role of tidal asymmetry on the morphology of estuarine navigational channel", *International conference on Ocean Engineering, IIT Madras*, pp 694-702.
16. Nandakishore S., Narasihma Rao and Mani J.S. (Feb 1-5 2009) "Parameters influencing laterally loaded piles in marine environment", *International conference on Ocean Engineering, IIT Madras*, pp 184-193.
17. Sannasiraj S.A. and Naik M.S. (Apr 19-24 2009) "Wave impact pressures on a vertical wall", *EGU General Assembly*, Vienna, Austria.
18. Nasar T., Sannasiraj S.A. and Sundar V. (May 31-Jun 3 2009) "Experimental investigation of sloshing dynamics coupled with barge responses". *28 th International Conference on Offshore Mechanics and Arctic Engineering*, Honolulu, Hawaii.
19. Rajasekaran C., Sannasiraj S.A. and Sundar V. (Sep 21-23 2009) "Experimental study on acoustics of different intensities of breaking waves" , *The 10 th Western Pacific Acoustics Conference*, Beijing, China.

20. Krishnakumar C., Sundar V. and Sannasiraj S.A. (Oct 13-16 2009) "Energy dissipation by wave screens due to oblique wave incidence", *5 th International Conference on Asian and Pacific Coasts, APAC2009*, Singapore.
21. Behera M. R., Murali K., Sannasiraj S.A. and Sundar V. (Oct 13-16 2009), "A study on effect of tide on tsunami characteristics", *5 th International Conference on Asian and Pacific Coasts, APAC2009*, Singapore.
22. Sundar V., Maiti D. K., Sannasiraj S.A. and Venkatraman M. (Oct 13-16 2009) "Geosynthetic application for coastal protection at Shankarpur, West Bengal, India, *5 th International Conference on Asian and Pacific Coasts, APAC2009, Singapore.*
23. Suresh P.K., Sundar V., Sannasiraj S.A. and Selvarajah A. (Feb 21-24. 2010) "Longshore sediment transport and shoreline evolution along the coast of south Chennai, India". *17 th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering and Research (APD-IAHR 2010)*, Auckland, New Zealand.
24. Rajasekaran C., Sannasiraj S. A. and Sundar V. (March 6-10 2010) "Correlation of breaking wave pressure on a vertical wall with energy dissipation". *1st International Conference on Coastal Zone Management of River Deltas and Low Land Coastlines*, Alexandria, Egypt.
25. Sheeja J. and Krishnankutty P. (Oct 2-4 2009) "*Prediction of Ship Manoeuvring Hydrodynamic Coefficients Using Numerical Towing Tank Model Tests*", *Numerical Towing Tank Symposium (NuTTS)*, Cortona, Tuscany, Italy .
26. Sheeja J. and Krishnankutty P. (Feb 21- 24 2010) "Operational Risks on the Controllability of a Vessel in Harbour Environment Due to Shallow Water Effects", *17 th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering and Research(IAHR-APD) and 7th International Urban Watershed Management Conference*, Auckland, New Zealand.
27. Chandrasekaran S.,Gupta S.K. and Carnanannte F. (2010) "Design aids for fixed support reinforced concrete cylindrical shells under uniformly distributed loads", *International Journal of Eng, Science and Technology*, 1(1), pp 148-171.
28. Shanmugam P. (Sep 21-25 2009) "New models for deriving and partitioning absorption coefficients of colored dissolved organic matter in the global ocean", *OceanObs'09 Conference*, Venice, Italy.
29. Shanmugam P.,Tiwari S.P., Ahn Y.H., Moon J.E. and Ryu J.H. (Sep 21-25 2009), "Evaluation of MODIS bio-optical algorithms in the Arctic waters", *OceanObs'09 Conference*, Venice, Italy.
30. Roussinova V., Balachandar R. and Panneer Selvam R. (Aug 9-14 2009) "Flow past a train of two-dimensional large rib elements in an open channel", *33 rd International Association of Hydraulic Engineering & Research (IAHR)*, Biennial, Vancouver, Canada.
31. Norayanan L., Sundar V., Murali K. (April 19-24 2009) "Role of vegetation on the attenuation of forces on structures due to cnoidal waves", *European Geo-Sciences Union General Assembly*, Vienna, Austria.
32. Behera M. R, Murali K., Sannasiraj S.A. and Sundar V. (Oct 13-16 2009). "A study on effect of tide on tsunami characteristics", *5th International Conference on Asian and Pacific Coasts (APAC 2009)*.
33. Thayapraba M.,Murali. K. and Ananthasubramanian V., (Feb 21-24 2010). "Reflection and transmission coefficients of a submerged elastic plate in waves", *17 th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering &Research*, Auckland, New Zealand.
34. Behera M.R., Murali K. and Sundar V. (Feb 21-24 2010) "Optimisation of grid size for nearshore investigation of long waves", *17th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering & Research*, Auckland, New Zealand.
35. Swetha D, Murali K. and Sundar V. (Feb 21-24 2010) "Numerical simulation of waves over plane and serrated slopes", *17th Congress of the Asia and Pacific Division of the International Association of Hydraulic Engineering & Research*, Auckland, New Zealand.
36. Surendran S. (Oct 26 – 27 2009) "Study on the adequacy of scantling of hatch covers of capsized bulk carriers and suggestion for alternate materials, Design and operation of bulk carriers", *RINA conference*, Eugenides Foundation, Athens Greece.
37. Sajini U.S., Sundaravadivelu R., Subramanian V.A., (May 31 – June 5 2009) "Experimental study on hydrodynamic behavior of Jacket spar platform", *28 th International Conference on Ocean, Offshore and Arctic Engineering*, Honolulu, Hawaii, USA.
38. Vendhan C.P. and Bhattacharyya S.K. (Feb 2-4, 2010) "Finite element modeling of heterogeneous ocean waveguides", Indo-US workshop on Shallow Water Acoustics, NIO Goa.

4.15.6 Other Activities of the Department/Centre:

Results obtained in research work (from M.S. & Ph.D thesis) of the scholar/faculty (last year sample enclosed from Director's Speech)

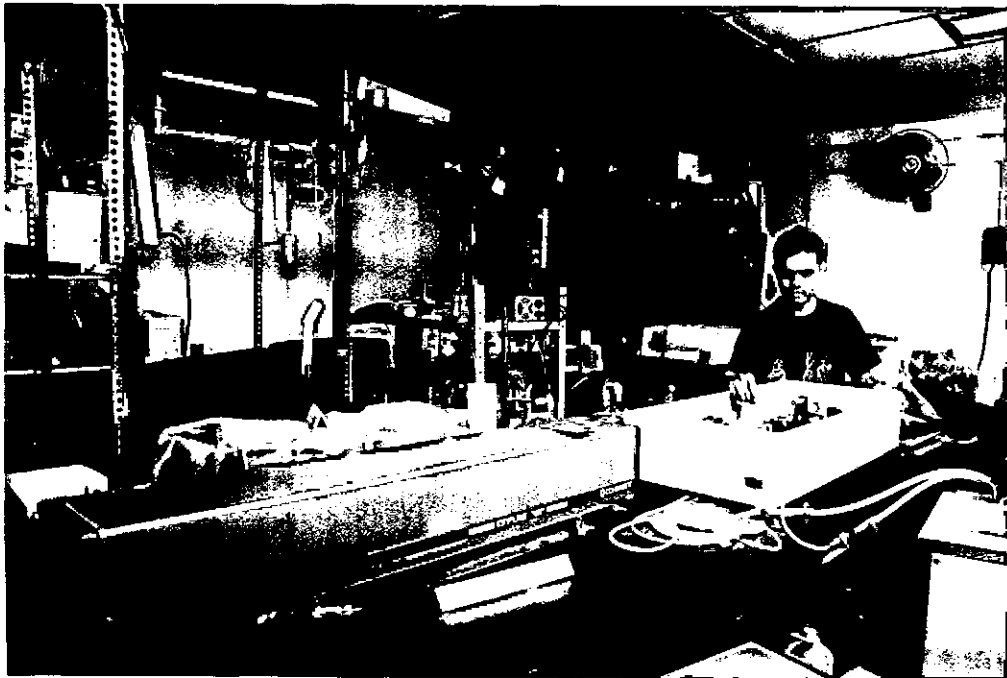
1. The PhD thesis by G. Dhinesh titled "Numerical Analysis of Hull Propeller Interaction and Optimisation of Hull Design" resulted in a new methodology towards numerical towing tank simulation. The method predicts self propulsion point through an iterative scheme using RANSE solver. An optimization methodology for twin hull catamaran forms is also evolved.

International Collaboration achievements by the Departments:

MoU is signed with University of Naples Federico II, Italy with IIT Madras for a joint academic cooperation and industrial sponsored research. This MoU is initiated and operated by the Department of Ocean Engineering.

Network of Excellence: A Joint academic cooperation titled *Network of Excellence* with University of Naples Federico II (Italy), University of Bristol (UK), Northeastern University (USA), Chalmers University of Technology (Sweden), Technical University of Delft (The Netherlands), Tun Abdul Razak Research Center (UK) and IIT Madras under European Union funding to the tune of 3 million Euros is in place. This cooperation is initiated and operated by the Department of Ocean Engineering.

PHYSICS



4.16 DEPARTMENT OF PHYSICS

4.16.1 Introduction:

The Department of Physics was established in the year 1959 and now has Ph.D., M.Tech., M.Sc., Dual Degree programmes in MS and BS, and B.Tech (Engg.Physics) programme. In addition department teaches various core and elective courses in physics to B.Tech students. The Department also undertakes a large number of sponsored research and consultancy projects.

4.16.2 Academic Programmes:

Engg.Physics (B.Tech), M.Sc, Dual Degree programmes in MS and BS, M.Tech. (Solid State Technology) and Ph.D.

Students on roll:

Programme	I year	II year	III year	IV year	V year & others	Total
B.Tech	21	20	12	10	1	64
Dual Degree	9	-	-	-	-	9
M.Tech	8	6	-	-	-	14
M.Sc	39	27	-	-	-	66
Ph.D	24	11	20	21	27	103
Total	101	64	32	31	28	256

Names of student/scholar who attended Conference/Seminar and Symposia Abroad/India:

Sl.No	Name of the student/scholar	Roll No.	Name of the Conference/Seminar/Symposia/Workshop	Date and Venue
1	Kamala Bharathi	Ph.D.	IEEE International Magnetics Conference	04 / 05 – 08 / 05 Sacramento, California, USA
2	R.Imran Zafri	Ph.D.	Materials Research Symposium MR 09	07 / 05 – 09 / 05 IIT Bombay.
3	Laxminarayana Patro	Ph.D.	International Conference on Solid State Ionics	28 / 06 – 03 / 07 Toronto, Canada
4	N.Ramakrishnan	Ph.D.	Understanding Molecular Simulation	17/ 08 – 28 / 08 JNCASR, Bangalore
5	Laxmi Narayana Patro	Ph.D.	Visit to NMR Research Centre, Indian Institute of Science	22 / 10 – 23 / 10 Bangalore
6	Anuradha Patra	Ph.D.	94 th Solid State Physics Symposium (2009)	14/12/09 to 18/12/09 M S University of Baroda, Vadodara
7	C. Rangaswami	Ph.D.	94 th Solid State Physics Symposium (2009)	14/12/09 to 18/12/09 M S University of Baroda, Vadodara
8	Benson K Money	Ph.D.	Electroceramics 2009	13/12/09 to 17/12/09 University of Delhi
9	Ravindra Nath Mahato	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	9/12/09 to 11/12/09 IIT Guwahati
10	K Jagadeesh Kumar	Ph.D.	Advanced Nanomaterials and Nanotechnology ICANN-2009	9/12/09 to 11/12/09 IIT Guwahati
11	B Naresh	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	7/12/09 to 11/12/09 IIT Guwahati
12	Maneesh Chandran	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	7/12/09 to 11/12/09 IIT Guwahati
13	E. Senthil Kumar	Ph.D.	Advanced Nanomaterials and Nanotechnology ICANN-2009	7/12/09 to 11/12/09 IIT Guwahati
14	Samir Ranjan Meher	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	7/12/09 to 11/12/09 IIT Guwahati
15	R.V. Muniswami Naidu	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	6/12/09 to 15/12/09 IIT Guwahati
16	Prashant Dabas	Ph.D.	94 th Solid State Physics Symposium (2009)	14/12/09 to 18/12/09 M S University of Baroda, Vadodara

17	Benson K Money	Ph.D.	Electroceramics 2009	13/12/09 to 17/12/09 University of Delhi
18	Ravindra Nath Mahato	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	9/12/09 to 11/12/09 IIT Guwahati
19	K Jagadeesh Kumar	Ph.D.	Advanced Nanomaterials and Nanotechnology ICANN-2009	9/12/09 to 11/12/09 IIT Guwahati
20	B Naresh	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	7/12/09 to 11/12/09 IIT Guwahati
21	Maneesh Chandran	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	7/12/09 to 11/12/09 IIT Guwahati
22	E. Senthil Kumar	Ph.D.	Advanced Nanomaterials and Nanotechnology, ICANN-2009	7/12/09 to 11/12/09 IIT Guwahati
23	Samir Ranjan Meher	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	7/12/09 to 11/12/09 IIT Guwahati
24	R.V. Muniswami Naidu	Ph.D.	Advanced Nanomaterials and Nanotechnology (ICANN-2009)	6/12/09 to 15/12/09 IIT Guwahati
25	Benson K Money	Ph.D	School on Glass Formers and Glasses	04-01-2010 to 20-01-2010 JNCASR Bangalore
26	D Venkata Ramaiah	Ph.D	th 9 DAE-BRNS National Laser Symposium	13-01-2010 to 16-01-2010 BARC, Mumbai
27	Sandhya Dwevedi	Ph.D	MMM / Intermag Conference	18-01-2010 to 22-10-2010 Washington, DC, USA
28	Basanth s Kalanoor	Ph.D	th 9 DAE-BRNS National Laser Symposium	13-01-2010 to 16-01-2010 BARC, Mumbai
29	Rabindra Nath Mahato	Ph.D	MMM / Intermag Conference	18-01-2010 to 22-10-2010 Washington, DC, USA
30	B. Ramachandran	Ph.D	MMM / Intermag Conference	18-01-2010 to 22-10-2010 Washington, DC, USA
31	M.Krishna Surendra	Ph.D	Magnetic Materials and Spintronics	28-01-2010 to 31-01-2010 Varanasi
32	Adarsh Kaniyoor	Ph.D	International Conference on Nano science and Technology	17-02-2010 to 20-02-2010 IIT Bombay
33	Anuradha patra	Ph.D	International Conference on Nano science and Technology	17-02-2010 to 20-02-2010 IIT Bombay
34	V. Eswaraiah	Ph.D	International Conference on Nano science and Technology	17-02-2010 to 20-02-2010 IIT Bombay
35	K.Jagadeesh Kumar	Ph.D	International Conference on Nano science and Technology	17-02-2010 to 20-02-2010 IIT Bombay
36	Jyothirmayee Aravind S.S	Ph.D	International Conference on Nano science and Technology	17-02-2010 to 20-02-2010 IIT Bombay
37	Vinayan B.P	Ph.D	International Conference on Nano science and Technology	17-02-2010 to 20-02-2010 IIT Bombay
38	Nibedita Ram	Ph.D	Topical Conference on interaction of EM radiations with Atoms, Molecules and Clusters (TC 2010)	01-03-2010 to 09-03-2010 RRCAT-INDORE
39	Gagan Bihari Pradhan	Ph.D	Topical Conference on interaction of EM radiations with Atoms, Molecules and Clusters (TC 2010)	01-03-2010 to 10-03-2010 RRCAT-INDORE
40	Manas Ranjan Parida	Ph.D	Topical Conference on interaction of EM radiations with Atoms, Molecules and Clusters (TC 2010)	01-03-2010 to 10-03-2010 RRCAT-INDORE

Names of Students/scholars who won outside prizes and awards:

The paper "Work function and electrical studies on nitrogen incorporated ZnO thin films" by Mr Muniswami naidu (saint Gobain Research Scholar) and Dr. A. Subrahmanyam (Guide) has been given the Best paper Award (in Thin Films and Devices) in the National Symposium for Materials Research Scholars, MR 09 organized at IIT Bombay during 08 - 09 May 2009.

Name of the students/Scholars who won Institute Convocation/Institute Day Prize:

Sl.No	Name of the scholar/student	Roll No.	Name of prize	Name of Donor
1	V. Ranjini	PH07C016	Silver Medal	Chilukuri Ramasastrri Memorial Prize
2	Kottapalli Ajay Giri Prakash	PH07M004	Institute Merit prize	IITM
3	Vaidya Varun Pradeep	PH07M006	Institute Merit prize	IITM
4	S.Sriram		Institute Merit Prize	IITM

4.16.3 Faculty and their activities:

Faculty:

Professors

G.Markandeyulu, Ph.D [Head]
IIT, Madras
P.C.Deshmukh, Ph.D
Nagpur Univ., Nagpur
S.Kasiviswanathan, Ph.D.
IIT, Madras
K.Hariharan, Ph.D
IIT, Madras
M.P.Kothiyal, Ph.D
IIT, Madras
(Mrs) S.Lakshmi Bala, Ph.D
Madras Univ.
V.R.K.Murthy, Ph.D
IIT, Madras
V.S.Murty, Ph.D
IIT, Madras
T.S.Natarajan, Ph.D
IIT, Madras
(Mrs) Neelima M. Gupte, Ph.D
SUNY, Stony Brook, USA
Prem B. Bisht, Ph.D
Kumaun Univ., Nainital
M.S.Ramachandra Rao Ph.D
IIT, Kharagpur

S.Ramaprabhu, Ph.D
IIT, Madras
V.Sankaranarayanan, Ph.D
IIT, Madras
K.Sethupathi, Ph.D
Moscow State Univ., Russia
A.Subrahmanyam, Ph.D.
IIT, Kharagpur
Suresh Govindarajan, Ph.D
Pennsylvania Univ., USA
P.B. Sunil Kumar, Ph.D.
IISc, Bangalore
C.Vijayan, Ph.D
IIT, Madras

Associate Professors

Arul Lakshminarayan, Ph.D.
SUNY Stony Brook, USA
A.R.Ganesan, Ph.D.
IIT, Madras.

Major area of specialization

Magnetism and magnetic materials
Atomic and Molecular Physics
Thin Films
Solid state ionics
Applied optics
Theoretical Physics with specialization in gauge theories, dynamical systems and chaos
Microwaves and Dielectrics
Resonance spectroscopy
Conducting polymers, Instrumentation Electronics
Dynamical systems, Statistical Physics
Ultrafast laser optics and spectroscopy
Experimental Solid State Physics (Electronic and Management Materials - Thin films and bulk):
Spintronics and Nanostructures
Hydrogen Production, Hydrogen Storage in Materials and Nonomaterials
Low Temperature Physics, Cryogenics, Thermal and Electrical Properties
Low temperature physics, Superconductivity and Magnetic Materials
Semiconductor Devices, photovoltaics Transparent conducting thin films
Theoretical Physics, Quantum Field Theory String Theory, Solitons and D-branes
Soft condensed matter, Complex Fluids
Photonics, Nonlinear Optics

Major area of specialization

Quantum Chaos, Quantum Information theory, Chaos and Transport, Mathematical Physics
Applied Optics, Optical metrology

M.V.Satyanarayana, Ph.D
IMSc. (Madras Univ.)
V.Subramanian, Ph.D.
IIT, Madras

Quantum optics

Microwaves, Semiconductors, Ferroelectrics

Assistant Professors

N.Harish Kumar, Ph.D
University of Hyderabad.
Mahaveer Kumar Jain, Ph.D.
IIT Delhi,

Superconductivity, Novel magnetic materials,
Instrumentation and automation
Ceramics Sensors

P.Murugavel, Ph.D.

Physics of dielectric, ferroelectric and magnetoelectric
oxide materials in Bulk, Film and Nanocrystalline forms.
Laser cooling and trapping of atoms; Low Temperature
Physics; Magnetism
String Theory

IISc., Bangalore

M.Pattabiraman, Ph.D.

IIT Madras

Prasanta Kumar Tripathy, Ph.D.

Utkal University

Rajesh Narayanan, Ph.D.

Univ. of Oregon

P.N.Santhosh, Ph.D.

National Chemical Lab., Pune

R. Nirmla, Ph.D.

IIT Madras.

Aditi Simha, Ph.D.

IISc, Bangalore

Manoj Gopalakrishnan, Ph.D

IMSc, Madras University

Prahallad Padhan, Ph.D.

IIT Kanpur

Umesh Kadhane, Ph.D,

TIFR, Bombay

James Libby, Ph.D.

Univ.of Oxford

Condensed Matter Theory

Magnetism in Condensed Matter Physics

Experimental Condensed Matter, Material properties at
low temperatures, Rare earth magnetism
Non-Equilibrium Statistical Physics

Theoretical Biophysics,

Experimental Condensed Matter Physics

Atomic and Molecular Physics

Experimental particle physics, CP-violation and flavour
physics

Emeritus Professor

V.Balakrishnan, Ph.D.

Brandeis Univ.,

Dynamical Systems, Quantum Dynamics and
Stochastics

Short-term Courses/workshops/Seminars/Symposia/Conferences organized by the faculty members:

Sl.No.	Coordinator	Title	Period
1.	Prof. M.S.Ramachandra Rao	5 th DAE-BRNS National Symposium on Pulsed Laser Deposition of Thin Films and Nanostructured Materials (PLD-2009), IIT Madras, Chennai, India.	2/12 - 4/12, 2009

Short-term Courses/workshops/Seminars/Symposia/Conferences/Training attended by the faculty members in Academic Institutions and Public Sector Undertakings:

Sl.No.	Name of the faculty	Name of the Conference/Seminar/Symposia/Workshop	Date & Place
1	Dr.Neelima M. Gupte	Centenary Conference on Condensed Matter Physics	27 / 05 - 30 / 05 IISc Bangalore
2	Dr.Umesh R. Kadhane	Research work under professional visit	18 / 05 - 30 / 05 TIFR, Mumbai
3	Dr. Manoj Gopalakrishnan	Academic collaboration	11 / 05 - 15 / 05 TIFR, Mumbai
4	Dr.V.R.K.Murthy	National Seminar on functional Nano Ceramics	17 / 07 - Osmania University, Hyderabad
5	Dr.P.B.Sunil Kumar	Understanding Molecular simulation	24 / 08 - 27 / 08 JNCASR, Bangalore
6	Dr.Manoj Gopalakrishnan	Young Explorers in Indian Biology	14 / 09 - 16 / 09 TIFR, Mumbai
7	Dr.V.Balakrishnan	Academic Advisor Committee Meeting	21 / 10 Trivanthapuram
8	Dr.P.B.Sunil Kumar	Statistical and Condensed Matter Physics	31 / 10 - 01 / 11 IIT Guawhati
9	Dr.C.Vijayan	NITT-SPIE & NITT-OSA	30 / 10, NIT, Trichy

10	Dr.M.P. Kothiyal	Review Meeting	11/12/09 ISRO, Bangalore
11	Dr.V.R.K. Murthy	Selection Committee Meeting	11/12/09 NITTR, Salt Lake,Kolkata
12	Dr.C. Vijayan	Selection Committee to select research scholars under RFMS scheme of UGC	04/12/09 Cochin University,Kochi
13	Dr.S. Ramaprabhu	Nano awareness	04/12/09 to 05/12/09 Bangalore
14	Dr. Neelima M Gupte	Indo-Russian Workshop on Complex Systems	01/12/09 to 02/12/09 IICB, Kolkata
15	Dr.M.P. Kothiyal	Review Meeting	11/12/09 ISRO, Bangalore
16	Dr.V.R.K. Murthy	Selection Committee Meeting	11/12/09 NITTR, Salt Lake,Kolkata
17	Dr.C. Vijayan	Selection Committee to select research scholars under RFMS scheme of UGC	04/12/09 Cochin University,Kochi
18	Dr.S. Ramaprabhu	Nano awareness	04/12/09 to 05/12/09 Bangalore
19	Dr. Neelima M Gupte	Indo-Russian Workshop on Complex Systems	01/12/09 to 02/12/09 IICB, Kolkata
20	Dr. V.S. Murty	Meeting with management and faculty of HI-Tech colleges	01/01/10 to 02/01/10 KIST, Bhuvaneshwar
21	Dr. M.S. Ramachandra Rao	Nano structured systems: Fundamentals to Frontier	08/01/10, Kuvempu University, Shimoga
22	Dr. V.R.K. Murthy	Keynote Address in UGC Sponsored National Seminar.	08/01/10 Amalapuram, AP
23	Dr. A. Subrahmanyam	Meeting at Sameer	08/01/10 to 09/01/10 & 17/01/10 to 08/01/10 Sameer, Mumbai
24	Dr. Prem B Bisht	th 9 National Laser Symposium (NLS-09)	13/01/10 to 16/01/10 BARC, Mumbai
25	Dr. Neelima M. Gupte	Evolution of complex of systems	14/01/10 to 16/01/10 University of Pune
26	Dr. N. Harish Kumar	Recent Advances in Correlated Electron Systems	18/01/10 to 20/01/10 IIT Guwahati
27	Dr. V. Subramanian	Recent advances in Magnetic Materials and Applications	19/01/10 to 21/01/10 Thiagarajar College of Engg. Madurai
28	Dr. Neelima M. Gupte	Meeting on chaos and complexity	21/01/10 to 24/01/10 University of Pune
29	Dr. Arul Lakshminarayan	International Programme on Quantum Information	22/01/10 to 26/01/10 Institute of Physics, Bhubaneswar
30	Dr. C. Vijayan	Consultation meeting of experts to formation of central university of Kerala	27/01/10 University of Kerala.
31	Dr. A.R.Ganesan	Panel Discussion on Emerging Photonic Technologies.	16/01/10 to 18/01/10 DRDO, New Delhi
32	Dr. V.S. Murty	Workshop for college teachers Meeting of Atmospheric science PG and faculty of MJ college	29/01/10 to 30/01/10 Govt College for Engineering, Jalgaon.
33	Dr. Suresh Govindarajan	National Strings Workshop	10-02-2010 to 15-02-2010 IIT Bombay
34	Dr.A. Subrahmanyam	Indo-Australian Workshop	08-02-2010 to 10-02-2010 Amity Institute, Uttar Pradesh
35	Dr. Neelima M. Gupte	Science Meet	28-02-2010 to 02-03-2010 Mother Teresa University, Kodaikanal
36	Dr. Umesh R. Kadhane	Topical Conference 2010 Indian society of Atomics & Molecular Physicists	02-03-2010 to 06-03-2010 RRCAT INDORE

37	Dr. P.B. Sunil Kumar	A Meeting on Soft Condensed Matters	04-03-2010 to 05-03-2010 School of Physical Sciences, JNU-New Delhi
38	Dr. S. Ramaprabhu	National level Symposium on The Future Prospects of Nano biotechnology – Health & Environment	18-03-2010 Seshadripuram First Grade College, Bangalore
39	Dr. P.C. Deshmukh	DST PAC Meeting	22-03-2010 to 23-03-2010 New Delhi
40	Dr. S. Ramaprabhu	DRDO sponsored National Conference on Recent Advances in Crystal Growth and Nanoscience	26-03-2010 to 27-03-2010 Kongu Engg. College Perundurai, Erode
41	Dr. M.V. Satyanarayana	School Board Meeting of School of Physical, Chemical & Applied Sciences (SOPCAS)	29-03-2010 Pondicherry University

Special Lectures delivered by the faculty at other institutions:

Sl.No.	Name of the Faculty	Topic of Lecture	Institution	Date
01	Dr. Neelima M. Gupte	Statistical Characterisers of transport in communication network.	HRI Allahabad.	02/04/09
02	Dr.V.S.Murty	Improving Physics curriculum for Engg. Students	03 / 05 Islama Engg. College, Hyderabad	
03	Dr.M.V.Satyanarayana	Lecture on Research Methodology	NIT, Nagpur	14 / 5
04	Dr.S.Ramaprabhu	Basics of Nanotechnology Carbon based nanomaterials:- synthesis and applications "Carbon based nanomaterials:- synthesis and energy applications Carbon based nanomaterials:- synthesis and hydrogen storage	Padmaseshadri, Chennai. Darmstadt, Germany Darmstadt, Germany University of Geneva	11 / 05 15 / 05 20 / 05 25 / 05
05	Dr.T.S.Natarajan	Invited Lecture INSPIRE Under (DST Program)	NIT Warangal	26.06.09
06	Dr.V.S.Murty	Semiconductor Devices	V.G.Visalakshi College,Udamalp et.	16/ 09
07	Dr.P.N.Santhosh	Multiferroics	Kerala	05 \ 10
08	Dr.V.S.Murty	Chief Guest APTCON Conference, MMC, Chennai	Chennai	10 / 10
09	Dr.V.R.K.Murthy	Key note address in National Conference SIT, Madurai	Madurai	08 / 10
10	Dr.V.Subramanian	Future Perspectives of Nanotechnology, Periyar Arts College	Cuddalore	23 / 10
11	Dr. Neelima M Gupte	Nonlinear dynamics	Delhi University	14/12/09 to 16/12/09
12	Dr. Arul Lakshminarayan	Hamiltonian Chaos	SERC School, Delhi University	10/12/09 to 14/12/09
13	Dr. Neelima M Gupte	Transport and Diffusion in an embedding map	Digha Science Centre,Digha	4/12/09 to 5/12/09
14	Dr.Arul Lakshminarayan	Entanglement and Avoided Crossings	Dayalbagh Education,Inst. Agra	15/12/09 to 18/12/09
15	Dr. S. Ramaprabhu	Science & Technology Challenges, of 21 st Century National perspectives	Trivandrum	05/01/10 to 06/01/10
16	Dr. Suresh Govindarajan	Understanding Black Hole Entropy in string Theory	IIT Kanpur	21/01/10 to 23/01/10
17	Dr. Suresh Govindarajan	New lie Algebras from counting dyons	HRI Allahabad	24/01/10 to 27/01/10

18	Dr. V.S. Murty	Physics for Engineers	Jalgaon	28/01/10
19	Dr.P.B. Sunil Kumar	Non-Equilibrium Statistical Physics	IIT Kharagpur	02-02-10 to 04-02-10
20	Dr.V. Balakrishnan	Recurrences in Classical and Quantum Dynamics	IIT Kharagpur	03-02-10 to 04-02-10
21	Dr.C. Vijayan	Applications of Nano-photonics	St.Teresa's College Ernakulam	04-02-10
22	Dr. V.S. Murty	Experiments in science education	Baptla College Arts and Science	06-03-10 to 09-03-10
23	Dr. V. Balakrishnan	1. Recurrence Statistics in Dynamical Systems 2. Extreme Value Statistics in Deterministic Dynamics	JNU Univeristy New Delhi	06-03-10 to 09-03-10

Visits abroad by faculty:

Sl.No	Name of the faculty	Country visited	Date	Purpose of visit
1	Dr.P.C.Deshmukh	USA	23 / 05 – 31 / 07	To carry out research studies under India-US joint project under short visit
2	Dr.S.Ramaprabhu	Germany & Switzerland	14 / 05 – 28 / 05	Mutual discussion on Scientific research collaborations with scientists group under Professional visit
3	Dr.P.B.Sunil Kumar	Denmark	08 / 05 – 29 / 05	Visited MEMPHYS-Center for Biomembrane Physics at University of Southern Denmark under Professional visit.
4	Dr.T.S.Natarajan	USA	08 / 05 – 20 / 05	Attended the Intel International Science & Engg. Fair 2009 at Rena Nevada under Brief visit
5	Dr.C.Vijayan	Singapore	13 / 06 – 17 / 07	Visit the National University of Singapore for research collaboration under Short visit
6	Dr.R.Nirmala	USA	23 / 06 – 17 / 17	Professional Visit
7	Dr.K.Hariharan	Canada	29 / 06 – 03 / 07	Presented the paper at the 17 th International Conference on Solid State Ionics held in Toronto, Canada
8	Dr.K.Hariharan	Germany	05 / 07 – 11 / 07	Visited Max Planck Institute for Solid State Research at Stuttgart, Germany to interact with research group
9	Dr.M.S.Ramachandra Rao	USA	07 / 07 – 23 / 07	Visited Wayne State University for common research program in Condensed Matter Physics
10	Dr.S.Ramaprabhu	USA	26 / 07 – 31 / 07	Attended and presented poster presentation at the Gordon Research Conference on Fuel Cell at Providence
11	Dr.V.S.Murty	USA	07 / 08 – 15 / 08	Presented the paper in the SPIE International Conference & Exhibition held in San Diego, California
12	Dr.V.S.Murty	Singapore Malaysia	15 / 10 – 17 / 10 18 / 10 – 19 / 10	Talk on Advance Learning Materials Visit the University of Malaysia for discussion
13	Dr.P.N.Santhosh	UK	22/11 to 30/11	Royal Society Exchange Project
14	Dr.Arul Lakshminarayan	Argentina	1-4 December 2009	Invited talk at Conference on Quantum Chaos: Theory and Applications
15	Dr.V. Balakrishnan	Belgium	12.02.2010	Invited talk on "Extreme Events in Deterministic Systems"
16	Dr.V. Balakrishnan	Universite Libre de Bruxelles, Brussels,	18.02.2010	Lecture on "Recurrence Time Statistics" at the Centre for Nonlinear Phenomena

17	Dr. Rajesh Narayanan	USA	05.03.2010 to 13.03.2010	To Present Paper at the American Physical Society March Meeting 2010
18	Dr. Neelima M. Gupte	Japan	24.03.2010 to 26.03.2010	Physics Research between European and Asian countries and involving developing countries in basic research
19	Dr. A. Subrahmanyam	Germany	25.03.2010 to 26.03.2010	To attend the European Joint Committee meeting on Plasma and Ion Engineering
20	Dr. M.S. Ramachandra Rao	UK	26.03.210	To attend the board meeting as an Editorial board member of Journal of Physics Institute of Physics (IOP), London,

Patents:

Patents awarded:

Sl.No	Name of the Faculty	Topic of Patent
1	Prof.S.Ramaprabhu	Novel hybrid nanocomposites containing one dimensional CNTs decorated with three dimensional metal nanoparticles for increased thermal conductivity in nanofluids" US Patent (2010)
2	Prof.S.Ramaprabhu	Development of Nanocomposite based Novel, Flexible, Nerve Guide Conduit (091859-0384197) US Patent (2009)
3	Prof. M.S.Ramachandra Rao	Liquid composite dielectric materials. Patent no: US Patent (IN-700636-01).
4	Prof. M.S.Ramachandra Rao	Discovery of stable p-type semiconducting behaviour in Li and Ni co-doped ZnO. Patent no: US Patent (IN-700607).

4.16.4 Research and Consultancy:

Sponsored Research Projects:

Sl.No	Titles	Period	Funding agency	Amount (Rs. In Lakhs)	Co-ordinators
1	Modeling of microwave passive components for high power applications – Phase - 2	1 year	Institute of Plasma	12.75	Dr.V.Subramaian Dr. S. Sundar Co-investigator
2	Synthesis, crystal structure and magnetic phase diagram of novel rare earth intermetallic compounds and their functional property studies	2 years	DST	11.20	Dr.R.Nirmala (PI) Dr.A.V.Morozkin Dept. of Chemistry Moscow, Lomonosov State University, Moscow (Other Collaborator)
3	Detection of non-linearities in atmospheric weather data statistical forecasting using multivariate techniques	2 yrs	Indian Space Research Organisation	16.20	Dr.V.S.Murthy (PI) Dr. Arun K Tangirala Dept. of Chemical Engg. Co-Investigator
4	Studies on bulk, thin film and nanostructured forms of Co based and other oxide materials for solid oxide fuel cell (SOFC) application	3 yrs	IFCPAR	32.93	Dr.M.S.Ramachandra Rao
5	Investigation of the partial discharge activity in liquid nitrogen insulation under different voltage profiles	2 Years	DST	37.60.	Dr.K.Sethupathi Dr.R.Sarathi Co-Investigator, Dept. Electrical Engg.
6	Synthesis of novel weinreb amide based conjugated II-systems for the applications in lasers and non linear optics	2 Years	DRDO	37.00.	Dr.Indrapal Singh Aidhen, (PI), Dept. of Chemistry Dr.Prem B Bisht Co-Investigator
7	Development of high-temperature high-performance piezoelectric alloys	3 years	Naval Research Board	2.25 (Total Value of the project 39.55)	Dr.V.R.K.Murthy (PI) Dr.Rajeev Ranjan (IISc) Co-Investigator

				Lakhs.)	
8	Studies on hydrogen storage in carbon materials	5 Years	Ministry of New and Renewable Energy	581.68	Dr.S Ramaprabhu (Co- PI) Dr.B Viswanathan (PI) Head, National Centre for Catalysis Research & Dr. P. Selvam, (Co- PI) Dept. of Chemistry Co-Investigators

Research Publications of the faculty members and research scholars:

Total No. of papers published in Refereed National Journals	..... Nil
Total No. of papers published in Refereed International Journals	..... 97
Total No. of papers presented in National conferences	..... 14
Total number of papers presented in International conferences	..... 14

In Refereed International journals:

- P. C. Deshmukh and Shyamala Venkataraman, A fragmentary tale of the atom Bicentennial tribute to John Dalton's 'A new system of chemical philosophy' (1808) *Physics News*, **39**, 5 April 2009.
- Manniledam Kavitha, Manas R. Parida, Edamana Prasad, C. Vijayan and P. C. Deshmukh, Generation of Ag Nanoparticles by Amine Containine Dendrimers and their Shape Dependence on the Aggregation Behaviors of Dendrimers, *Macromolecular Chemistry and Physics*, **210**, 1310 (2009)
- Jobin Jose, G. B. Pradhan, P. C. Deshmukh, V. Radojevic and S. T. Manson Nondipole and interchannel-coupling effects in the photodetachment of Cl⁻; *Phys. Rev. A* **80**, 023405 (2009)
- Karan Govil and P. C. Deshmukh, Quadrupole photoionization of endohedral Xe@C60, *J. Phys. B: At. Mol. & Opt. Phys.* **42** 175000 (2009).
- Yugal Khajuria, S. Sunil Kumar and P. C. Deshmukh, Triple differential cross section in (e, 2e) collisions for atomic potassium, *Phys. Lett. A* **373**, 4442 (2009)
- G. B. Pradhan, J. Jose, P. C. Deshmukh, V. Radojevic, and S. T. Manson, Photoionization of Mg and Ar isonuclear sequences, *Phys. Rev. A* **80**, 053416 (2009)
- G. B. Pradhan, J. Jose, V. Radojeviæ, S. T. Manson and P. C. Deshmukh Photoionization cross section of atomic cadmium using the multi-configuration Tamm-Dancoff approximation, *Journal of Physics: Conference Series* **194** 022042, (2009)
- J. Jose, G. B. Pradhan, V. Radojeviæ, S. T. Manson and P. C. Deshmukh, Photodetachment cross section of lithium negative ion *Journal of Physics: Conference Series* **194** 022096 (2009)
- Vivishek Sudhir and P. C. Deshmukh, Scattering of electrons off hollow cylindrical potentials, *Journal of Computational & Theoretical Nanoscience* (In press, 2010)
- Ramesh Kumar, K., Arout Chelvane, J., Markandeyulu, G., Malik, S.K., Harish Kumar, N, Effect of Co substitution on the magnetic and transport properties of the half-metallic ferrimagnet Mn₂VGa. *Solid State Communications* **150**, 70 (2010)
- Kumar, R.K., Bharathi, K.K., Chelvane, A.J, Venkatesh, S., Markandeyulu, G., Harishkumar, N, First-principles calculation and experimental investigations on full-heusler alloy Co₂FeGe, *IEEE Transactions on Magnetism* **45**, 3997 (2009).
- Withers, R.L., Bourgeois, L., Balamurugan, K., Harish Kumar, N., Santhosh, P.N., Woodward, P.M, A TEM investigation of the (Bi_{1-x}Sr_x)Fe₃O_{3-x/2}, 0.2 ≤ x ≤ 0.67, solid solution and a suggested superspace structural description thereof. *Journal of Solid State Chemistry* **182**, 2176 (2009).
- Balamurugan, K., Harish Kumar, N., Ramachandran, B., Ramachandra Rao, M.S., Arout Chelvane, J., Santhosh, P.N, Magnetic and optical properties of Mn-doped BaSnO₃, *Solid State Communications* **149**, 884 (2009)
- Pillai, S.S., Santhosh, P.N., Kumar, N.H, Thomas, P.J, Tuna, F, Cluster glass properties and magnetic phase separation studies of Nd_xBi_{0.5-x}Sr_{0.5}MnO₃ (x = 0.1, 0.2, 0.3 and 0.4), *Journal of Physics Condensed Matter* **21**, 195409 (2009)
- Balamurugan, K., Harish Kumar, N., Santhosh, P.N, Multiferroic properties of Bi_{1/2}Sr_{1/2}FeO₃, *Journal of Applied Physics* **105**, 07D909 (2009)
- Balamurugan, K., Kumar, N.H., Chelvane, J.A., Santhosh, P.N, Room temperature ferromagnetism in Fe-doped BaSnO₃, *Journal of Alloys and compounds*, **472**, 9 (2009).
- G. Sreenivasulu, V. Hari Babu, G. Markandeyulu, and B. S. Murty ,Magnetolectric effect of (100-x)BaTiO₃-(x)NiFe_{1.98}O₄ (x = 20–80 wt%) particulate nanocomposites *Appl. Phys. Lett.* **94**, 112902(2009).

18. K. Ramesh Kumar K, Kamala Bharathi J. Arout Chelvane S. Venkatesh G. Markandeyulu and N. Harish Kumar, First-principles calculation and experimental investigation on full Heuster alloy Co₂FeGe, *IEEE Trans. Mag.*, 40, 3997(2009).
19. Sandhya Dwevedi, K. Kamala Bharathi, and G. Markandeyulu, Magnetocapacitance in Dy doped Ni ferrite, *IEEE Trans. on Magnetics*, 45, 4253(2009).
20. K. Kamala Bharathi and G. Markandeyulu, Ferroelectric and ferromagnetic properties of Gd, Nd substituted nickel ferrite, *J. Magn. Magn. Mater.*, 321, 3677(2009).
21. Sandhya Dwevedi, G. Sreenivasulu and G. Markandeyulu, Contact and Non-contact magnetoimpedance in amorphous and nanocrystalline Fe_{73.5}Si_{13.5}B₃CuV₃Al ribbons, *Journal of Magnetism and Magnetic Materials*, 322, 311(2010).
22. K. Ramesh Kumar J. Arout Chelvane G. Markandeyulu, S. K. Malik and N. Harish Kumar Effect of Co substitution on the magnetic and transport properties of the halfmetallic ferrimagnet Mn₂VGa, *Solid State Commun*, 150, 70(2009).
23. K. Kamala Bharathi, Sandhya Dwevedi, S. Venkatesh and G. Markandeyulu, Structural, Magnetic and Magnetoelectric properties of NiO.Fe₂O₃ and NiO.Fe_{1.925}Sm_{0.075}O₃ thin films, *J. Appl.Phys* (inpress)
24. Sandhya Dwevedi and G. Markandeyulu, Giant Magnetoimpedance in nanocrystalline ribbons for sensitive magnetic sensors, *J. Appl.Phys.* (in press)
25. Benson K. Money and K. Hariharan, Phase dependent heterogeneous dynamics of Li⁺ in LiPO₃ based systems, *Integrated Ferroelectrics* (Accepted)
26. Laxmi Narayana Patro and K. Hariharan, Frequency dependent conduction characteristics of mechanochemically synthesized NaSn₂F₅, *Materials Science and Engineering: B*, 162 173 (2009).
27. U. Paul Kumar, M. P. Kothiyal and N. Krishna Mohan, Microscopic TV shearography for characterization of Microsystems, *Optics Letters*, 34, 1612-1614 (2009).
28. U. Paul Kumar, Y. Kalyani, N. Krishna Mohan, and M. P. Kothiyal , Time-average TV Holography for Vibration Fringe Analysis *Applied Optics*, 48, (2009)
29. U. Paul Kumar, N. Krishna Mohan and M. P. Kothiyal and A. K. Asundi, Deformation and shape measurement using multiple wavelength microscopic TV holography *Optical Engineering*, 48, 023601-1-023601-10 (2009).
30. U. Paul Kumar, N. Krishna Mohan and M.P. Kothiyal , Measurement of discontinuous surfaces using multiple wavelength interferometry, *Optical Engineering*, 48, 073603 (2009).
31. U. Paul Kumar, Basanta Bhaduri, M. P. Kothiyal and N. Krishna Mohan, Two-wavelength micro-interferometry for 3-D surface profiling, *Optics and Lasers in Engineering* , 47,223 (2009).
32. N. Krishna Mohan and P.K.Rastogi, Recent developments in Interferometry for Microsystems Metrology, *Optics and Lasers in Engineering*, 47, 199 (2009).
33. Shubra Singh, Daisuke Nakamura, Kentaro Sakai, Tatsuo Okada and M S Ramachandra Rao, Investigation of low-temperature excitonic and defect emission from Ni-doped ZnO nanoneedles and V-doped ZnO nanostructured film, *New J. Phys.* 12, 023007 (2010).
34. Panchatcharam Thiyagarajana, M. Kottaisamy, K. Sethupathi and M.S.R. Rao, A new red colour emitting phosphor – ZnS:Mn co-doped with Ba for electroluminescent (EL) displays, *Displays* 30, 202 (2009).
35. B. Ramachandran and M.S. Ramachandra Rao , Low temperature magneto caloric effect in polycrystalline BiFeO₃ ceramics *Appl. Phys. Letters* 95, 142505 (2009).
36. P. Thiyagarajana, M. Kottaisamy and M.S. Ramachandra Rao, SrS:Ce/ZnS:Mn-A di-band phosphor for near-UV and blue LED-converted white-light emitting diodes, *Journal of Luminescence* 129, 991-995 (2009).
37. E. Senthil Kumar, S. Ravichandra Reddy and M. S. Ramachandra Rao, Synthesis of novel ZnO hexagonal nanocones by direct thermal evaporation method, *Journal of Nanoscience and Nanotechnology* 9, 5307 (2009).
38. Shubra Singh and M.S.Ramachandra Rao, Optical and electrical resistivity studies of isovalent and aliovalent 3d transition metal ion doped ZnO *Phys. Rev. B* 80, 045210 (2009).
39. Deepak Venkateshvaran, Matthias Althammer, Andrea Nielson, Stephan Gepraegs, M. S. Ramachandra Rao, Sebastian T. B. Goennenwein, Matthias Opel, and Rudolf Gross, Epitaxial Fe_{3-x}Zn_xO₄ thin films: A spintronic material with tunable electrical and magnetic properties, *Phys. Rev. B* 79, 134405 (2009).
40. Shubra Singh, E. Senthil Kumar, and M. S. Ramachandra Rao Micro structural Study of Assorted ZnO Nanostructures: Nanocombs, Nanocones and Microspheres, *J. Nanosci. Nanotechnol.* 10, 2458 (2010).

41. B. Ramachandran, N. Sudarshan and M. S. Ramachandra Rao, Magneto-impedance and magneto-dielectric properties of single phase 45PMN-20PFW-35PT ceramics, *J. Appl. Phys.* (Accepted).
42. C. Ritter, A.V. Morozkin, K.S. Oskolkov, R. Nirmla, O. Isnard, P. Manfrinetti, A. Provino, Magnetic ordering of the R_4Sb_3 compounds ($R = Pr, Nd, Sm$) and of $Pr_2Nd_2Sb_3$, *Journal of Alloys and Compounds* **494**, 28(2010)
43. Rabindra Nath Mahato, K. Sethupathi, V. Sankaranarayanan, R. Nirmla, and S. K. Malik, Magnetic and Magnetocaloric Properties of Nanocrystalline $Pr_{1-x}A_xMn_{1-y}Co_yO_3$ ($A = Ca, Sr$) ($x = 0.3; y = 0.5$) Manganites, *Journal of Nanoscience and Nanotechnology* **10**, 1 (2010)
44. S. K. Malik, R. L. de Almeida, S. Quezado, A. V. Morozkin and R. Nirmla, Magnetic properties of the intermetallic compound Ce_5Ge_4 , *Physica B*, **404**, 3063 (2009)
45. Rabindra Nath Mahato, K. Sethupathi, V. Sankaranarayanan, K. Kamala Bharathi, R. Nirmla, A. K. Nigam and S. K. Malik, Magnetic and Magnetoresistive Properties of Double Perovskite Oxides $RE-SrMnCoO_6$ ($RE = Nd, La$), *IEEE Transactions on Magnetics* **45**, 4271 (2009)
46. V. Morozkin, R. Nirmla, J. Arout Chelvane and A. K. Nigam, Magnetic properties of ZrNiAl-type $R_3Mn_3GeGa_2$ ($R = Y, Gd, Tb, Dy, Ho$ and Er) compounds, *Journal of Alloys and Compounds* **476**, 33 (2009)
47. R. Nirmla, A. V. Morozkin, Jagat Lamsal, Z. Chu, V. Sankaranarayanan, K. Sethupathi, Y. Yamamoto, H. Hori, W. B. Yelon and S. K. Malik, Competing magnetic interactions in the intermetallic compound $Ho_2Mn_3Si_5$, *Journal of Applied Physics* **105** 07A721 (2009).
48. R. Nirmla, K Hima Nagamanasa, P. A. Bhoje, Jagat Lamsal and A. K. Nigam, Electrical transport and Magnetism in Mo-substituted $R_2Ti_3Ge_4$ ($R = Tb, Er$) compounds, *Journal of Applied Physics* **105**, 07A914 (2009)
49. Rabindra Nath Mahato, K. Kamala Bharathi, K. Sethupathi, V. Sankaranarayanan, R. Nirmla, A. K. Nigam and Jagat Lamsal, Magnetic, transport and magnetocaloric properties of double perovskite oxide $LaCaMnCoO_6$, *Journal of Applied Physics* **105** 07A908 (2009)
50. S. K. Malik, Jagat Lamsal, R. L. de Almeida, S. Quezado, W. B. Yelon, V. O. Garlea, A. V. Morozkin and R. Nirmla, Magnetic ordering in the rare earth intermetallic compound $Tb_2Ti_3Ge_4$: Magnetization and Neutron diffraction studies, *Journal of Applied Physics* **105** 07A911 (2009).
51. S. Mukherjee and N. Gupte, Queue length synchronisation in communication networks, *Phys. Rev. E*, **79**, 056105 (2009).
52. N. N. Thyagu and N. Gupte, Transport and diffusion in the bail-out embedding map *Phys. Rev. E*, **79**, 066203 (2009).
53. Z. Li, X. Wu, H. Yang, N. Gupte and B. Li, Heat flux distribution and rectification of complex networks, *New Journal of Physics*, **12**, 023016 (2010).
54. Nibedita Ram, J Anupriya, M Pattabiraman and C Vijayan, Role of transfer of coherence in the enhanced absorption Hanle effect with two optical fields, *J. Phys. B: At. Mol. Opt. Phys.* **42**, 175504 (2009).
55. J. Anupriya, Nibedita Ram, and M. Pattabiraman, Hanle electromagnetically induced transparency and absorption resonances, with a Laguerre Gaussian beam, *Phys. Rev. A* **81**, 043804 (2010).
56. James Libby: Measurement of Charm Production Cross Sections in $e+e-$ Annihilation at Energies between 3.97 and 4.26-GeV., By CLEO Collaboration *Phys.Rev.D* **80**:072001(2009).
57. James Libby: New Measurement of Exclusive Decays of the $\chi(c0)$ and $\chi(c2)$ to Two-Meson Final States, By CLEO Collaboration, *Phys.Rev.D*, **79**:072007,2009.
58. By M. Adinolfi, James Libby et al., Performance of the LHCb RICH photo-detectors and readout in a system test using charged particles from a 25-ns-structured beam. *Nucl.Instrum.Meth.***A603**:(2009)
59. James Libby : Absolute Branching Fraction Measurements for Exclusive $D(s)$ Semileptonic Decays, By CLEO Collaboration, *Phys.Rev.D*,**80**, 052007(2009)
60. James Libby :Dalitz Plot Analysis of $D^+(s) \rightarrow K+K-\pi^+$, By CLEO Collaboration *Phys.Rev.D*, **79**, 072008 (2009).
61. James Libby: First model-independent determination of the relative strong phase between $D0$ and anti- $D0 \rightarrow K0(S) \pi^+ \pi^-$ and its impact on the CKM Angle $\gamma/\phi(3)$ measurement, By CLEO Collaboration, *Phys.Rev.D*, **80**, 032002(2009).
62. James Libby: Determination of the $D0 \rightarrow K- \pi^+ \pi^0$ and $D0 \rightarrow K-\pi^+\pi^+\pi^-$ Coherence Factors and Average Strong-Phase Differences Using Quantum-Correlated Measurements., By CLEO Collaboration, *Phys.Rev.D*, **80**, 031105 (2009).
63. James Libby: Charmonium decays to $\gamma \pi^0$, $\gamma \eta$, and $\gamma \eta'$. By CLEO Collaboration, *Phys.Rev.D*, **79**, 111101(2009).

64. James Libby: Search for $D^0 \rightarrow \text{anti-p } e^+$ and $D^0 \rightarrow p e^-$. By CLEO Collaboration *Phys.Rev.D*, **79**, 097101 (2009)
65. James Libby: Inclusive Hadron Yields from $D(s)^+$ Decays, By CLEO Collaboration *Phys.Rev.D*, **79**, 112008 (2009)
66. James Libby: $D^+(s)$ Exclusive Hadronic Decays Involving omega, By CLEO Collaboration, *Phys.Rev.D*, **80**, 051102 (2009).
67. James Libby: Improved measurements of D meson semileptonic decays to pi and K mesons, By CLEO Collaboration, *Phys.Rev.D*, **80**, 032005 (2009).
68. James Libby: Measurements of D Meson Decays to Two Pseudoscalar Mesons. By CLEO Collaboration, *Phys.Rev.D*, **81**, 052013 (2010).
69. James Libby: Evidence for Decays of $h(c)$ to Multi-Pion Final States, By CLEO Collaboration, *Phys.Rev.D*, **80**, 051106 (2009).
70. James Libby: Study of the semileptonic decay $D(s)^+ \rightarrow f_0(980) e^+ \nu$ and implications for $B(s) \rightarrow J/\psi f(0)$, By CLEO Collaboration, *Phys.Rev.D*, **80**, 052009 (2009).
71. James Libby: Flavor Physics in the Quark Sector, By Mario Antonelli, et al, [arXiv:0907.5386] Accepted by Phys. Repts.
72. James Libby: Inclusive Radiative $\psi(2S)$ Decays, By CLEO Collaboration *Phys.Rev.D*, **80**, 072002 (2009).
73. James Libby: Measurement of the $\eta(b)(1S)$ mass and the branching fraction for $\text{Upsilon}(3S) \rightarrow \gamma \eta(b)(1S)$, By CLEO Collaboration, *Phys.Rev.D*, **81**, 031104 (2010).
74. James Libby: Higher-order multipole amplitudes in charmonium radiative transitions. By CLEO Collaboration, *Phys.Rev.D*, **80**, 112003 (2009).
75. James Libby: Search for $\psi(2S) \rightarrow \gamma \eta(c)(2S)$ via fully reconstructed $\eta(c)(2S)$ decays, By CLEO Collaboration, *Phys.Rev.D*, **81**, 052002 (2010).
66. James Libby: Measurement of the Pseudoscalar Decay Constant $f(D(s))$ Using $D(s)^+ \rightarrow \tau^+ \nu$, $\tau^+ \rightarrow \rho^+ \text{anti-}\nu$ Decays, By CLEO Collaboration, *Phys.Rev.D*, **80**, 112004 (2009).
77. James Libby: Roadmap for selected key measurements of LHCb, By The LHCb Collaboration, [arXiv:0912.4179] LHCb-PUB-2009-029.
78. James Libby: Measurement of absolute branching fractions of inclusive semileptonic decays of charm and charmed-strange mesons, By CLEO Collaboration, *Phys.Rev.D*, **81**, 052007(2010).
79. Razack Imran Jafri, N. Sujatha, N. Rajalakshmi, S. Ramaprabhu Au-MnO₂/MWNT and Au-ZnO/MWNT as oxygen reduction reaction electrocatalyst for polymer electrolyte membrane fuel cell, *International Journal of Hydrogen Energy*, **34**, Pages 6371-6376, (2009)
80. Tessy Theres Baby, S.S. Jyothirmayee Aravind, T. Arockiadoss, R.B. Rakhi and S. Ramaprabhu, Metal decorated graphene nanosheets as immobilization matrix for amperometric glucose biosensor, *Sensors and Actuators B: Chemical*, (2009)
81. G. Srinivas, V. Sankaranarayanan and S. Ramaprabhu, Magnetic and transport properties of Laves phase Dy_{1-x}MmxCo₂ (x = 0-0.5) alloys, *Intermetallics*, **17**, 3, 150, (2009)
82. Raghavan Baby Rakhi, Kanikrishnan Sethupathi and S. Ramaprabhu A Glucose Biosensor Based on Deposition of Glucose Oxidase onto Crystalline Gold Nanoparticle Modified Carbon Nanotube Electrode, *J. Phys. Chem. B*, **113** (10), 3190 (2009)
83. Adarsh Kaniyoor, R. Imran Jafri, T. Arockiadoss and S. Ramaprabhu Nanostructured Pt decorated graphene and multi walled carbon nanotube based room temperature hydrogen gas sensor, *Nanoscale*, Accepted 24th August (2009), DOI: 10.1039/b9nr00015a)
84. F. Estaline Amitha, A. Leela Mohana Reddy and S. Ramaprabhu, A non-aqueous electrolyte-based asymmetric supercapacitor with polymer and metal oxide/multiwalled carbon nanotube electrodes, *Journal of Nanoparticle Research*, **11**, Number 3 April, (2009)
85. Neetu Jha and S. Ramaprabhu, Thermal conductivity studies of metal dispersed multiwalled carbon nanotubes in water and ethylene glycol based nanofluids *J. Appl. Phys.*, **106**, 084317 (2009)
86. Leela Mohana Reddy and S. Ramaprabhu, Pt coated multi walled carbon nanotubes as electrocatalysts for Proton Exchange Membrane Fuel Cells, *Nanotrends*, **06**, Issue - 03, June, (2009)
87. Neetu Jha and S. Ramaprabhu Development of MWNT Based Disposable Biosensor on Glassy Carbon Electrode for the Detection of Organophosphorus Nerve Agents *J. Nanosci. Nanotechnol.*, **9**, 5676-5680 (2009).

88. Rabindra Nath Mahato, K. Kamala Bharathi, K. Sethupathi, V. Sankaranarayanan, R. Nirmla, A. K. Nigam and Jaagat Lamsal, *Magnetic, transport and magnetocaloric properties of double perovskite oxide LaCaMnCoO₆*, *Journal of Applied Physics*, **105**, 07A908 (2009).
89. Rabindra Nath Mahato, K. Sethupathi, V. Sankaranarayanan, K. Kamala Bharathi, R. Nirmla, A. K. Nigam and S. K. Malik, *Magnetic and magnetoresistive properties of double perovskite oxides RE-SrMnCoO₆ (RE - Nd, La)*, *IEEE transactions on magnetics*, **45**, No. 10, (2009).
90. Rabindra Nath Mahato, K. Sethupathi, V. Sankaranarayanan, R. Nirmla and S. K. Malik, *Magnetic and magnetocaloric properties of nanocrystalline perovskite oxides Pr_{1-x}A_xMn_{1-y}Co_yO₃ (A = Ca, Sr: x = 0.3, y = 0.5)*, *J. Nanoscience and Nanotechnology*, **10**, 1-4, (2010).
91. Sarathi, R., Giridhar, A. V., Sethupathi, K., Analysis of partial discharge activity by a conducting particle in liquid nitrogen, under AC voltages adopting UHF technique *Cryogenics*, **50**, iss. 1, 43 (2010)
92. Rabindra Nath Mahato, K. Sethupathi and V. Sankaranarayanan, *Colossal magnetoresistance on double perovskite oxide La₂CoMnO₆*, (Journal of Applied Physics, In Press).
93. Rabindra Nath Mahato, K. Sethupathi, V. Sankaranarayanan and R. Nirmla, *Large magnetocaloric effect in nanocrystalline Pr_{0.7}Sr_{0.3}MnO₃* (Journal of Applied Physics, In Press).
94. A. K. Baral and V. Sankaranarayanan, Dielectric Properties of nanostructured Ce_{0.8}Gd_{0.1}Pr_{0.1}O_{2.8} material at intermediate temperatures, *Appl. Phys. Lett.*, **94** 074101 (2009).
95. A. K. Baral and V. Sankaranarayanan. Ion transport and dielectric relaxation studies in nanocrystalline Ce_{0.8}Ho_{0.2}O_{2.8} material. *Physica B*, **404**, 1674 (2009).
96. A. K. Baral and V. Sankaranarayanan. Electrical study and dielectric relaxation behavior in nanocrystalline Ce_{0.85}Gd_{0.15}O_{2.8} material at intermediate temperatures. *Appl. Phys. A*, **98** 367 (2010).
97. A. K. Baral and V. Sankaranarayanan *Ionic transport properties in nanostructured Ce_{0.8}A_{0.2}O_{2.8}, (A = Eu, Gd, Dy and Ho) materials. Nanoscale Res. Lett.*, **5** 63 (2010) 7.

In Proceedings of National conferences:

1. Manas Ranjan parida, C.Vijayan, P.C.Deshmukh, Spectroscopic studies of novel vanadium oxide molecular nanoclusters, TC 2010, March 3-6, RRCAT, Indore
2. A.J.Siji and P.C.Deshmukh, Photoionization of atomic krypton confined in a fullerene cage, TC 2010, March 3-6, RRCAT, Indore
3. Vivishek Sudhir and P. C. Deshmukh, Scattering of electrons off concentric cylindrical potentials, TC 2010, March 3-6, RRCAT, Indore
4. J. Jose, G. B. Pradhan, V. Radojeviæ, S. T. Manson, and P.C. Deshmukh, Photodetachment cross section of sodium negative ion TC 2010, March 3-6, RRCAT, Indore
5. G. B. Pradhan, J. Jose, V. Radojeviæ, S. T. Manson, and P. C. Deshmukh Photoionization of strontium using the multi-configuration Tamm-Dancoff approximation TC 2010, March 3-6, RRCAT, Indore
6. K. Hariharan, Investigation on fluorine ion dynamics in some PbF₂ and SnF₂ based systems, 8th National conference on Solid State Ionics, Dr. H.S.G Central University, Sagar, Dec (2009).
7. Laxmi Narayana Patro and K. Hariharan, Transport properties of MSnF₄ (M:Ba,Sr) type fluoride ion conductors synthesized by different routes, 8th National conference on Solid State Ionics, Dr. H.S.G Central University, Sagar, Dec (2009).
8. Benson K. Money and K. Hariharan, Crystallization and structural transformation of mol% 50Li₂O:(50-x)P₂O₅:xB₂O₃ glass (0 ≤ x ≤ 50), 8th National conference on Solid State Ionics, Dr. H.S.G Central University, Sagar, Dec (2009).
9. Prashant Dabas, K. Hariharan and Benson K. Money, Devitrification and ionic conductivity study of lithium rich phosphate glass, 54th DAE Solid State Physics Symposium, Maharaja Sayajirao University of Baroda, Vadodara, Dec (2009).
10. U. Paul Kumar, U. Somasundaram, N. Krishna Mohan, and M.P. Kothiyal. Microscopic TV holography for measurement of static and vibrating Microsystems, *Proceedings of International Conference on Trends in Optics and Photonics (IConTOP-09)*, Kolkata, pp. 195-204 (2009).
11. N. Krishna Mohan, Basanta Bhaduri, U. Paul Kumar, and M.P. Kothiyal. TV holography for measurements and non destructive testing, *Proceedings of International Conference on Trends in Optics and Photonics (IConTOP-09)*, Kolkata, pp.176-187 (2009).
12. U. Paul Kumar, N. Krishna Mohan, and M.P. Kothiyal, Microscopic TV shearography for microsystems characterization, *Proceedings of SPIE*, 7432, pp.74320T -1- 74320T -8 (2009).

13. U. Paul Kumar, N. Krishna Mohan, and M.P. Kothiyal, Interferogram analysis using Hilbert transformation, *Proceedings of International Conference on Optics and Photonics (ICOP-09)*, Chandigarh, India. OHL-B4.3, pp.1-5 (2009).
14. N. Gupte and N.N. Thyagu, Chaotic advection of inertial particles in two dimensional flows, pg. 275 in *Nonlinear Dynamics*, ed. by M. Daniel and S.Rajasekhara, Narosa, New Delhi(2009).

In proceedings of International conferences:

1. G. B. Pradhan, J. Jose, P. C. Deshmukh, V. Radojević and S. T. Manson, Photoionization of isonuclear sequence DAMOP-2009, University of Virginia, Charlottesville, Virginia
2. J. Jose, G. B. Pradhan, P. C. Deshmukh, V. Radojević and S. T. Manson, Nondipole effects in the photodetachment of Cl⁻ DAMOP-2009, University of Virginia, Charlottesville, Virginia
3. G. B. Pradhan, J. Jose, V. Radojevic, S. T. Manson and P. C. Deshmukh, Photoionization cross-section of atomic cadmium using the Multi-Configuration Tamm-Dancoff Approximation. XXVI International Conference on Photonic, Electronic, and Atomic Collisions, July 22-28 2009, WMU, Kalamazoo, USA.
4. J. Jose, G. B. Pradhan, V. Radojevic, S. T. Manson and P. C. Deshmukh Photodetachment cross-section of lithium negative ion. XXVI International Conference on Photonic, Electronic, and Atomic Collisions, July 22-28 2009, WMU, Kalamazoo, USA.
5. K. Hariharan, Composite ion conductors: crystal-crystal, glass-crystal and polymer nano composites, International conference on Electroceramics, Delhi, India, Dec (2009).
6. Benson K. Money and K. Hariharan, Phase dependent heterogeneous dynamics of Li⁺ ion in LiPO₃ based systems, International conference on Electroceramics Delhi, India, Dec (2009).
7. Benson K. Money and K. Hariharan, Devitrification kinetics of bulk and pulverized sodium metaphosphate glassy phase, 17th International conference on Solid State Ionics, Toronto, Canada, July (2009)
8. Laxmi Narayana Patro and K. Hariharan, Ionic transport studies in Sn_(1-x)K_xF_(2-x) type solid solutions, 17th International conference on Solid State Ionics, Toronto, Canada, July (2009).
9. Amrtha Bhide and K. Hariharan, Physicochemical properties of Na_xCoO₂ as cathode for solid state sodium battery, 17th International conference on Solid State Ionics, Toronto, Canada, July 2009
10. J. Lamsal, J. Yang, R. Nirmla, T. Heitmann, M.S. Kim, S.K. Malik, S.A. Quezado, T.F. Creel, W.B. Yelon, *Competing Magnetic Interactions in La_{0.7}Sr_{0.3}Co_xMn_{1-x}O₃ (x=0.6, 0.7, 0.8, 0.9)*, APS March Meeting 2010 held at Oregon, USA during March 15–19, 2010.
11. Rini Thomas, R.N. Mahato, R. Nirmla, A.K. Nigam and S. K. Malik, Magnetic and magnetotransport properties of nanocrystalline electron doped manganites La_{0.15}Ca_{0.85}MnO₃ by has been presented in the international conference on nanoscience and technology (ICONSAT 2010) at IITBombay, Mumbai during Feb.17-20, 2010
12. K.A. Gschneidner, Jr., M. Zou, R. Nirmla and V.K. Pecharsky, *Exotic magnetic and electrical behavior in the phase separated state of the naturally nanolayered R₅(Si,Ge)₄ Intermetallics, (where R is a heavy lanthanide element)*, 17th Annual International Conference on Composites/Nano Engineering (ICCE-17) in Hawaii, USA during July 26-31, 2009.
13. R. Nirmla, Lindomar Carvalho, A. V. Morozkin, A. K. Nigam and S. K. Malik Magnetic and transport properties of the intermetallic compounds R₃Mn₃SiGa₂ (R = Gd, Dy) International Conference on Magnetism (ICM 2009) in Karlsruhe, Germany during July 26 - 31, 2009.
14. J. Arout Chelvane, Tilak Das, A. V. Morozkin, Jagat Lamsal, W. B. Yelon, K. Kamala Bharathi, R. Nirmla and S. K. Malik, Magnetic and transport property study of RCoAl (R = Gd, Tb and Dy) compounds International Magnetism Conference (INTERMAG 2009) at California, USA, during May 4-8, 2009.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Prof. Mohan Balasubramanian NUS, Singapore	02/04/09	Lecture on Assembly of Prokaryotic and Eukaryotic Cell Division Rings
2	Dr. Roop Mallik Department of Biological Sciences, TIFR, Mumbai	13/04/09	Lecture on Biophysics of nanoscale tug-of-war between motor proteins inside cells: Mechanistic details from force measurements.
3	Dr. Jagadeesh S. Moodera Francis Bitter Magnet Laboratory Massachusetts Institute of Technology, Cambridge, USA	17/04/09	Lecture on Spin Polarized Tunneling and Tunnel Magnetoresistance – the phenomena that drive hard-drive and memory industry.

4	Dr. Dileep Jatkar Harish-Chandra Research Institute, Allahabad	07 / 05/09	Lecture on Black Hole Hair-Classical or Quantum ?
5	Dr.Mohan Sarovar Post Doctoral Fellow Department of ChemistryUniversity of Berkeley, CA.	11 / 05/09	Lecture on Detecting and Characterizing entanglement in photosynthetic light harvesting complexes
6	Dr.Vijay Kumar Centre for Theoretical Physics MIT, Cambridge, USA	19 / 05/09	Lecture on Freedom and Constraints in the K3 Landscape
7	Dr.C.S.Unnikrishnan Gravitation Group, TIFR, Mumbai	22 / 06/09	Lecture on Physics in the "Once Given" Universe: New Perspectives on Dynamics, Relativity and Propagation of Light
8	Dr.Tushar Prabhu Indian Institute of Astrophysics, Bangalore	24 / 06/09	Lecture on Astronomy from High Altitudes
9	Dr.Vidya Madhavan Department of Physics Boston College, USA	21/08/09	Lecture of STM observation of bosonic excitations in an electron doped superconductor: clues to the the pairing mechanism
10	Dr.M.M.Shaijumon CIRIMAT, Universite Paul Sabatier, Toulouse, France	24/08/09	Lecture on Carbon nanotube-based Hybride Structures for Energy Applications
11	Dr.Swamali Bandopadhyay Department of Physics Norwegian Univ. of Science and Technology, Norway	09/09/09	Renormalization of the Dephasing by Zero Point Fluctuations
12	Dr.G.Santhosh The Institute of Mathematical Sciences, Chennai	23/09/09	Quantum spin liquids with Fermi surfaces in spin- 1/2 models
13	Prof. Thomas Vojta Dept. of Physics, Missouri University of Science and Technology, Rolla, USA	07 / 10/09	Phase transitions and disorder: from Harris criterion to infinite randomness and smearing
14	Prof. Masayuki Imai Dept. of Physics, Faculty of Science, Ochanomizu University, Tokyo, Japan	15 / 10/09	Shape Deformation of Multi-Component Vesicles
15	Dr.Ronojoy Adhikari IMSc, Chennai	21 / 10/09	Markov Chain Model for the Indus Script
16	Dr.Peter Borowski Dept. of Mathematics, University of British Columbia, Vancouver, Canada	22 / 10	A Stochastic Polymer model for the dynamics of the Min Proteins in E.coli
17	Prof.Saroj Kumar Naik, Rensselaer Polytechnique Institute, New York, USA	14/12/09/09	Invited lecture on Electronic and Electrical Properties of Graphene Based Structures
18	Prof. Roderich Moessner Max Planck Institute, Dresden Germany	04/01/10	Magnetic Monopoles in Spin Ice
19	Dr. Debashish Chaudhuri FOM Institute AMOLF, Amsterdam, The Netherlands	07/01/10	A model of fasciculation and sorting in mixed populations of axons
20	Prof. A.R.P. Rau Department of Physics and Astronomy Louisiana State University, USA	07/01/10	Entanglement, discord and other quantum correlations and their applications
21	Dr. Rukmini Kumar Entelos Inc., California, U.S.A	08/01/10	Applying mathematical modeling to medicine
22	Dr. G Rajalakshmi Fundamental Interactions Lab, Tata Institute of Fundamental Research, Mumbai	27/01/10	Experimental Studies of Fundamental Interactions at low energy
23	Prof. M.E. Cates FRS Royal Society Research Professor, SUPA, School of Physics and Astronomy University of Edinburgh, UK	05/02/10	Invited lecture on "Statistical Mechanics of Run- and-Tumble Bacteria"

24	Dr. Sudhir R. Jain Nuclear Physics Division, Bhabha Atomic Research Center, Mumbai	05/02/10	Invited lecture on "Some exact results in quantum chaos"
25	Prof. Michael Veith Director, Leibniz-Institut für Neue Materialien gGmbH, Campus D2 2, D-66123, Saarbrücken	11/02/10	Invited lecture on "From Molecules to Materials"
26	Dr. Seema Nanda, TIFR Centre for Applied Mathematics, Bangalore	18/02/10	Invited lecture on "Optimal Drug Dosing in Chronic Myelogenous Leukemia"
27	Dr. Thomas Thundat UT-Battelle/ORNL Corporate Fellow Oak Ridge National Laboratory, Oak Ridge, TN 37831 USA	24/02/10	Invited lecture on "Wake up and smell the coffee: physics-based chemical selectivity"
28	Dr. Mithun Kuma Mitra University of Massachusetts Amherst, USA	25/02/10	Invited lecture on "Spinodal decomposition assisted crystallization in binary polymer mixtures"
29	Prof. Jacqueline Fayeton and Prof. Michel Barat Institut des Sciences Moléculaires d'Orsay (ISMO), Univeristy Paris-Sud, France	10/03/10	Invited lecture on "Unraveling multiple fragmentation of bio molecules using multi coincidence imaging techniques "
30	Dr. Soumen Roy Institute for Genomics and Systems Biology The University of Chicago	12/03/10	Invited lecture on "Networks and Emergence"
31	Dr. Pramod S Dobal Department of Physics, V S S D College, C S J M University, Kanpur	16/03/10	Invited lecture on "Micro Raman study of Stress Relaxation in ABO_3 Perovskite thin films and Multilayered Structures"

14.6.5 Other activities of the Department /Centre:

Ramanessence – Science Day Celebration was held on 14th March 2010 in the Physics Department.

The event was inaugurated by Prof. M.S. Ananth, our Director.

Prof. G.Baskaran, IMsc, presented a seminar on "Physics: from Boredom to Excitement."

Debate on "Climate Change: is it real? If so are human activities responsible for it?"

A Quiz programme was also conducted.

5.1 SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY

5.1.1 Introduction:

Sophisticated Analytical Instrument Facility (SAIF) established with financial support from the Department of Science and Technology provides sophisticated instrument and equipment facilities to Scientists / Faculties of Educational Institutions, National Laboratories, Industries and IIT Madras.

SAIF also undertakes on specific request, servicing of sophisticated instruments at other institution and also provide training for operation and maintenance.

Periodically SAIF conducts workshops, seminars and conferences to expose new trends in sophisticated instrumentation and methods. Contact programs for college students and open house for school children are conducted every year to motivate them towards scientific careers.

5.1.2 Faculty and their activities:

Faculty :

Name and Qualification

Major area of specialization (only 3 areas)

Professor: Dr. G.K.SURAISHKUMAR (HEAD)

Scientific Officers :

Dr.M.S.Moni

Dr.R.Murugesan

Dr.Babu Varghese

NMR Spectroscopy

Mass Spectroscopy

X-ray crystallography

Short-term Courses/Workshops/Seminars/Symposia/Conferences organised by the faculty members:

Sl. No.	Co-ordinators	Title	Perd & Venue
Workshop			
1.	Dr. (Mrs.) C.Baby	BRU – NMR 500MHz SAIF Instrumentation	28/05/2009 and 29.05.2009 - SAIF, I.I.T., Madras
2.	Dr. Babu Varghese	Single Crystal XRD SAIF Instrumentation	20/07/2009 and 21.07.2009 - SAIF, I.I.T., Madras
3.	Mr. N.Sivaramakrishnan	HR – SEM SAIF Instrumentation	06/11/2009 - SAIF, I.I.T., Madras
4.	Dr. R.Murugesan and Dr. (Mrs.) K.V.Rama	FT – IR and ICP-OES SAIF Instrumentation	07/01/2010 and 08.01.2010 – SAIF I.I.T. Madras

Short-term courses Workshops/Seminars/Symposia/Conference /Training attended by the faculty members in Academic institutions and Public Sector undertakings:

S.No	Name of faculty	Title	Period	Venue
Workshop:				
1.	Dr. Babu Varghese	'Materials Characterization by Diffraction Methods'	24.02.2010 and 25.02.2010	Department of Physics, Mahatma Gandhi University, Kottayam, Kerala

Special Lectures delivered by the faculty in other Institutions:

S.No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. Babu Varghese	Crystal structure elucidation of 4-amino azobenzene- A centrosymmetric crystal with second harmonic generation efficiency Materials Science' (MATS 2009)	Department of Chemistry, Annamalai University	09.10.2009 and 10.10.2009.

Visit abroad by faculty

S.No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Mr. N.Sivaramakrishnan	Singapore	17.12.2009 to 23.12.2009	Training on HR-SEM EDS
2.	Mr. N.Sivaramaikrishnan	U.S.A	22.03.2010 to 24.03.2010	Training on New VSM

5.1.3 Design and Development Activities:

New facilities added or major equipment procured through project funds:

S.No	Name of Equipment	Vaue [Rs. In lakhs]
1.	VSM (Equipment will be installed in May 2010)	Rs.1.30 (DST – PLAN)

5.1.4 Research and Consultancy:

Research Publications:

No. of papers published in Refereed International Journals ... 13

In Refereed International Journals:

S.No	Name of Faculty	Title of the paper	Name of the Journal
1.	Balasubramanian Sridhar, Krishnan Ravikumar and Babu Varghese	Supramolecular hydrogen-bonded networks in adeninedium hemioxalate chloride and adeninium semioxalate hemi(oxalic acid) monohydrate	Acta Cryst. (2009). C65, o202–o206
2.	Rajendran Saravanakumar, Babu Varghese, Sethuraman Sankararaman	Hydrogen-bond network in isomeric phenylenedipropionic acids and their DABCO salts. Water mediated helical hydrogen bond motifs.	<i>CrystEngComm</i> , 2009, 11, 337 - 346, DOI: 10.1039/b816658g
3.	Anbu, S., Kandaswamy, M., Suthakaran, P., Murugan, V., Babu Varghese.	Structural, magnetic, electrochemical, catalytic, DNA binding and cleavage studies of new macrocyclic binuclear copper(II) complexes.	Journal of Inorganic Biochemistry, 2009, 103, Issue 3, 401 - 410
4.	ShahulHameed Sabiah,z., Babu Varghese, and Narasimha N. Murthy.	First hexanuclear copper(II) pyrophosphate through hydrolysis of phosphodiester with a dicopper complex.	Chem. Commun., 2009, 5636–5638
5.	P. Subash-Babu, S. Ignacimuthu, P. Agastian, Babu Varghese	Partial regeneration of β -cells in the islets of Langerhans by Nymphayol a sterol isolated from <i>Nymphaea stellata</i> (Willd.) flowers.	Bioorganic & Medicinal Chemistry, Volume 17, Issue 7, 1 April 2009, Pages 2864-2870

S.No	Name of Faculty	Title of the paper	Name of the Journal
6.	Franklin, S., Balasubramanian, T., Babu Varghese.	Bis[2,4-diamino-5-(3,4,5-trimethoxybenzyl)pyrimidin-1-ium] DL-malate.	Acta Crystallographica, Section C: Crystal Structure Communications (2009), C65(2), o62-o65
7.	Udaya Lakshmi, K., Rajesh, N. P., Ramamurthi, K., Babu Varghese.	Crystal growth and characterization of organic single crystal 1-(4-N,N-Dimethylaminopyridinium)acetic acid bromide monohydrate	Journal of Crystal Growth (2009), 311(8), 2484-2489
8.	Sabiah Shahulhameed, Babu Varghese, Murthy Narasimha, N	Mononuclear [(BP)(2)MX](n+) (M = Cu(2+), Co(2+), Zn(2+); X = OH(2), Cl(-)) complexes with a new biphenyl appended N-bidentate ligand: structural, spectroscopic, solution equilibrium and ligand dynamic studies	Dalton transactions (Cambridge, England) (2009), (44), 9770-80.
9.	V. Jeseentharani, J. Selvakumar, A. Dayalan, Babu Varghese, K.S. Nagaraja.	Preparation, characterization and crystal structure of some imino Schiff bases.	<i>Journal of Molecular Structure</i> , vol 966, (2010), 122-128
10.	Subbiah Nagarajan, Anup Kumbhar, Babu Varghese and Thangamuthu Mohan Das	Structural and DNA cleavage of sugar-derived Schiff base ligands and their dinuclear Cu(II) complexes	<i>Carbohydrate Research</i> , vol 345, (2010) (in press)
11.	Shubhankar Kumar Bose, K. Geetharani, V. Ramkumar, Babu Varghese, Sundargopal Ghosh.	Chemistry of Vanadaboranes: Synthesis, Structures, and Characterization Organovanadium Sulfide Clusters with Disulfido Linkage	<i>Inorg. Chem.</i> 2010, 49, 2881-2888
12.	R.Murugesan, N.Chinnasamy, S.Baskaran and M.Probhakaran	Ultra structural studies of Osmophores in the Petals and Pollen Grains of <i>Jasminum grandiflorum</i> , <i>jasminum sambac</i> and <i>Polianthes tuberosa</i>	Biosciences, Biotechnology Research Asia Vol.07 No.01 2010
13.	R.Murugesan, N.Chinnasamy, M.Prabhakaran and S.Baskaran	Essential oil Analysis of FT-IR and GC-MS studies of <i>Jasminum grandiflorum</i> <i>Jasminum sambac</i> and <i>Polianthus tuberosa</i> flowers	Biomedical & Pharmacology journal Vol. 03 No. 01 2010

6.1 CENTRE FOR CONTINUING EDUCATION

6.1.1 Introduction

The Centre for Continuing Education (CCE) at IIT Madras was established in June 1986. The Centre facilitates faculty members towards meeting the following Mission of IIT Madras.

- To provide knowledge-based technological services to satisfy the needs of the society and the industry.
- To help in building national capabilities in science, technology, humanities, management, education and research.

The faculty effectively participates and contributes to the Institute's commitment of providing a broad base of learning opportunities through the following major activities:

- Academic Programmes (M.Tech & PhD) under the Quality Improvement Programme.
- Short Term Training Programme under QIP (AICTE-STTP).
- Curriculum Development Activities under CDC.
- Book Writing Scheme under CDC.
- Continuing Education Programmes (CEP) for Industry.
- User Oriented Programme (UOP).
- National Programme on Technology Enhanced Learning (NPTEL).
- Web Studio.
- Educational Technology Cell (ETC).
- *Activities related to MBA budget.*

6.1.2 Quality Improvement Programme (QIP)

The faculty development activities of AICTE funded by Ministry of Human Resources Development are geared to ensure quality, relevance, excellence and equity in Technical education by supporting activities under the QIP Scheme. Deputation to the academic programmes of the Institute viz., M.Tech & Ph.D facilitates career development of the faculty of AICTE approved technical institutions in the country.

Since inception, 464 faculty members from other institutions have obtained Ph.D degrees and 546 faculty members have obtained M.Tech degrees under this programme till 2009-10.

The following table provides the data of the Engineering College Teachers benefited under QIP.

Items	Ph.D			M.Tech		
	Admitted	On roll	Awarded	Admitted	On roll	Awarded
2009-10	16	85	31	10	18	10
Since Inception	604	-	464	606	-	546

6.1.3 Short Term Training Programmes under QIP (AICTE-STTP)

Organisation of short-term courses under QIP for faculty in engineering institutions is supported by AICTE and it opens up avenues for sharing expertise of our faculty with rich experience in new and upcoming areas. Under this programme, 13 courses for a total duration of 13 weeks were conducted during 2009-10 and 392 teachers of Engineering Institutions as well as a few professionals from industries / R & D organizations have participated in these programmes. From 1970-71 to 2009-10, 274 programs have been held and 6650 teachers from various engineering colleges participated and benefited from these courses.

Programmes held during 2009-10 under AICTE-STTP

S.NO.	Coordinator	Department	Title of the Programme
1	Dr. Rama Shanker Verma	Bio-technology	Animal Cell Culture
2	Dr. M.K. Gajendra Babu Dr. A. Ramesh	Mechanical Engineering	Technologies for Modern Diesel Engine Development
3	Dr. Arun K Tangirala	Chemical Engineering	Advanced Topics in Wavelet Transforms: Theory and Applications
4	Dr. M.P. Maiya Dr. Shaligram Tiwari Dr. S.M. Shiva Nagendra	Mechanical Engineering	Air Delivery Systems and Indoor Air Quality - An Engineering Perspective
5	Dr. Somashekhar S. Hiremath Dr. M. Singaperumal	Mechanical Engineering	Fluid Power Circuits and Controls: Fundamentals and Applications
6	Dr. Dali Naidu Arnepalli Dr. K. Rajagopal	Civil Engineering	Role of Geosynthetics in Civil Infrastructure and Geoenvironmental Projects
7	Dr. B.N. Rao Dr. Devdaas Menon	Civil Engineering	Basics of Matrix and Finite Element Analysis of Structures
8	Dr. Shanti Bhattacharya Dr. R. Manivasakan	Electrical Engineering	Optical Engineering: From Devices to Networking
9	Dr. G. Appa Rao Dr. B.N. Rao	Civil Engineering	Fracture Mechanics: Concepts and Applications in Reinforced Concrete Structures
10	Dr. Rupen Goswami Dr. S.R. Satish Kumar	Civil Engineering	Design of Steel Structures Using IS 800:2007
11	Dr. J. Murali Krishnan Dr. A. Veeraragavan	Civil Engineering	Recent Advances in Pavement Materials and Evaluation
12	Dr. Somashekhar S. Hiremath	Mechanical Engineering	Mechatronics: Integrated Technologies for Intelligent Machines
13	Dr. V. Jagadeessh Kumar	Electrical Engineering	Biomedical Instrumentation

6.1.4 Curriculum Development Cell Activities (CDC)

To explore interesting avenues for innovation in design and delivery of courses, activities such as Course Structuring, Preparation of Instructional and Resource materials such as Monograph, Laboratory Manual, Problem Book etc., as well as development of Computer aided Instruction Packages; support is available under the CD Cell funded by AICTE. Curriculum Development Cell (CD Cell) caters to the needs of all Departments in the Institute. The materials developed under this activity can be made available for use by the various engineering institutes in the country.

6.1.5 Book Writing Scheme (BWS)

The Book Writing Scheme is designed to encourage textbook writing by teachers. 51 books have so far been published by our faculty, under this scheme.

6.1.6 Golden Jubilee Book Writing Scheme (GJBWS)

A part of Golden Jubilee Celebrations, Golden Jubilee Book Writing Scheme is introduced. Under Golden Jubilee Scheme, 23 text books, including one e-book have been published.

The following is the list of Books released under Golden Jubilee Book Writing Scheme:

S.NO.	Name of the Author	Department	Title of the Book
1	Dr. M.S. Sivakumar, Dr. Arun R. Srinivasa, Texas A&M	Applied Mechanics	Inelasticity of Materials: An Engineering Approach and a Practical Guide
2	Dr. K. Ramesh	Applied Mechanics	Experimental Stress Analysis (e-book)
3	Dr. Devdas Menon	Civil Engineering	Advanced Structural Analysis
4	Dr. Kamala Krithivasan Dr. R. Rama	Computer Science and Engineering	Introduction to Formal Languages, Automata Theory and Computation
5	Dr. Anjan Chakravorty Dr. Michael Schroter, University of Dresden, Germany	Electrical Engineering	Compact Hierarchical Bipolar Transistor Modelling with HICUM
6	Dr. Shreesh Chaudhary	Humanities and Social Sciences	Foreigners and Foreign Languages in India - A Sociolinguistic History
7	Dr. Aysha Iqbal Viswamohan	Humanities and Social Sciences	English for Nurses
8	Dr. S. Ponnusamy	Mathematics	Foundations of Mathematical Analysis
9	Dr. Arindama Singh	Mathematics	Elements of Computation Theory
10	Dr. Ch. Srinivasa Rao, Dr. P.L. Sachdev, IISc (Retd)	Mathematics	Large Time Asymptotic for Solutions of Nonlinear Partial Differential Equations
11	Dr. M. Thamban Nair	Mathematics	Linear Operator Equations: Approximation and Regularization
12	Dr. T.E. Venkata Balaji	Mathematics	An Introduction to Families, Deformations and Moduli
13	Dr. V. Ganesan Dr. A.F. Mills, UCLA, USA	Mechanical Engineering	Heat Transfer (Second Edition)
14	Dr. C. Sujatha	Mechanical Engineering	Vibration and Acoustic Measurements and Signal Analysis
15	Dr. V. Balakrishnan	Physics	Elements of Nonequilibrium Statistical Mechanics
16	Dr. Anil Prabhakar Dr. D.D. Stancil, CMU, USA	Electrical Engineering	Spin Waves -Theory and Applications
17	Dr. Mani Subramanian	Electrical Engineering	Network Management: Principles and Practices (Second Edition)
18	Dr. S. Devaki Reddy Dr. Shreesh Choudhary	Humanities and Social Sciences	Technical English
19	Dr. G. Venkatarathnam	Mechanical Engineering	Cryogenic Mixed Refrigerant Processes
20	Dr. K. Ramamurthy	Mechanical Engineering	Rocket Propulsion
21	Dr. Shreesh Chaudhary	Humanities and Social Sciences	English for the World: IELTS Writing and Speaking Modules
22	Dr. Srinivasan Chandrasekaran	Ocean Engineering	Seismic Design Aids for Nonlinear Analysis of Reinforced Concrete Structures
23	Dr. S.P. Venkateshan	Mechanical Engineering	Heat Transfer

6.1.7 Continuing Education Programme (CEP)

Several Short Term Courses were organized under Continuing Education Programme for the professionals from industry and R & D establishments on need-basis. The programmes were organized as tailor-made to suit the requirements of the Industries. From the date of inception, i.e., between 1980 and 2010, 979 STCs have been conducted benefiting 22,643 participants. Approximately 60 to 65 such programmes are organized every year. During 2009-10, 61 Short Term Courses have been conducted and 1545 participants attended these programmes.

6.1.8 User Oriented Programme (UOP)

The User Oriented Programmes are designed to suit the requirements of the industrial organizations. Long duration, 2 years M.Tech Programmes are being organized to meet the specific needs of associated industries. Such programmes will ultimately pave-way for long-term consultancy assignments with the organizations.

The following M.Tech programmes are being offered under UOP:

- 1) Construction Technology & Management in Civil Engineering Department
- 2) Automotive Technology in Mechanical Engineering Department
- 3) Ocean Technology and Management in Ocean Engineering Department

6.1.9 Faculty Development Programme by IIT Madras

A three-day Faculty Development Programme (FDP) was organized by the Centre for Continuing Education during 07-09 Dec, 2009 for 32 young faculty of the Institute. Three educational technology experts from Texas A and M University, USA, namely, Dr. Jeff Froyd, Dr. Debra Fowler, and Dr. Chandrika Rajagopal of the Centre for Teaching Excellence conducted the programme. Prof Ajit Kumar Kolar and Prof Pramod S Mehta were the FDP coordinators. Prof. M.S. Ananth, Director, inaugurated the FDP, on the 07 Dec 2009.

The participating faculty were trained in the state-of-the art teaching methodologies. Learning Outcome Processes, Minute-papers, Student Assessment Methods, Cooperative and Interactive Learning Methods, Joint Student Projects, Student Group Sitings, and other teaching techniques which enhance the effectiveness of teaching – learning process were some of the topics of discussion. The FDP was marked by a constant interaction between the experts and the participants on the one hand and also among the participants themselves, which made the FDP lively, exciting and productive. The printed material prepared by the experts and distributed to the participants were of a long-term value while being extremely useful during the programme itself.

The visiting experts and the CCE have taken independent assessment of the FDP from the participants which indicates that it was very beneficial to the faculty. Indeed, they assured the experts and the CCE that they will implement some of the new teaching techniques in the ensuing academic session itself. The faculty participants and the experts were very happy with the overall conduct of the programme.

The CCE plans to conduct similar programmes in the future, but more importantly, would like to develop an in-house core group of "trainers" from among the present participants towards establishing a Teaching-Learning Unit in the Institute. At the end of the FDP on 09th Dec, Prof. S. Santhakumar, Dean(AC) distributed the certificates to the participants, and Prof. V.G. Idichandy, Deputy Director, delivered the valedictory address.

6.1.10 National Programme on Technology Enhanced Learning (NPTEL)

Phase I of the National Program on Technology Enhanced Learning (NPTEL), funded by MHRD, was a pioneering joint initiative of 7 IITs and IISc Bangalore in developing 120 video based courses and 129 web based courses. IIT Madras is the coordinating institute for this project. Both the web and video course contents are freely available to everyone through our website at: <http://npTEL.iit.ac.in> and through the YouTube at: <http://www.youtube.com/iit>. For the benefit of students and faculty, web and video-based courses are being distributed to Government and Private Engineering Institutions & polytechnics and video - based courses are being distributed to Individuals for a nominal fee. The video courses are currently telecast through the Eklavya channel made available by MHRD exclusively for this purpose.

Under NPTEL phases II and III, preparations are underway for the creation of over 900 additional under graduate level and over 100 additional post graduate level web and video courses in all major branches of engineering, physical sciences, humanities, social sciences and management with possible online certification programs.

6.1.11 Web studio

The web studio at IIT Madras is equipped with state-of-the art hardware and software for the production of educational multimedia videos. The web studio assists faculty members in the creation of electronic course contents, supplements, lecture notes, quizzes etc., and enable them to be available to the student community. All NPTEL video and web courses created by faculty of IITM are recorded and edited here. In addition to the creation and maintenance of the NPTEL website, other departmental websites, conference websites, conference and meeting brochures are also created at the web studio. The web studio has extended its services to include the following:

- Meet the curriculum demands of IIT Hyderabad: IIT Madras faculty have used the facilities available in the web studio, provided under the National Knowledge Network, to teach courses for IIT Hyderabad students
- Support all projects sanctioned to IIT Madras under the National Mission on Education through ICT (Sakshat)
- Preparation of online and video supplemented laboratory experiments in Chemistry for IGNOU
- Innovation in teaching methodology with access to web based learning, for high school children, under the Kuruvila Jacob Initiative
- Text transcription of NPTEL video lectures to provide video indexing, searching and database creation for bootstrapping semi-automatic and automatic transcription algorithms, for MHRD, New Delhi
- Maintenance of course management system (Moodle) for IIT Madras
- State of the art video conferencing facility, under the Country - wide Classroom Network, enabling faculty, research scholars and students to use as virtual classrooms and for video conferencing

6.1.12 Educational Technology Cell

CCE - T.V Studios

Two numbers Digital T.V studios of Broadcast quality, equipped with state-of-the-art equipment like Digital video cameras, vision mixers/special effects generators, audio mixers, presentation computer connected through VGA to PAL converters, Tele-Prompter etc., are available in a class room atmosphere lit by Cine-cool-lights.

Two numbers 3-CCD portable video camcorder units for outdoor video coverage and Digital Non-Linear editing machines are available for Video production. All video courses created by faculty are recorded here.

Three numbers remote controlled video cameras with a remote control room, in IC&SR Auditorium for video recording and video streaming, is maintained by CCE.

6.1.13 Central Photographic Section

The Central Photographic Section caters to photographic needs of the Departments and Centres of the Institute. The jobs include photographic coverage of most of the important functions such as Convocation, conferences, etc. held in the Institute. Besides this, the section renders assistance to the UG, PG students, Research Scholars and Faculty of all the Departments / Centres for their activities including technical photography, conference poster preparation etc. The in-house processing and printing work is confined to Black and White photography. After recent modernization this section provides digital / high resolution photography for all the needs of the Institute.

The Central Photographic Section has undertaken 120 Departmental job orders and covered 83 functions as well during 2009-10. In addition, Central photographic section has contributed a large percentage of photographs to the Heritage Centre and Exhibition Hall at IC & SR. Passport size photos for 2010 convocation, graduants taken and made ready for degree certificates.

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6.2 CENTRE FOR INDUSTRIAL CONSULTANCY AND SPONSORED RESEARCH

6.2.1 Introduction:

The Centre for Industrial Consultancy & Sponsored Research was set up in 1973 to promote interaction with industries. It facilitates active participation of the faculty in various interactive programmes organized for the benefit of the industries and the Institute. The Centre also provides administrative support for carrying out consultancy and sponsored research projects, particularly for recruitment of project staff, maintenance of accounts and purchase of equipments as well as materials.

Some of the major activities that the Centre is involved are:

- Sponsored Research programmes
- Plan Schemes
- Technology Development Mission Schemes
- Consultancy programmes: Project / research based / retainer / institutional
- Collaborative projects with foreign countries
- Industrial Associateship Scheme
- ISRO-IITM Space Technology Cell joint projects
- IGCAR-IITM Cell joint projects
- Patenting and Technology Transfers
- Faculty & Student Entrepreneurship and Incubation

Dean : Prof. Job Kurian

Staff

Sri R. Sundaram
Dr. V. Suresh
Smt. Prema Chakrapani

Chief Techno Economic Officer
Senior Techno Economic Officer
Assistant Registrar (F&A)

6.2.2 Sponsored Research:

165 projects of value totaling to Rs.9538 Lakhs were taken up by the Institute during 2009 -2010 as given below.

S.No.	Agency	No. of Projects	Value (Rs. In Lakhs)
1	Aeronautical Development Agency	1	10
2	Aeronautics Research & Development Board	6	76
3	Alexander von Humboldt	1	15
4	Asian office of aerospace research and development	1	10
5	Atomic Energy Regulatory Board	1	25
6	Board of Research in Nuclear Sciences	7	421
7	Centre for Development of Advance Computing	1	385
8	Council of Scientific and Industrial Research	3	68
9	Defence Research and Development Organisation	7	158
10	Department of Atomic Energy	2	21
11	Department of Biotechnology	9	378
12	Department of Information Technology	4	259
13	Department of Science & Technology	58	2900
14	European Commission	3	162
15	General Motors and Technical Centre	1	19

S.No.	Agency	No. of Projects	Value (Rs. In Lakhs)
16	IIT Madras Research Foundation	1	25
17	Indian council for Medical Research	1	27
18	Indian Oil Corporation Ltd	1	25
19	Indian Space Research Organisation	6	126
20	Indira Gandhi Centre for Atomic Research	6	85
21	Indo-French Centre for the Promotion of Advance Research	2	44
22	Indo-US Science & Technology Forum	2	55
23	International Development Research Centre	1	81
24	Korea Ocean Research and Development	1	12
25	Lady Tata Memorial Trust	1	10
26	Ministry of Human Resource and Development	2	1315
27	Ministry of Micro Small & Medium Enterprises	1	66
28	Ministry of New and Renewable Energy	1	582
29	Ministry of Urban Development	2	1220
30	National Disaster Management Authority	1	16
31	National Program on Micro and Smart Systems	1	232
32	National Informatics Centre	1	50
33	National Institute of Ocean Technology	4	163
34	National Physical & Oceanographic Laboratory	1	30
35	Naval Research Board	6	156
36	Society for Applied Microwave Electronics Engineering and Research	1	15
37	Tata Chemicals Limited	1	34
38	Telecom Centre of Excellence	1	10
39	UK INDIA Education & Research Initiative	1	5
40	United Nations Children's Fund	2	17
41	University Grants Commission	2	3
42	Others and Additional Grants	10	228
	Total	165	9538

This includes International Collaborative and Industry Sponsored Projects. About 288 faculty members were actively involved in Sponsored Research activities.

6.2.3 Consultancy Programmes:

556 Consultancy assignments of value totaling to Rs.2826 Lakhs, including 61 Research Based Industrial Consultancy for a total value of Rs.1110 Lakhs and 472 Institutional Consultancy assignments for a total value of Rs.1666 Lakhs were taken up during 2009-2010, apart from additional grants to the tune of Rs.205 Lakhs for the on-going consultancy assignments. Also 23 faculty members were retained as consultants by various industries for a total fee of Rs.50 Lakhs. 152 faculty members were actively involved in Consultancy projects.

6.2.4 New Faculty Scheme:

The Institute provides funds for new faculty to initiate research in their area of specialization at IIT Madras. This funding will also help them to get sponsored research grants to continue and establish their research activities at IIT Madras. This scheme is operated as a project under the Centre for IC&SR. Proposals for projects up to Rs.5.00 Lakhs will be recommended by the Dean, IC&SR to the Director for approval. In the case of proposals where there is an experimental activity requiring special equipments, Institute support to the project up to Rs.20.00 Lakhs may be possible.

During the year, 16 proposals were approved for funding under the New Faculty Scheme for a total sum of Rs.130 Lakhs.

6.2.5 Industrial Associateship Scheme:

236 Industries were members of this Scheme (Large scale 27, Medium scale 136 and Small Scale 73) for the Year 2009.

The following two Technology Appreciation Programmes were organized during the period under report (April 2009 – March 2010):

1. Urban Air quality Management: Problems and Management Practices
2. Recent Trends in Research on Automotive Systems

6.2.6 Other Programmes:

ISRO-IITM Space Technology Cell joint projects:

This is an on-going activity sponsored by the ISRO where research projects of interest to ISRO are being taken up at IIT Madras. 13 on-going projects totaling to a value of Rs.190 Lakhs were continued and 6 new projects for a value of Rs.126 Lakhs were taken up during the year 2009-2010.

IGCAR-IITM Cell:

8 on-going projects were continued during 2009-2010, totaling to a value of Rs.201 Lakhs and 6 new projects for a value of Rs.85 Lakhs were taken up during the year 2009 – 2010.

Technologies for Social Development:

IIT Madras initiated activities for transfer of technologies which are of immediate relevance to society. For this purpose, the following three projects have been taken up.

- (1) Socially Relevant Project.
- (2) Rural Technology Action Group (Funded by Planning Commission).
- (3) Recognition and Mentoring Programme by Lemelson Foundation (USA).

A write-up on the activities of the above projects is given in Annexure – 1.

6.2.7 Distinguished Visitors to the Centre:

The following visited the Institute during the year 2009-10, for Collaborative Research.

S. No	Organization	Month
1	Centre for Advanced Research and Innovation of Quebec (CRIAQ), Canada	May 2009
2	Saipem India Projects Limited	November 2009
3	Cognizant Innovation Group	
4	Infineon Technologies Pvt. Ltd.	December 2009
5	Ford Motor Company	January 2010
6	Renault Nissan Technology & Business Centre India Private Limited (RNTCBI)	February 2010
7	Nissan R&D	
8	Trane Design Centre Private Limited Ingersoll Rand	
9	University of Birmingham, UK	March 2010
10	Maersk Oil and Gas,	

MoUs / Agreements signed

25 new MoUs / Agreements have been signed by IIT Madras with the following 21 organizations / Institutions during 2009-10:

1. Laila Pharmaceuticals Pvt. Ltd.
2. Hand in Hand, Kancheepuram
3. Ericsson AB, Sweden
4. Tata Chemical Ltd., Mumbai
5. Indian Oil Corporation Limited, Mumbai
6. Bharat Heavy Electricals Limited, Ranipet
7. Bharat Heavy Electricals Limited, Trichy
8. Saint-Gobain Ceramics & Plastics, Inc, USA
9. LeadInvent Technologies Pvt. Ltd.
10. Jupiter Bioscience Limited, Andhra Pradesh
11. Aquamall Water Solutions Limited, Hyderabad
12. SRF Limited, New Delhi
13. Carl Zeiss, Germany / India
14. Essentia Soft Solutions P Ltd., Chennai
15. Sundaram Medical Devices Pct. Ltd.,
16. BEML, Bangalore
17. Nissan Motor Co. Ltd., Japan
18. Centre for Development of Advanced Computing, Thiruvananthapuram.
19. Renault Nissan Technology & Business Centre India Pvt. Ltd. (Renault)
20. Renault Nissan Technology & Business Centre India Pvt. Ltd. (Nissan)
21. Centre for Development of Advanced Computing, C-DAC (T), Thiruvananthapuram
22. Munjal Showa Limited, Gurgaon, Haryana
23. Tata Steel Limited

6.2.9 Patents:

Details of patent applications filed during the year 2009-2010 are given below:

S. NO.	Title	Inventor	Dept.	Date of Filing
1	A Device for direct injection of gasoline into a combustion system	Mr. Bijoy M.D. Dr. Shamit Bakshi Dr. A. Ramesh	MEE	8/12/2009
2	A method of synthesis of polymers and copolymers	Mr. Ravikumar R. Gowda Dr. Debashis Chakraborty	CHY	12/22/2009

Patent approved during the Year 2009-2010

S. No.	Title	Inventor(s)	Dept.
1	A composition containing nanophase calcium deficient hydroxyapatite with MG, SR and SI synthesized from egg shell by microwave processing.	Dr. T. S. Sampath Kumar	MET
2	Carbon Nanotubes and their synthesis	Dr. S. Ramaprabhu	PHY
3	A Method and apparatus for carrying out oil jet peening	Dr. R. Gnanamoorthy	MEE
4	A method of detecting the change in concentration of an organic dye in a sample	Dr. Prem B Bisht	PHY
5	A bioreactor for plant shootcultue	Dr. G K Suraishkumar	BIO
6	An axial flow impeller with twistless or single curvature shape vanes or blades, particularly, though not exclusively for axial flow turbomachines	Dr. S. Kumaraswamy	MEE
7	Manufacture of single walled carbon nanotubes providing visible emission for imaging of nanostructures	Dr. T Pradeep	CHY
8	An improved single stage procedure for the synthesis of cross-linked polyallylamine hydrochloride	Dr. S Sankaraman	CHY
9	Boron Carbide Powder and A Method of Manufacture thereof	Dr. T S Sampath Kumar	MET
10	A combined capacitive and electromagnetic voltage transformer	Dr. V Jayashankar	ELE

Technology Transfer

S. No.	Principal Investigator	Title	Company Name	Sanction Value (Rs. In Lakhs)
1	Dr. Ligy Philip	Knowhow process to bioremediate hexavalent chromium contaminated aquifers	Munjil Showa Limited	19.85
2	Dr. L.S. Ganesh	Online Banking Security	Laser Soft Infosystems Ltd	0.72
3	Dr. A. Subrahmanyam	Development details of oxygenation device oxyplus	HCL Technology	5.62
4	Dr. T.S. Natarajan	Electro Spinning Apparatus	Physics Instruments Company	0.68

6.2.10 Publications:

- The quarterly publication titled IIT Madras News was continued.
- The updated version of IC & SR brochure has been brought out.

6.2.11 Other information:

- Awareness programme on "Intellectual Property Rights" was organized by Intellectual Property Office, Ministry of Commerce & Industry, Department of Industrial Policy & Promotion, Chennai on 30th April 2009.
- 12 Proposals to establish Centre of Excellence in various areas were forwarded to MHRD.
- IC & SR Board meeting was held on 11th May 2009 and 3rd February 2010.
- A presentation of expertise and facilities available at IIT Madras in the area of Energy and Environment was made by Prof. B.V.S.S.S. Prasad to BHEL R&D executives of Trichy and Ranipet units on 20th May 2009.
- A meeting was arranged with Mr. D. Chandrasekhar, Secretary, IITM Research Foundation to discuss about the project on Sustainable Development on 5th June 2009.
- Dr. B.M.S. Bist, Adviser (New Technology), MNRE along with Dr. B.S. Negi and Dr. M.R. Nouni, Directors visited the Centre between 23rd and 25th June 2009 to consider development of a suitable Mission Mode Project Proposal on PEM Cells by IIT Madras for possible core support funding by the Ministry.
- A meeting of the committee constituted by the undersigned to evaluate the proposals for innovative student projects was held on 26th September 2009. Out of the thirteen proposals presented nine were considered for funding for a total value of Rs.14.55 Lakhs.
- Dean, IC & SR attended the Brain-storming session in connection with the filing of patents of all Deans R&D conducted by Intellectual Ventures, Bangalore on 30th September 2009.
- A meeting with BHEL scientists and IITM faculty was organized on 5th October 2009 to discuss about possible collaborative project.
- Dean, IC & SR chaired the session and also delivered a talk on "Industry-Institute Collaboration" organized by Steinbeis Center for Technology Transfer, Hyderabad on 18th November 2009.
- Project co-ordinators' meeting was held on 25th November 2009.
- A meeting between BHEL officials/ Engineers and IITM faculty was organized on 7th December 2009 to discuss about possible collaborative project.
- Signing of Expression of Interest between Nissan Motor Co. and IIT Madras to start potential collaborations in the areas of research & development was held on 12th January 2010.

**Rural Technology Action Group (RuTAG), Tamilnadu
at IIT Madras**

1. Introduction:

In the early nineties, IIT Madras initiated development of technologies which are of immediate relevance to the society. RuTAG is one such project initiated by the Principal Scientific Advisor to the Government of India. Started in June 2004, RuTAG is aimed at identifying technology gaps and improving these for the benefit of rural India. A write-up on the activities of RuTAG during 2009-10 is given below.

2. Sub Projects Taken Up:

2.1. Projects completed during the year

S.No	Title of the proposal	Name of NGO	Expert Institution
1.	Artificial Foot	GGT, Gandhigram	Central Leather Research Institute (CLRI)
2.	Optimization and modernization of Soap making process	GGT, Gandhigram	IIT Madras
3.	Natural Dyed Textile from Banana Fiber	Industree crafts foundation	Kumaraguru College of Technology (KCT)
4.	Retention of nutrients in Earthen Pottery	Center for Social Development	KCT
5.	Performance Evaluation Study of different types of Hand-looms	Co-optex	KCT
6.	Potter's Wheel	Center for Social Development	KCT
7.	System development for optimum utilization of solar panel	THI, Sittilingi	IIT Madras
8.	LED Street Lights	THI, Sittilingi, PVS, Karur	IIT Madras

2.2. Ongoing Projects

S.No	Title of the proposal	Name of NGO/ Organization	Expert Institution
1.	Banana Fibre Extraction Machine	Industree crafts foundation	PSG College of Technology, Coimbatore
2.	Improving crack resistance of Athangudi tiles	M.RM.RM. Cultural Foundation	IIT Madras
3.	Weevil Detector	Mitraniketan	NIOT / IIT Madras
4.	Low Power Wind Turbines	THI, Sittilingi	KCT
5.	Nutrient Analysis of Ayurvedic Medicine	GGT, Gandhigram	IIT Madras
6.	Solar Fan	THI, Sittilingi	KCT
7.	Miniature Wind Turbine Driven Generator	Field Research Lab, Leh	IIT Madras
8.	Effect of physical, chemical and herbal agents on sanitary napkins	GGT, Gandhigram	KCT
9.	Development of Rapier Kit to suit the power loom industry	Co-optex	KCT
10.	Microwavability of Redclay Pottery	Centre for Social Development	KCT
11.	Pedal operated looms	Co-optex	KCT
12.	Powered Tricycle for Physically Challenged	Sukruthi Social Foundation	IIT Madras
13.	Textile Crafts from Pineapple Leaf Fibres	Industree crafts foundation	KCT
14.	Modification in the cutting machine of binding unit, Automatic edge binding machine and Power operated sewing machine	Amar Seva Sangam	Mepco Engineering College (MSEC) Schlenk

15.	Implementation of Efficient 3.6kW solar power system	Amar Seva Sagam	Mepco Engineering College (MSEC)	Schlenk
16.	Design and development of solar absorption refrigeration system for rural applications	THI, Sittilingi	IIT Madras	

Significant Interventions:

- Preparation of database and a web site on rural technologies to bridge information gap on technologies.
- Coir Spinning Machines undergoing trial at Alleppey for close to 1 year.
- A Low bed tractor trailer being manufactured at Karur.
- Pirn Winding machine introduced in the market in large numbers.
- Development of 500 W wind mill for Leh and 3 KW micro hydel generator for Uttarakhand completed. Final modifications being under taken.
- Training programme for blind women conducted at Rehabilitation Centre for Blind Women, Trichy.
- Unused Solar Panels (3.6kW) being put to use fully at Amar Seva Sangam, Tenkasi.
- Helping streamlining of biogas plant in IIT Madras.

L-RAMP (LEMELSON RECOGNITION AND MENTORING PROGRAMME)

1. Introduction

L-RAMP is a programme that recognizes and incubates innovations which positively impact the rural poor. It offers innovators comprehensive, one-stop technical and business incubation services (e.g. interest-free loans), to prepare their innovations for the commercial market. L-RAMP provides seed funds, mentoring, recognition and networking to innovators.

In 2009-10, L-RAMP entered its second phase with a financial commitment from the Lemelson Foundation for support through 2009-13.

2. Vision

L-RAMP's vision is a vibrant ecosystem through which innovations flow seamlessly from innovators to the rural poor.

3. Mission

L-RAMP's mission is to enable innovators to access and impact the rural poor through innovation and enterprise, by offering mentoring, networking, seed funding and recognition, leading to the creation of a vibrant innovation ecosystem.

4. Partners

In the first phase of the L-RAMP project, L-RAMP was a joint initiative with Indian Institute of Technology-Madras. In the second phase beginning 2009, L-RAMP has become a complete program within Villgro. At the same time, the relationship with IITM is maintained by having a director representing IITM on the board of Villgro. IITM is collaborating with Villgro to run the course on social entrepreneurship as a minor to the students of IITM.

In the first phase of the L-RAMP project, L-RAMP had partnerships with 5 organizations with the objective of reaching two of its customer types: students and entrepreneurs. The partners are listed as below:

1. PSG College of Technology, Coimbatore
2. Tamilnadu Agricultural University, Coimbatore
3. Vellore Institute of Technology, Vellore
4. Gandhigram Rural Institute, Dindilgul
5. Tanstia FNF Service Centre, Chennai

In the beginning of 2009-10, L-RAMP engaged a consultancy firm to evaluate the partnerships. Based on the evaluation, L-RAMP decided to disengage with three of its existing partners – TNAU, TFSC and GRI.

Currently, it is working with PSG College of Technology and Vellore Institute of Technology to reach out to student innovators.

5. Strategies

L-RAMP implemented the following strategies in order to reach the goals.

- a) L-RAMP focuses on two groups of activities. One group deals with incubation of innovation projects and the other deals with marketing of L-RAMP and working with other types of innovators, specifically students. In order to bring focus, L-RAMP is divided into two working groups: Innovation ecosystem and Incubation. The team of Innovation ecosystem will focus on reaching out to innovators and the medium through which to reach them. The Incubation team will focus all its efforts on screening and incubating innovations.
- b) It was realized that social entrepreneurs and, in particular, incubatees do not have access to talented human resources for different reasons such as affordability. Hence, it was decided to launch a Fellowship program. The Fellowship will offer required incubatees human resources for their various operations for a specified period of 6 months in a year.

- c) L-RAMP would adopt a strategy to allocate 2 human resources for scouting activities.
- d) L-RAMP would adopt an investment cycle of 3 months. An application for incubation support would be considered and approved in a pre-defined cycle of 1 Investment Committee per quarter. The Investment Committee comprises of 1 board member from Villgro and 1 technical expert. An investment committee would be organized once a quarter.

6. Plan for 2009-10

a. New RIN Brand Created

The plan is to engage a consulting organization to suggest branding strategy for RIN. It consists of a new name. Under this brand name, the plan is to hold a mega-event that combines Innovator Award program and business plan competition and a forum for social entrepreneurs to meet.

b. Vitalized Innovation Ecosystem

There are 3 plans to vitalize innovation ecosystem. The first is to develop strategic partnerships with organizations that are in this space by entering into a structured relationship. The second is to develop a pipeline of innovations by constantly scouting for innovations in the required areas, either alone or in partnership. The third is to work with educational institutions to identify and nurture innovative spirit among students.

c. Innovations reach markets

The plan is to have an incubation portfolio of 15 projects in a given year. The plan is to scout for innovations in the agriculture sector and fund 6 new innovations.

d. Preparation for replication

The plan is to identify prospective donors, reach out to them by writing proposals and seek funding for various activities within the Incubation program.

7. Achievements

a. Build new RIN brand

In 2009-2010 Rural Innovations Network was changed to Villgro Innovations Foundation. The transition was undertaken successfully in phases

- Villgro Innovation Awards were held in November as part of Unconvention- 2009.
- Each one of our innovators received major coverage in print and electronic media throughout the year.
- Online forums and blogs have been created.
- Branding activities are anchored with the help of the advertising agency, Orchard, an arm of Publicis.

b. Vitalize the Innovation Ecosystem

- 15 Memorandum of Understanding have been signed to formalize networking partnerships.
- In 2009-2010 over 350 innovations were scouted to build a robust incubation pipeline.
- Enable capacity building of incubatees and students.
 - No of My Idea Programs conducted = 57
 - No of institutes participated =52
 - No of students participated =2113
 - No of ideas generated =1088

c. Take innovations to the rural market

- 12 innovations and innovator projects were screened rigorously.
- Infant warmer product development and market research were undertaken.
- Four fellows worked with incubates through Talent Development Programme.
- The top management of Villgro have acted as an advisory group for incubatees
- Impact assessment of some of the incubate projects have been conducted at the end of the year.

- 3 innovations have started commercialization. They are :
 - 1) Pin pulverizer
 - 2) ROPE
 - 3) Desicrew

d. Prepare for replication

- A strategy for replication, to identify states, partners and activities for expansion was created and action initiated in partnership mode with ICRISAT and ten agencies within the NAIP.
- Villgro secured commitment from NSTEDB for co-funding of Villgro Fund.
- Villgro obtained funding from ANDE for capacity building program an amount of Rs.23 lacs for a two-year project.
- Villgro obtained one-time funding for capacity building program from TNSTC an amount of Rs. 10,000
- Villgro obtained sponsorships from various organizations an amount of Rs.41 lacs for Unconvention.
- Villgro obtained Rs.11,50,000 as repayment from two of its incubatees.

e. Focus on innovations in the agriculture sector and work primarily with entrepreneurs who are innovators.

- A total of 7 new social entrepreneurs were identified and they were provided seed funds, mentoring and networking support. They are as follows:
 1. Masuta Tesar yarn private limited/livelihood sector
 2. Wondergrass Initiatives private limited/Rural housing
 3. Sustaintech private limited/Energy
 4. Neurosynaptic Communications private limited/Agriculture
 5. Uniphore Private limited/Agriculture
 6. Ejeevika private limited/Placement services
 7. Invention Labs private limited/dairy

f. Aim to reach 90,000 small and marginal farmers.

- Four enterprises have started commercial operations and have started making impact on the poor people. They are as follows:
 1. Desicrew private limited
 2. ROPE private limited
 3. Glotech Organics private limited (Nemate)
 4. Vivega Engineering Works (Pin pulverizer)
- Impact is as follows:
 1. Desicrew – About 2,000 people are impacted
 2. ROPE – About 2,000 people are impacted
 3. Nemate – About 1,800 farmers are impacted
 4. Pin pulverizer – About 22,000 people are impacted.

g. Inter-RAMP meetings to share & review RAMP programs

- a) RAMP-India participated in different meetings to share & review the success of the programs under different working groups. They are as follows:
- b) Indonesia study tour in Oct 09
- c) Indonesia trip to understand student working group in Aug 09
- d) Monitoring & Evaluation meeting in Chennai in Sep 09
- e) Ashoka - Lemelson Tech4society conference in Hyderabad in Feb 10
- f) Technology group meeting in Ahmedabad in Feb 10
- g) Presentation & demonstration of Villgro/RAMP progress to the board of the Lemelson Foundation in Chennai in Feb 10.
- h) Interaction with the Lemelson Foundation & East Meets West for technology collaboration.
- i) Participated in the Technical Review meeting organized by the Lemelson Foundation to help assess the progress of RAMP in Sep 09.
- j) Interacted & shared knowledge & information about the processes with NCIIA in Feb 10.

8. Incubation projects

This section describes all the activities within the Incubation program conducted regarding incubation projects. It details list of projects that L-RAMP closed during the year and the reasons for the same. It details list of projects that are currently under incubation and highlights major activities carried out as part of incubation.

Exits in 2009 – 10

During 2009-10, L-RAMP exited from 9 incubation projects due to various reasons. The incubatees were communicated about the reasons for exit. The following table summarizes the projects which were closed during 2009-10.

Sl.No	Novel Sprinkler	Reason for exit
1	Plant oil stove	Market conditions are not favorable for the introduction of the product. Non-availability of the fuel.
2	Mastitis kit	Entrepreneurs are not willing to buy the technology as the business model is not established.
3	Mini-weeder	Prolonged product development efforts by continuously changing the design.
4	Brick making machine	Entrepreneurs are not willing to buy the technology as they are hesitant in an early stage technology.
5	IR Guard	Innovator is not interested in the small & marginal farmer segment as it is the priority for Villgro.
6	Nemate	Lack of entrepreneurial ability in the innovator to scale up the innovation.
7	Shreyas	Lack of entrepreneurial ability in the innovator to scale up the innovation.
8	Infant warmer	Entrepreneurs are not willing to buy the technology as they are hesitant in an early stage technology.
9	PSPL/Aqua guard	Lack of entrepreneurial ability in the innovator to scale up the innovation.

Current projects

This section briefly describes the projects that are currently incubated during 2009-10. It describes the key activities carried out during the year.

1) Rural Opportunities Production Enterprise (ROPE):

Description: A system innovation that links rural handicraft artisans to urban markets through a remote outsourcing model.

Problem addressed by the idea: Poor artisans in rural areas are not able to market their products effectively and therefore get inadequate earnings.

Support provided by L-RAMP:

- ROPE requested L-RAMP's support to refine its 3 year business plan. The plan was reviewed by the Incubation team and inputs were provided to modify the plan. L-RAMP gave inputs to amend the financial projections to improve bottom lines.
- L-RAMP conducted a social impact study by visiting one of the ROPE production centres. The study was given to ROPE to be included in their business plan.
- L-RAMP provided support to develop a banana fibre spinning machine. L-RAMP negotiated with the vendor on product specifications and participated in the negotiation process.
- L-RAMP conducted multiple business strategy revamping sessions with ROPE's management to concentrate on very specific market segments
- L-RAMP provided ROPE with talent through its Fellowship Programme to address caveats in ROPE's MIS and reporting systems.
- Villgro sat in the board meetings of ROPE as an invitee and advised on various issues.

2) Desicrew Private Limited/Rural Employment Opportunities through BPO

Description: It is an innovative Business Process Outsourcing model, where urban consumers outsource back-end support work to rural centres.

Problem addressed by the idea: Rural educated youth are unable to find employment opportunities, and as a result migrate to cities.

Support provided by L-RAMP:

- L-RAMP provided DesiCrew with talent through its Fellowship Programme which proved extremely successful in terms of developing marketing collateral, engaging new clients and reworking business plans.
- L-RAMP provided DesiCrew with Senior Management through the recruitment of DesiCrew's new Chief Operating Officer.
- L-RAMP provided introductions to potential customers in order to broaden the enterprises' client base.
- L-RAMP mentored DesiCrew to prepare itself to raise external investments through multiple brainstorming sessions.
- L-RAMP initiated and facilitated talks between DesiCrew and investors and is in the process moving towards raising equity to scale.

3) Vivega Engineering Works/Pin Pulveriser

Description: An energy-saving, improved design of a pulveriser that allows the grinding of oily material like coriander and chillies, as well as cereals.

Problem addressed by the idea: Cereals, coriander and chillies are ground in flour mills that consume a lot of energy, and risk adulteration due to friction in the machines.

Support provided by L-RAMP:

- L-RAMP approved a second phase funding of Rs.7,90,000 towards business development and product modification.
- L-RAMP helped the innovator in modifying manufacturing & market seeding plan. L-RAMP advised him to business strategy.
- L-RAMP helped in publication of two articles about the product – one in an English daily "The Hindu" and another in Tamil daily "puthiya thalaimurai" for which he got very good response. He got around 200 phone calls the next day when the article published in 'The Hindu' from all over. He sold around 30 machines to these enquiries.
- L-RAMP helped him in displaying his machine in Villgro's annual event "Unconvention". He was also part of the press meet during Unconvention because of which Pin Pulveriser got good publicity.
- L-RAMP gave him feed-back about the performance of the machines in different locations. L-RAMP found oil leakage with few machines during regular visits to the installations. After feedback, innovator included an oil inlet in the machine to check the oil leakage.
- L-RAMP discussed with Hand in hand and Viswas Retail Limited for collaboration for using pin-pulveriser as a livelihood source to self-help groups.
- Villgro provided talent through an internship with the objective to develop a viable livelihood generating business model for self-help groups and micro-entrepreneurs through pin pulverizer by getting customer feedback and profile.

4) Masuta Producers Company Limited/Tasar yarn spinning machine

Description: An improved silk yarn reeling machine which allows for increased output of yarn, highly efficient power consumption, improved yarn quality and thus, an improved user experience. The machine is to be used by the country's largest tasar (silk) yarn producer, Masuta.

Problem addressed by the idea: Traditionally, silk yarn is processed by using primitive tools. Ten years ago, an organization called CSTRl developed machines for reeling and spinning. These machines needed to be improved in order to meet market needs. As a result, the machines could not provide livelihood opportunities for yarn makers.

Services offered as part of incubation:

- L-RAMP approved an incubation support of Rs.10,00,000 and disbursed an amount of Rs.10,00,000 towards product development.
- L-RAMP facilitated the registration of the patent through its partner Altacit. 25 prototype machines have been fabricated and installed.
- L-RAMP helped Masuta rework the costs of adapting to new technologies and reduced the financial needs in their proposal considerably.
- L-RAMP helped Masuta reduce expenditures by using Villgro's preferred legal partners to obtain national patents at reduced prices.
- L-RAMP directly applied for Masuta's International Patent at New York on the enterprises behalf.
- L-RAMP is helping Masuta leverage grant and patient capital financing from public and private sources.
- L-RAMP showcased Masuta at a variety of forums to increase awareness of the company and its products.

5) Wondergrass Initiatives Private Limited/Rural houses made from bamboo

Description: A low-cost, prefabricated, modular house made of bamboo, allowing easy and faster construction.

Problem addressed by the idea: India falls short by around 25 million houses for its citizens. The housing shortfall is growing by nearly a million dwellings each year. The main reason for this shortfall is the high cost of quality housing.

Services offered as part of incubation:

- L-RAMP approved an incubation support of Rs.12,00,000 and disbursed Rs.9,75,000 towards rural housing prototype and business development.
- L-RAMP is providing support for technology development, pilot marketing and assistance along with raising external investment.
- L-RAMP provided 2 interns from IRMA who conducted market research which gave insight into the consumer perception pattern and customer segmentation.
- L-RAMP approached IDFC for equity funding.
- VIT TBI was approached for TePP funding. The proposal writing is in progress for TePP phase 2 grant funding.
- L-RAMP connected Wonder Grass (WG) with Altacit Global for consultancy on patenting the rural housing technology. L-RAMP also connected WG with Habitat for Humanity, one of the potential partner/client.
- L-RAMP helped innovator apply for Business World Young Entrepreneur competition which was won by the innovator which will give him higher visibility among investors and potential partners.

6) Coir Atlas/Rural Employment Opportunity through production of bamboo/jute based product for steel industry

Description: The innovation replaces wooden sleepers product created from bamboo segments wrapped in jute. Extensive testing reveals a sustainable product that out-performs the wooden alternative. The innovation is required in huge quantities for the steel industry. It has potential to provide sizeable employment opportunities for unskilled laborers in the region, especially women.

Problems addressed by the idea: Millions of cubic meters of timber are employed every year to make "sleepers" which are used in the transport of flat steel products between steel plants and fabrication units. The sleepers provide stability to the steel being transported while allowing for forklifts operation. The timber is rarely reused resulting in a tremendous strain on natural resources.

Services offered as part of incubation:

- L-RAMP has approved an amount of Rs.12,00,000 and disbursed Rs.4,00,000
- L-RAMP is supporting the business development by facilitating relationships with major steel manufacturers and assisting the innovator in establishing steady production to meet demand.
- Coir Atlas being a very early stage enterprise with a team comprising only the entrepreneur was starved for management talent – Villgro addressed this through its Fellowship Programme by providing a candidate with sound management and business experience to partner with the entrepreneur in the early stages of growth.
- L-RAMP has worked with the entrepreneur to reach a viable business model through repeated mentoring sessions.
- L-RAMP has worked with the enterprise to establish its presence in the market by nominating it for awards and competitions.

7) NSPL/Advanced Weather Monitoring Station

Description: The innovation is a low cost advanced Weather Monitoring Station named "Indradhanu" at nearly 1/5th of the cost of present weather monitoring stations using the local technology and advancements in telecommunications.

Problem addressed by the idea: 70% of the crop yield is decided by weather factors. Accurate weather data helps the agriculture advisories as well as farmers to follow suitable agronomic practices to increase the yield or to reduce the losses. To avail weather based agriculture insurance the farmer should be within 15-20 km radius from the weather monitoring stations. So, increase in weather monitoring stations also increases the number of farmers covered under weather based insurance scheme. But the current weather monitoring stations are very expensive and are very difficult to install in huge numbers to get highly granular weather data.

Services offered as part of incubation:

- L-RAMP has approved Rs. 25,00,000 towards product development, testing, trials and market seeding support in early years. The agreement is expected to be signed in March 2010.
- Villgro has recruited a fellow to work with M/s Neurosynaptic Communications Private Limited with the objective to develop a business model for "A Grid of Automatic Weather Stations & Its Derivative Services".

8) eJeevika Private Limited/Rural Placement Services

Description: Time and money is spent by youth from rural parts of India in moving to cities in search of jobs that are not guaranteed. Employers, on the other side have a hard time recruiting skilled staff and training an employee. eJeevika, an ICT based training and placement bureau, has identified this gap and is targeting both the rural job seekers and unsatisfied employers based in cities located around villages.

Problem addressed by the idea: Information & Computer technology (ICT)- based training & placement company. The difference from traditional training and placement companies, is that eJeevika uses voice-to-text software to interview semi-literate candidates making it easier for them to apply for jobs. Also it works with the recruiting companies to provide customised training, and then assured placement.

Services offered as part of incubation:

- L-RAMP approved an amount of Rs.16,00,000 and disbursed an amount of Rs.11,50,000 towards pilot testing of the business model.
- L-RAMP is supporting the pilot running of the centres in rural areas where educated rural youth can undergo training using ICT based model.
- Groundwork to start the pilot in Cuddalore, a town near Pondicherry is being done. Candidates are identified. Strategic partnerships for sourcing are identified.
- Proposal form for National Skill Development Corporation (NSDC) was completed which will help eJeevika to raise investment from NSDC and also to get access to Govt. infrastructure to carry out candidate training.
- Financial projection for next 3 years was completed which helped eJeevika to plan better on the cost structure and to set realistic targets.
- L-RAMP featured eJeevika in Doordarshan, Hindu Retail Plus and also nomination for India Today Emerging Women Entrepreneur Award lead to winning. This helped eJeevika to bring down their marketing and branding cost significantly.
- Villgro provided a Fellow to work on challenge mapping and business development of eJeevika.
- L-RAMP also connected eJeevika with potential partners for sourcing candidate from NREGA database, Madura Finance and Villgro stores as both client and kiosk partner, CCD for training kiosk partnership.

9) Sustaintech Private Limited/Biomass Cooking Stove for small restaurants in villages

Description: Roadside food and beverage vendors consume large amounts of firewood to fuel their stoves and incur heavy costs while doing so due to the employment of inefficient stoves. The environmental and health externalities of these inefficient stoves are equally alarming.

Problem addressed by the idea: A set of highly efficient cook stoves aimed specifically at micro institutional users, offering efficiency levels of up to 50% over the current models. Sustaintech stoves reduce biomass requirements and costs considerably and have been designed to minimize health and environmental impact significantly.

Services offered as part of incubation:

- L-RAMP has approved an incubation support of Rs.25,00,000 towards pilot marketing and establishment of sales channels of the Sustaintech product line. Marketing, senior management costs and development of consumer credit models are all part of the incubation plan. A first installment of Rs.6,25,000 was disbursed.
- L-RAMP has successfully helped Sustaintech leverage a large external investment by sharing diligence with an offshore investor and vouching for the product and the innovators credibility

10) Glotech Organic Private Limited/Nemate

Description: A pesticide-fertilizer formulation that combines the pesticidal properties of neem with potassium compounds to reduce the intake of inorganic fertilizers and improve soil quality.

Problem addressed by the idea: Excessive use of synthetic fertilizer has resulted in pesticide resistant pests, and agricultural land becoming deficient in potassium.

Support provided by L-RAMP:

- L-RAMP helped reach customers through Villgro stores.
- L-RAMP approved a plan for second phase of funding for business development.

11) VIP-Bioproducs Private Limited/IR Guard

Description: An herbal product that, through its ingredients, raises the immunity of chicken.

Problem addressed by the idea: Bacteria and viruses that affect poultry have become immune to synthetic medicines.

Support provided by L-RAMP:

- L-RAMP provided human resource through the Fellowship program with the objective to understand and develop markets in North India. As a result of this, the innovator was able to identify 3 potential regions, namely, Bhopal, West Bengal and Raipur. Market identification resulted in commercialization of IR Guard in these regions to a tune of 100 litres.
- L-RAMP approved second phase of funding for business development.

12) Poly Sensor Private Limited/Aqua sense

Description: A low cost, easy-to-use, portable device to check the purity of drinking water and thereby prevent many rural public health problems.

Problem addressed by the idea: The water in many rural areas is contaminated, but is not tested because existing methods are either expensive and complex, or cumbersome and inaccurate.

Support provide by L-RAMP:

- L- RAMP held discussions with the innovator to understand his needs to successfully pilot market the innovation. L-RAMP reviewed the business plan and provided inputs on commercialization and shared its knowledge of distribution networks. L-RAMP put in touch with Naandi Foundation, an NGO that works in water for a possible collaboration.

13) Dr.Sathya Jagannathan/Infant Warmer

Description: A low-cost, easy-to-maintain baby warmer for newborns in rural hospitals.

Problem addressed by the idea: Rural hospitals are not able to afford the purchase or maintenance of traditional incubators or infant warmers.

Support provided by L-RAMP:

- L-RAMP developed a third version of the warmer in-house.
- L-RAMP identified more than 5 potential entrepreneurs, sent proposals and held discussions with them to understand their interest in buying this technology.
- L-RAMP held discussions with East Meets West, an NGO in Vietnam, to transfer any of their technologies to India with the help of Dr.Sathya.

14) Sudarshan/Shreyas Sheep Rearing Model

Description: A business model that integrates all the critical components necessary for sheep rearing. It uses twin innovations – a service innovation and a product innovation- as a result of which rearer incomes increase and stabilize.

Problem addressed by the idea: The sheep rearing sector is an important but unorganized sector with many rearers being nomadic and unable to enjoy a decent quality of life.

Support provided by L-RAMP:

- L- RAMP suggested innovator to look at different models including focusing on small farmers who have sheep count of less than 50.

9. Testimonials from Innovators and beneficiaries of Innovations

" ... My monthly income has more than doubled from Rs.1,000 to Rs.2,500 since I joined ROPE and now I am able to support my family of five including parents and two sisters"

Revathy, artisan with ROPE, T.kallupatti

* ...

SOCIALLY RELEVANT PROJECTS 2009-2010

During the year 2009-2010, two projects sponsored by the 1967 batch alumni of IIT Madras Ramachandran Jaikumar Project for Rural Technologies (RJPRT) have been successfully completed.

I. Water Quality Test Kit:

In many rural areas, people are not aware of the quality aspects of the water they use for drinking and other purposes. In this context, the objective of this project was to develop an easy to use and inexpensive kit for testing water quality and training NGOs working in rural areas in its use. Dr. Ligy Philip of the Department of Civil Engineering, along with her students Dr. R. Elangovan and Mr. D. Kumaran developed two test kits, one for 14 parameters and another for 24 parameters. These test kits have been field tested extensively. School students in Vilathikulam town in Tamilnadu were trained to use these test kits. Several training programs have been conducted in Krishnagiri district under the sponsorship of UNICEF and it plans to use these test kits for training and provide them to NGOs for continuous use in Tamilnadu and elsewhere in India. It has been found that use of this kit for continuous monitoring of quality of drinking water has improved the public health conditions significantly.

II. Biogas from Non-Edible Oil-Seed Cakes:

Rural energy supply is of primary importance to improve the quality of life of village people. With increased demand for energy due to urbanization and industrialization, the rural requirements are not met adequately. This project was aimed at development of an inexpensive, easy to operate and easy to maintain reactor for biogas generation from non-edible oil-seed cakes, for producing electricity for running a micro-industry in rural areas. Dr. T.S. Chandra and Dr. K.B. Ramachandran of the Department of Biotechnology are working on this project. They have successfully demonstrated how biogas can be generated from non-edible oil seed cakes through studies in a model reactor. Presently they are in the process of scaling up the reactor to a larger size for enough biogas generation to run a micro-industry in a rural area.

The Class of 1981 of the IIT Madras Alumni has, of their total funding, allocated Rs. 30 lakhs for Socially Responsible Projects requiring that the funds should be utilized for projects that would leverage the strengths of IIT Madras to improve social conditions in India. Under this program, following eight projects have been completed / initiated so far.

1. Facilitating Cognitive Development in Infants with Motor Impairments

A child's earliest understanding of the world comes from independent exploration. This typically involves reaching objects by rolling, sitting up and crawling. Unfortunately, providing for independent movement for infants with cerebral palsy is a difficult task. Dr. Anil Prabhakar and Dr. Chandrachoodan of Department of Electrical Engineering, along with Vidyasagar, created an enabling device for infants with cerebral palsy and document their developmental milestones. The I-Tilt-and-Go was built to address the issue of independent movement among infants and children. This project has been attracting nationwide attention.

2. Development of Adjustable Braces for Children Affected by Polio

The braces for polio affected children need to be refitted often because children outgrow them rapidly. The frequent refitting poses both financial and logistical hardships for the many children in rural areas and also for many children below the poverty line who have to travel long distances periodically in order to have functional braces. Dr. Sujatha Srinivasan of the Department of Mechanical Engineering, along with The Bhagwan Mahaveer Viklang Sahayata Samiti, Jaipur has developing designs for such adjustable polio braces.

3. Devices to Support Disabled Children

Dr. M. Manivannan of the Department of Applied Mechanics is working along with the Spastic Society of Tamilnadu (SPASTN) on this project. The keyboard is the most common method of controlling computer for most of people and almost all computers equipped with a keyboard. In addition, it is generally most convenient and cheapest access method. How to adapt standard keyboard or provide an alternative keyboard to fit special needs for individuals with cerebral palsy is a challenging task for rehabilitation professions and is the focus of this project.

4. Government Funding for Healthcare: Developing a Model for Payer Targeted Approach

Most of the current public sector spending in healthcare in India has been on the provider segment (i.e., hospitals and health centers). While the role of government hospitals and health centres have been laudable, questions related to the inefficient functioning of the government funded hospitals are becoming more and more relevant. To increase the efficiency of healthcare spending by the government, new models of public sector health funding that directly targets the payers (i.e., patients) are now being explored. Dr. G. Arun Kumar (Department of Management Studies), Dr. D. Acharya (Department of Humanities and Social Sciences) and Dr. A. Thillai Rajan (Department of Management Studies) are the principal investigators of this project. In collaboration with Hand in Hand, a non-governmental organization working in the field of rural healthcare, the project aims to bring healthcare facilities to the doorsteps of rural masses. A remote village of 800 people in Kancheepuram has been selected for the pilot project, which would run for a year.

5. VIDYA-SRUTHI- Knowledge through Voice: Making Information Accessible to the Visually Impaired

Mr. Umesh Sachdev, RTBI under the guidance of Dr. Ashok Jhunjhunwala and Dr. Devendra Jalihal of the Department of Electrical Engineering is attempting at making personalized and relevant information accessible to the visually impaired, using voice as the medium and mobile phone as the access channel. The main objective of the project is to develop a system that enables access for the visually impaired, to any information or material available on web or stored in electronic format through the medium of voice interaction using telephony and mobile infrastructure, and to complement this channel using SMS. In addition to enabling access, the system will also enable interaction, transaction and actions (interrupts) using the medium.

6. Design and Implementation of Cableway for Post-harvest Resource Collection

In the post-harvest period a large manpower is required to transport the agricultural produce (sugar cane, banana bunches, korai grass, paddy etc) from the field to the collection point which is situated on its periphery, typically near a road. In recent times the lack of availability of sufficient labor has caused severe problems in the collection of agricultural resources and is a big discouragement to the farming profession. Dr Shankar Krishnapillai of the Department of Mechanical Engineering and Mr. T.N. Sivasubramanian of *Pothu Vivasayeegal Sangam* are developing a pilot cable way system capable of carrying a load of farm produce to the collection point.

7. Micro-Hydro Power Unit with Savonius Rotor Based Water Turbine

The problem dealt with here is how to use the irrigation canal water flowing from the canal to the field to generate electricity in small amounts. At some locations heads of up to 2 m are available between canal and field. The various irrigation canals in Karur which ultimately drain into the Cauvery river are an ideal choice to implement this concept. Dr Shankar Krishnapillai of the Department of Mechanical Engineering, Mr. Abhijit Date (RMIT University, Australia) and Mr. T.N. Sivasubramanian of *Pothu Vivasayeegal Sangam* are developing a simple Savonius Rotor water turbine with 20cm dia and 18cm thick to generate this power.

8. To Design And Fabricate A Desalination Unit For Water Purification Using Solar Energy

Desalination technology is a familiar process for removal of inorganic impurities. Reverse osmosis is well established technique in this respect. The process involves passing impure water, under high pressure, through a membrane to get pure water. The process is complex and needs heavy capital investment. The running cost, for maintenance, is also high. More over the waste water disposal makes it imperative to be located near sea coast. Prof. T.K. Varadarajan and Prof. R.P. Viswanath of the Department of Chemistry are developing a working prototype for removing the dissolved impurities from ground water and produce potable water which can be installed even in remote rural areas.

6.3 CENTRAL ELECTRONICS CENTRE

6.3.1 About the Centre

The Central Electronics Centre (CEC) was established in 1971 with the main objective of servicing and maintaining the wide variety of sophisticated electronic equipment. The significant advantage, this Centre has over the other similar organizations is the mixed environment, i.e a blend of academic environment and industry like working atmosphere.

The Centre is housed in dust free environment. The Centre has a team of qualified, experienced and talented staff members, trained in Germany in various fields of electronic instrumentation. The infrastructural and equipment facilities have been adequately strengthened over the years by successive collaborative Indo-German Projects.

While establishing this Centre, i.e. the way back in 1971, the critical need for training the service engineers for maintaining the electronic equipment was foreseen and an 18 month training program, the first of its kind, in the country was started in the same year. In view of large demand for these trained personnel both within the institute as well as outside, conducting such long term Training Programs has become one of the important activities of the Centre.

The Centre has continuously enlarged and diversified its activities and now it offers the following services:

- Servicing and Maintenance of Electronic Equipment
- Training Programs for Manpower Development
- Calibration of Electronic Test & Measuring Instruments
- Testing of Electronic Products
- Development of Custom built Equipment
- Consultancy Services to industries in the above areas.

So far, this Centre has lent its expertise in the above areas to more than 230 industries and other organizations in and outside the country.

As a part of Tailor Made Training Programs; four special 12 weeks Training Programs of unique in nature have been organized to retrain the Radio Officers of Merchant Navy to become Electro-Technical Officers. The project was sponsored by AMET (Academy of Maritime Education and Training), Chennai.

In the area of Renewable Energy too, this Centre has been playing a key role by conducting several Training Programs in the area of Solar Photo Voltaics (SPV). 40 SPV programs have been conducted and more than 860 personnel were trained. The project was sponsored by IREDA (Indian Renewable Energy Development Agency), New Delhi. SPV Laboratory (indoor and outdoor) facilities have been established and Solar Photo Voltaic Park has been developed to promote the developmental activities in this area.

As the Centre had expanded its activities, most of the laboratories have been upgraded and moved to newly constructed building. In 2001, this Centre received ISO 9001:2000 Quality Certification from RWTÜV, Germany for having established the Quality Systems in its services. Also, the Centre received NABL Accreditation in 2004 for Testing and Calibration Laboratories in accordance with ISO/IEC 17025 Standards.

6.3.2 Activities:

1. Training Programs: Long Term CEC Training Program:

XXV Batch of Training Program (2 years duration) was commenced in the month of February, 2010. Eight candidates joined the program. The total number of candidates in XXIII and XXIV Batch of CEC Training Programs is 16.

2. Laboratory Sessions for B.Tech\B.Tech Dual Degree Students:

Laboratory Sessions for B.Tech I Year (Part of WS101/WS102/WS1010) were conducted during odd /even semester of 2009-2010. Laboratory Sessions on 'Mechatronics Systems Design Laboratory Course' ED508 for B.Tech Dual Degree Students of the Department of Engineering Design was conducted between January – April, 2010.

3. Workshop / Courses conducted:

Ten days Training Program (18.5.09-29.5.09) on "Solar Power Systems" was conducted for the entrepreneurs, sponsored by MSME Development Institute (Govt. of India). 29 participants have attended the program.

4. Some of the Important Consultancy Projects completed:

S.No	Co-ordinator	Title of Project	Organisation	No of Assign.	Project value Rs. in Lakhs
1	Dr.M.Kumaravel	Servicing of Calibrator and Calibration of Meters	Instrulab	2	0.55
2	-do-	Servicing & calibration of Temperature Calibrator	MSME	1	0.24
3.	-do-	Testing of UPS	Donvey Power Control Systems (P) Ltd	1	0.292
4.	-do-	Servicing of Linear Encoders	Design Desk(India) Pvt Ltd	3	0.40
5.	-do-	Servicing of RF Signal Generator	Siemens India Ltd	1	0.243
6.	-do-	Servicing MGC Boards	Kody Tech Pvt Ltd	2	0.27
7.	-do-	Testing of Inverters	Nisaki Technology	2	0.128
8.	-do-	Calibration of Clamp meters	Siemens India Ltd, Chennai	1	0.07
9.	-do-	Servicing of Oscilloscope	PS Electricals	1	0.17
10	-do-	Testing of UPS	ETDC, Chennai	1	0.07
11	-do-	Servicing of Dc Source & Calibration of Meters	MTL Instruments	9	0.40
12	-do-	Servicing of Texture Analyser	Visalakshi Gelchem, Chennai	1	0.17
13	-do-	Servicing of Universal Calibration System	Roots Industries	1	0.06
14	-do-	Servicing of Mulimeter	Anjana Electronis Pvt Ltd	1	0.15
15	-do-	Servicing of Encoders	SEP Energy Pvt Ltd	1	0.05
16	-do-	Servicing of Scope & Insulation Tester	Elmack Engg Services	2	0.20
17	-do-	NABL Assessment	NABL	1	0.06

5. Conference Presentations:

Dr.M.Kumaravel gave presentation on "Draft Guidelines and PV Standards for Solar PV Power Plants in " PV + Solar India" International Conference in Mumbai on 4 th and 5 th March 2010 and chaired a session on " Infrastructure Development, Capacity Building and HRD Programs in the area of Solar Phtoto Voltaics".

6. Invited Lectures:

Dr.M.Kumaravel delivered an invited lecture on "Priority Measures towards Enhanced Reliability of PV Installations" during National Seminar on "Green Power Revolution" organized by the Institution of Engineers AP Chapter, Hyderabad on 22.01.2010.

7. Committees Served:

Dr.M.Kumaravel served in the following Committees:

- a) Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Minjur, Chennai.
- b) Chairman of Expert Committee for Technical Evaluation and Installation of SPV Plant at CWET (Centre for Wind Energy Technology), Chennai.
- c) Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Nemmili, Kancheepuram Dist.
- d) Member of Advisory Board for "Institute of Energy Studies" at Anna University.
- e) Member of Program Committee of SEMI in organizing International Conference Solar CON India 2009 and Solar CON India 2010.
- f) Vice Chairman of Program Committee in organizing National Seminar on "Green Power Revolution" by the Institution of Engineers at Hyderabad.
- g) Member of PV Training Programs Advisory Committee for Engineering Staff College of India (ESCI), Hyderabad.
- h) Member of PV Standards Development Committee of SEMI, Bangalore.
- i) Member of Doctoral Committee Institute of Energy Studies, Anna University.

8. Development Works completed:

Development of Solar Photo Voltaic Powered white LED Lighting Systems for Sittiling, a tribal village in Dharmapuri District.

9. Ongoing Development Activities:

- (i) Evaluation of "Sollektor" (Indoor Lighting Systems by guiding of natural sunlight through polymer optical fibres) developed by Georg Simon Ohm University, Nuerenberg, Germany and Development of Indianised Sollektor through Design Modification to suit Indian conditions.
- (ii) Solar Photo Voltaic powered Seawater Desalination ("Suryajal") Systems in Standalone as well as Hybrid versions.
- (iii) Preparation of Preliminary Project Reports on 'Design and installation of Solar PV Power Plants for different sites in the country.
- (iv) Solar Photo Voltaic Powered Fans and Air Coolers at IIT Madras

10. Other Activities:

- Preventive Maintenance of all UPS installed in the Institute has been taken up in Coordination with the UPS Suppliers.
- Documentary Film on CEC was prepared during the Open House.
- Testing of UPS from new vendors for entering into AMC.

11. Staff Strength:

The Centre has 10 Technical and 2 Administrative staff.

6.4 COMPUTER CENTRE

Introduction:

The Computer Centre was established in 1973 to provide Central Computing resources, facility and support to the research initiatives of the Institute. Be it IBM 370 in the 70s, Siemens system in the 80s, SGI and sun system in the earlier part of this millennium the computer centre at IIT Madras has maintained a reputation of a professionally managed centre with the state of the art facilities. In keeping with the trend, the High Performance Computing Environment (HPCE), the back bone net work, data centre and the workflow environment are being upgraded continually to cater to the ever-increasing demand on the resources of Computer Centre at IIT Madras.

High Performance Computing Environment:

Aerospace engineering, Atmospheric and Ocean Modeling, Design of large structures, Flows and Combustion, Material Science and Engineering, Modeling social, Ecological and Physical Networks, Molecular Modeling, Spectroscopy and VLSI are some of the active research areas in IIT Madras, where such large scale computing will be used. The Vega Super cluster has compute nodes based on HP Proliant DL160 G5 servers with Quad-core Intel Xeon processors. This Cluster consists of 256 nodes of which 128 nodes are in infiniband (IB) and the rest 128 nodes are in gigabit (GB) with one head node in each. Each compute node consists of Dual Processor, Quad-core, Intel E5472 processor, 16 GB RAM and 250 GB SATA Hard disk. The HP Proliant Rack server DL160 based Cluster options are built with:

Seven HP 10642 G2 Racks hosting 2048 core Compute Server with HP's XC cluster software and PBS-Pro for batch processing.

- One separate rack for Infiniband Switch option
- One separate rack for NAS with a configured storage of 30TB and Tape Library containing 48 tapes for automatic backup.
- Three separate racks for HP SFS parallel file system with RAID-5, having a licensed storage of 80TB bundled.
- SFS is shared by both the clusters.

Information about HPCE, usage of clusters etc. is available in the website <http://hpce.iitm.ac.in>

The following application soft ware are available to the users on these clusters :

Abaqus 6.8 EF1, Ansys CFX Ver 11.0, Fluent 12, Gambit 2.46, Mathematica 5, Matlab 2009, MSc Products – Marc, Dytran & Nastron, and Star CD 4.0.

COMPILERS: IntelC, C++ and Fortran

LIBRARIES:

Intel Cluster Open MPI for Intel Compilers for Linux, Intel MPI Lib. 3.1, Intel Math Kernel Lib. 10.0, GSL and GSLCBCLAS Lib., and IT++ 4.0.6.

TOOLS:

Intel Trace Analyzer and Collector 7.1, Intel MPI Benchmarks 3.1, and Intel Debugger 10.1.

The HPCE group is under the guidance of Prof. P B Sunil Kumar, Member, Computer Committee.

Networking:

The Campus Network was established in 1994 connecting about 18 buildings in the academic zone using telephone cables to interconnect local area network in the buildings. A high speed campus network was established connecting all the buildings in the academic zone on Fibre Backbone and ATM 622 Mbps communication technology. The campus network has a 10Gbps backbone interconnecting the three zones, Academic, Hostel and Residential. Number of nodes in the campus is more than 6000. The network equipments in the academic zone are upgraded to provide 1 Gbps and 10/100 Mbps connectivity to the nodes. All the buildings in the academic zone were provided with dual fibre connectivity. The Internet bandwidth started with 64Kbps in 1996 is 45Mbps to-day.

In view of the proliferation of the use of desktop PC's, the Centre runs a PC Maintenance cell to provide services to handle hardware problems and maintenance of PCs and peripheral devices in the institute, including those used in projects.

The networking is generally monitored by Dr. Devendra Jalihal, Member, Computer Committee.

Workflow:

The on-going administrative computerization efforts through computer centre include the following services:

Administration

- Finance & Accounts
- Hospital
- Engineering Unit
- Entrance Examinations for Admission (JEE, GATE)
- Hostels
- Stores & Purchase
- Academic Section

These services are undertaken by the work flow group headed by Prof. Koshy Varghese, Member of Computer Committee.

Website:

The information updates from various sections of the institute are carried out periodically by the website group, headed by Dr. K. Srinivasan, member of the Computer Committee.

PC Cell:

The Academic zone personal computers and peripherals are repaired at PC Cell on call basis. PC's are repaired either at the customer's site or at the PC cell of the computer centre depending on the nature of complaint.

Data Centre:

The Chairman of the Computer Committee, Dr. B V SSS Prasad, takes care of the Data centre activities and general administrative work related to the computer centre.

Details of Staff

Major Area Specialization

Title/Name and Qualification	
Senior Systems Engineer Dr. S. Jayaprakash Ramesh S.K., M.S.	Software Engineering, Computer Networks, e-Governance System Administration, MIS, Data Management, Data Processing, System Programming
Systems Officer Gr.I Sourirajan C.S., M.Sc.	System Administration, Programming Languages, Application Software Development, Data centre activities.
Assistant System Engineer Baman Banavath B.Tech (CS)	System Analysis & Design, AIX A, Windows NT server Administration, INTERNET, Database Management System, Power builder, Visual Basic GUI Applications
Venkatesan C.S., B.E.(CS), M.Tech.(IT)(MBA), M.Tech (C level), MBA	Software Engineering, Operating Systems (Unix, Windows, Sun, IBM), Database management systems, Programming Languages (C,C++, Cobol), Computer Networking, System administration, HRD Management.
Technical Officers (Systems) Gr.I Ravichandran V., M.Sc.	Application Programming, Database Management systems, Systems Programming, System Administration
Vijayaragavan C.N., M.Sc., & M.Tech. In Ind. Maths	Computer Network and Data Centre Operations, Operating Systems, System Administration
Sreekumar P.Y., B.Tech. (CS)	Computer Networks, Database Management Systems, Systems Administration
Senior Superintendent D. Hariharan	Antivirus Maintenance and Supervising, and Software Library Maintenance

Technical Superintendents

Selvaraju V., B.E. (ECE)

PC hardware and software maintenance, trouble shooting. System development and BIOS programming using Microcontroller and Microprocessor based Training; PC Cell Trainees in Hardware and OS (Windows 9X/NT/XP/2000 and Linux), In-charge, Residential Zone, Campus Networking.

Venkata Subba Rao T., B.Tech. (CS)

Maintenance, Troubleshooting and Repair of SMPS, Mother boards, Printer, Monitors and other peripheral devices, Installation, Administration and Maintenance of Windows 9X, NT, XP, 2000, Linux, Novel Netware operating systems. Training on PC Maintenance Cell Trainees and repairs personal computers. And Annual Stock Verification and Report Preparation.

Anandkumar S., B.E. (ECE)

Computer Networks, Operating systems, Server and PC Hardware, Email service, System Administration.

Project Associates/Project Technicians

There are One Project Officer, Twelve Project Associates and 19 Project Technicians in the Computer Centre to support the Centre operations.

DST Project

Dr. S. Jayaprakash is involved in DST Project.

Title	Development of Gigabit capable Passive optical Network (G-PoN) technology and its performance analysis under a new DBA algorithm
Coordinator/ Dept	Dr. Manivasakan, EE Dr. Harishankar Ramachandran, EE Dr. S. Jayaprakash, CC
Sponsoring Agency	DST
Value (Rs. in lakhs)	18.79
Duration	2 years

Accomplishments:

GATE and JMET Examinations; M.Tech.and M.Sc.admissions 2009-2010

Mr. S.K. Ramesh assisted in the successful conduct of the GATE 2009, JMET 2009 and JAM 2009 examinations along with the process of admissions to M.Tech and M.Sc.

JEE 2009-2010 Data Processing

Mr. C.S. Sourirajan and S. Anandkumar involved in the successful conduct of the JEE 2009 related computer operations that included Applications query on Web/IVR, Data Processing, and results publishing in Web/IVR.

JMET/CAT 2010 Results Processing

Mr.S.Anandkumar is involved in developing website and database for JMET /CAT exam results as request from Department of Management studies

Web based online Lab class for CEC

Mr.S. Anandkumar is involved in developing website for CEC for online lab notes and assignments for Btech students
Antivirus

Server-based McAfee software has been installed in a server at the Computer Centre that provides automatic updating. Installation in individual machines is provided through a website at Computer Centre. Help is provided to the users who face difficulties in activating or updating this from time to time. Clean-ups and reinstallation (if required) are also done.

Other Activities:

- Computer Centre organized a Workshop on "Fluent and Gambit" from 07.09.09 to 11.09.09.
- Computer Centre organized a Workshop on "Abaqus software " from 26.10.09 to 30.10.09

Publication:

1. V G Renumol, D. Jankiram and S. Jayaprakash, "Identification of Cognitive Processes of Effective and Ineffective Students during Computer Programming" ACM Transaction on Computing Education (to be published)

Memberships of Committees:

- Dr. S. Jayaprakash was invited to serve as a Member of Executive Committee of Ramanujan Computing Centre, Anna University, Chennai
- Dr. S. Jayaprakash was invited to serve as a Steering Committee Member 'e-Governance", University of Madras
- Dr. S. Jayaprakash was invited to serve as a Member Technical Committee, Tamilnadu State Data Centre, ELCOT.
- Dr. S. Jayaprakash was invited to serve as Member of Doctoral Committee for about 10 Ph.D students, Dept. of Computer Science & Engineering, Anna University, Chennai
- Mr. C.S. Venkatesan, Asst. Systems Engineer was enrolled as a Life Member in ISTE from 2004.

Institute Projects:

S. No.	Title	Coordinators / Staff
1.	Campus Network	Dr. S. Jayaprakash Mr. P.Y. Sreekumar Mr. C.N. Vijayaraghavan Mr. V. Selvaraju Mr. S. Anandkumar
2.	JEE Data Processing	Mr. C.S. Sourirajan Mr. S. Anandkumar
3.	GATE Data Processing	Mr. S.K. Ramesh Mr. V.Ravichandran
4.	M. Tech Admission	Mr. S.K. Ramesh
5.	Academic Processing	Mr. P.Y. Sreekumar
6.	Institute Workflow (New)	Mr.C.S. Sourirajan Mr.V.Ravichandran
7.	Hostel Pay roll System	Mr. C.S. Sourirajan
8.	Teachers Evaluation	Mr. C.S. Sourirajan Mr.P.Y. Sreekumar
9.	Anti-virus facility	Dr. S. Jayaprakash Mr. D. Hariharan
10.	Institute payroll	Mr. S.K. Ramesh

7. CENTRAL FACILITIES

7.1 Central Workshop Facilities:

Central Workshop was established in the year 1959. Initially it consisted of shops associated with three major production processes, i.e. metal cutting, metal joining and metal forming. Later on, sections of other modern production processes were added

Presently Central Workshop of our Institute is having the following shops and sections and their activities during the period April 2009- March 2010 are given below.

S.No	Shops	Facilities
1	Carpentry	Planing, crosscutting, turning, thickness reduction, polishing, teeth sharpening, blade sharpening and grinding
2	Fitting & Tool Room	Filing, drilling, tapping, jig boring, tool milling, engraving, marking, slotting, grinding, cutting and Bosch power tools
3	Machine Shop	Shaping, milling, turning, planing, radial drilling and tool and cutter grinding
4	Gear Shop	Spur, helical & bevel gear cutting
5	Electrical Shop	Simple wiring & winding, simple electrical circuit
6	Instrument Shop	Calibration of Pressure gauges upto 100 kg/cm ² . NC trainer lathes, milling machines
7	Welding Shop	Arc welding, gas welding, brazing, profile cutting and Plasma Arc cutting.
8	Foundry Shop	Oil fired furnace and sand mixing plant
9	Smithy Shop	Hand forging, power hammer, heat treatment
Sections		
10	Pneumatics and Hydraulics	1. Festo training kits with valves. 2. Electromagnetic Kit 3. PLC to demonstrate Pneumatics 4. Practical demonstration like auto wheel brake system. Weight lifting equipment for demonstration from Eukon Bosch. Hydraulic Kit with valves for Students. Bosch training kit for students Demonstration.
11	FRP	Process material demonstration. Making of dust bin and hand shield for welding.
12	Plastics	Introduction to process materials, Practical demonstration in making cycle token, key tags, caps & Folders
13	Instrumentation & Communication Lab	Introduction to basic communication systems. Need for modulation. Analog modulation techniques. Demonstration for optical fiber communication. Introduction to various kinds of transducers. Microprocessor based control applications, Example of stepper motor control and traffic light controller.
14.	Quality control lab	Measurements, metrology Terminologies, Measuring instruments properties, Calibration Standards, Traceability and Errors in Measurements

ISO 9001/2000 recertified in August 2008

Besides the above, Central Workshop also bears the responsibility of maintaining institute vehicles (Light and Heavy, 20 Nos.) and the environment friendly **Battery powered electrical vans(10 Nos)** running on campus.

Central Workshop very effectively caters to the undergraduate's programme by imparting training in various shops cited above.

During the year under report 682 undergraduates (1st year B.Tech) received training under course titled WS101(2 Credit), WS102 (1 Credit) and WS 103 (1 Credit) course exclusively for the students of Engineering Design during 1st semester). The details of the training are given below.

Department	No. of students	Training received in
Electrical Engineering	99	Fitting Electrical Electronics Carpentry Welding Turning Pneumatics & Hydraulics Plastics & FRP Milling & Shaping Foundry Smithy Gear & Tool room Quality control & Communication Power Tools
Engineering Physics	22	
Mechanical Engineering	123	
Metallurgical & Materials Engineering	38	
Aerospace Engineering	48	
Chemical Engineering	75	
Naval Architecture & Ocean Engineering	42	
Civil Engineering	84	
Bio- Technology	48	
Computer Science	47	
Physics (Dual degree)	10	
Engineering Design	46	
Total	682	

Central Workshop executes fabrication of test set-ups and their accessories related to PhD, PG and UG Projects. 354 Work Orders were executed during the year 2009 – 2010.

A new module of training known as "Power tools" has been introduced in the year 2009 – 2010 in lieu of Fitting and Carpentry.

A variety of Trainer kits has been introduced in the Electrical Section for all exercises.

7.2 Central Gas Supply Unit:

The CGSU procure Industrial Gases and Special Gases from various manufacturers/suppliers and issues to various Dept/Labs and sections of the Institute for research and practical classes.

The following are two kinds of Gases ordered and issued to various Dept/Labs and sections of the Institute for the year 2009-2010.

- Industrial Gases:-Oxygen, Nitrogen, Dissolved Acetylene, Standard Hydrogen & Carbon-di-Oxide
- Special Gases:- High Pure Grade –I of Nitrogen, Oxygen, Hydrogen, Argon, -Zero Air & Helium.

Gases	Quantity Ordered (appro in cum)	Quantity supplied actual consumption in cum
Industrial Gases		
Oxygen	3000	3073
Dry Nitrogen	6000	3654
Dissolved Acetylene	300	217
Standard Hydrogen	500	56
Carbon Di Oxide	2000 Kgs	1488 Kgs
Special Gases		
High Pure Nitrogen Gr-I	3500	3182
High Pure Oxygen Gr-I	500	448
High Pure Hydrogen Gr-I	500	483
High Pure Argon Gr-I	2000	1253
Zero Air	1000	490
Helium	200	98

7.3 Central Glass Blowing Section:

The Central Glass Blowing Section is one of the important infrastructures facilities of the Institute since 1972. Being a central facility these sections undertake design and fabrication of sophisticated glass apparatus for research and development in various departments.

This section has a range of modern glass working equipments largely procured from Germany as a component of the collaborative program and these include; horizontal cum vertical lathe, universal lathe forming lathe and high vacuum system. The section is also well equipped with a good number of sophisticated burners, drilling and cutting machine, grinding and polishing equipments and such other tools necessary for fashioning out a variety of glass apparatus. The section has adequate facility for quartz working and has developed high level of expertise in this area.

Following are some of the sophisticated apparatus fabricated:

Cryostat, spherical and cylindrical Dewar flasks, lugging probe, laser housing tube with water jacket, reactor tube, vacuum tube collector for solar energy and quartz wares.

During April 2009 to March 2010 the section undertook 189 work orders from various departments.

8. CENTRAL LIBRARY

The Central Library is well equipped with all modern facilities and rich information resources in the forms of CD-ROMs, on-line databases, e-journals, e-books, e-standards, e-patents and various other printed information materials (Books, Journal back volume collections) on Applied Science, Engineering, Technology, Humanities, Management, Social Science and other new emerging areas. The Central Library holds 4,42,175 collections, 1,384 current journals, catering to the information needs of 7,466 members by providing various value added services with the help of modern information handling tools and techniques. The major activities added in the Central Library during April 2009-March 2010 are given below:

8.1 Library Information Services Statistics:

A. Collections	2008-2009	2009-2010
Books	2,37,952	2,42,720
Theses	3,887	4,457
Pamphlets and Reports	4,100	4,123
Microfilms/Fische	1,842	1,842
Book-Bank	14,259	15,639
Current Periodicals by Subscription	1,346	1,297
Current Periodicals by Exchange/Gift	87	87
Back Volumes of Periodicals	1,02,275	1,05,677
Patents, Specifications & Standards	20,000	20,261
German Collection	44,280	44,280
CD-ROMs	1,309	1,344
Audio/Video Cassettes	448	448
Total	4,31,785	4,42,175
B. Membership		
Staff	756	770
Faculty Members	468	477
Students	4957	5232
Alumni Members	325	341
Corporate Members	190	200
Industrial Associate Members	270	289
Special Members	82	89
Project coordinators	65	68
Total	7,113	7,466
C. Services: Circulation		
1. Number of Books/Journals Transactions	1,46,204	1,56,102
2. Number of Books issued Book Bank (GS)	2,925	3,583
3. Number of Books issued Book Bank (WS)	3,224	3872
4. Consultation Cards issued to users	76	45
5. Overdue & other Charges collected	7,79,124	Rs. 9,41,938
6. Xerox Charges collected	1,15,113	Rs. 78,366-10
D. Permanent Loan to Depts/Centres		
1. Books Issued	1852	1182
E. Inter Library Loan Transactions		
1. Borrowed from other Libraries	63	70
2. Loaned to other Libraries	56	57
F. Reprint Service		
1. Reprints received from other Institutions	790 p	556 p
2. Reprints supplied to other institutions	677p	1742 p
G. Smart Cards Generated/Issued		
	2659	2523
H. Expenditure on		
1. Purchase of Books	116.43 lakhs	90.10 lakhs
2. Subscription of Journals.	870.16 lakhs	756.62 lakhs
I. New Journals Added		
	251	119

8.2 ISO 9001:2000 Activities

The Central Library actively participated in ISO-9001:2000 activities and also maintained the quality based library system, services and procedures. Major activities related to ISO-9001: 2000 are listed below:

1. ISO Internal Quality Audit was conducted on 24-08-2009
2. ISO Surveillance Audit (Recertification (TUV NORD) was conducted on 31-08-2009
3. ISO Internal Quality Audit was conducted on 09-12-2009
4. Manual for ISO 9001: 2008 submitted to the Management Representative on 01-01-2010
5. Dr. Harish Chandra, Mr. Mahendra. N. Jadhav, Mr. C.R.Sekar have attended ISO 9001:2008 Transition Training (New Standard) organized by MR(ISO 9001) on 10-10-2009

8.3 Major Initiatives

The Central Library has taken various initiatives to improve the existing infrastructure, facilities, services and collections to provide strong and dynamic support to the academic, research, development, continuing education and industrial interaction programs and policy of the Institute. In this regard, some of the selected initiatives are listed below:

8.3.1 On-line Access to E-Journals

On-line access to Cambridge University Press numbering 119 on Humanities & Social Sciences (HSS Package) has been provided on the recommendation of the Department of Humanities & Social Sciences. Based on the recommendation from the Department of Management Studies, ISI Emerging Markets Database which provides online business and financial information service has been subscribed. A large number of e-journals from various publishers including the major publishers like American Chemical Society, AIAA, American Mathematical Society, Blackwell, John Wiley, Oxford University Press, Royal Society of Chemistry, SAGE, SIAM, Taylor and Francis, Thomas Telford, JSTOR, have been subscribed. We have also subscribed ACS Legal Archives (1889-1995) thus providing online access for 36 journals from Vol.1. Information dissemination has been done periodically to the faculty, students and staff through email "announce facility". The hyperlinks were updated in the Central Library website (<http://www.cenlib.iitm.ac.in>) appropriately. In addition to this access to standards databases like ASTM Digital Library, Indian Standards, ISO and IEC were provided under INDEST-AICTE Consortium arrangement.

8.3.2 Extended Working Hours on Saturday & Sundays

The Central Library has extended the working hours up to 12.00 midnight during Quiz/End Semester and Make-up Exams on Saturdays & Sundays for the benefit of students.

8.3.3 Systematic Re-shelving of Books

To facilitate easy retrieval of books for the benefits of our students and faculty, two Groups consisting of 22 staff members have been formed who devotes one hour daily in the morning/afternoon in stack areas. This initiative has generated considerable satisfaction among users.

8.4 Binding Facilities

In order to accelerate the process of binding and to facilitate "Quick repair" of books and journal back volumes, the Central Library installed "Automatic Binding Machine" with the facility to bind the books in few seconds using strong glue. During the period April-2009 and March 2010, 8315 books/Journals have been bound/repared. This has resulted in economical, faster binding/repair operations resulting in great satisfaction among users.

8.5 Library Automation

VTLS software has been made operational on 25-09-2009 for all transactions. iPortal facility has been activated for catalogue search and patron information search. Training was conducted for the staff members. Director has constituted Library Automation Committee for the smooth functioning and monitoring of library automation, RFID, and web-site management activities. 10 new PCs have also been procured and distributed to all the sections and RFID Tagging station. Information dissemination through automatic E-Mail to users has been activated for overdue reminders, review notices and reservation requests through VTLS Software.

8.6 Professional Development Lecture Series

In view of upgrading and updating the level of information and knowledge of library staff, it has been decided to arrange series of lectures every month by experts on various topics. So far, we have arranged lectures as given below:

Sl.	Name of the Speaker	Topic	Date
1.	Lt. Col. Jayakumar Deputy Registrar (T&P) IIT Madras	Inter Personal Relationship	04.12.2009
2.	Prof. Manorama Srinath Former Head, DLIS, University of Madras	Knowledge Management	01.01.2010
3.	Mrs. Coral Navon Reference Librarian, Central Library, Technion-Israel-Institute of Technology, Israel.	Interactive Technical Session on Web Activities	03-02-2010
4.	Dr. E. Rama Reddy Former Librarian, University of Hyderabad	Recent Trends and Developments in Library and Information Services	30-03-2010

Faculty and their Activities

Name	Qualifications	Major Area of Specialization
Dr. Harish Chandra Librarian	M.A., M.L.I.Sc., Ph.D.	Rural Information System, ISO application in Libraries, Digital Libraries. Website Design & Maintenance, Industries Information Service
Mr. Mahendra N. Jadhav Deputy Librarian	M.Sc., M.L.I.Sc., M.Phil.	Library Automation, Digital Libraries, Open Source Software, Library Portal etc.
Mr. C.R.Sekar Assistant Librarian	B.A., M.L.I.Sc.	SDI Service, CAS, Bibliographic Compilation.
Mr. P. Natarajan Assistant Librarian	M.A., M.L.I.Sc.	Resource Sharing, Document Delivery, Inter Library Loan.

Short term Courses/Workshops/Seminars/Symposia/Conferences/Training/ Meeting attended by faculty/Staff in recognized Academic Institutions

Sl.No	Name of the staff	Title	Institution	Period
1.	Dr. Harish Chandra Librarian	Inaugural Address as Chief Guest on the eve of One day Workshop on Management of Digital Resources, E-Journals and Bibliographical Database Development	Arjun Singh Library of Periyar Maniammai Univ. Vallam, Thanjavur	25-04-2009
2.	Dr. Harish Chandra Librarian	Meeting of Executive Committee	Anna University, Chennai	06 -05-09
3.	Dr. Harish Chandra Librarian	Inaugural Address as Chief Guest - One day Workshop Cum Orientation Programme	DELNET and SRM University, Chennai	23-05-2009
4.	Dr. Harish Chandra Librarian	Library Review Meeting	University of Mysore	09-06-2009
5.	Mahendra N. Jadhav Dy. Librarian	Virtua System Configuration Workshop	Central Library at IIT Madras	06-07-2009 to 09-07-2009
6.	Dr. Harish Chandra Librarian	Inaugural Address as Chief Guest - One day Workshop on e-Resources for Academic Excellence in Digital Era	Central Library of Adhiparasakthi Engineering College, Melmaruvathur	11-07-2009

Sl.No	Name of the staff	Title	Institution	Period
7.	Dr. Harish Chandra Librarian	Meeting of National Steering Committee of the INDEST-AICTE Consortium	IIT Delhi	27-07-2009
8.	Dr. Harish Chandra Librarian	Meeting for finalizing e-Resources	INDEST, IIT Delhi	28-07-2009
9.	Mahendra N Jadhav Dy. Librarian	Selection Committee Meeting	Mohammad Satek Trust at Chennai	August 2009
10.	Dr. Harish Chandra Librarian	Review Committee Meeting	Mysore University	06-09-2009
11.	Dr. Harish Chandra Librarian	24th National Convention on Knowledge, Library and Information Networking	Punjab University, Chandigarh	24-09-2009 to 25-09-2009
12.	Dr. Harish Chandra Librarian	DC Meeting	Anna University, Chennai	07.10.2009
13.	Mrs. Usha K.	MHRD Orientation training for Group 'D' employees	IIT Madras	05-10-2009 To 09-10-2009
14.	Dr. Harish Chandra Librarian	Selection Committee Meeting	IIT Roorkee	26-10-2010 to 27-10-2009
15.	Mrs. R. Shanthi Junior Superintendent	Hands on Training	IIT Madras	05.11.2009 to 07.11.2009
16.	Dr. Harish Chandra Librarian,	Selection Committee Meeting	Jawaharlal Nehru Univ. New Delhi	23.11.2009
17.	Dr. Harish Chandra Librarian,	Convener: Scrutinizing Committee	University of Madras	05-12-2009
18.	Dr. Harish Chandra Librarian	Elsevier Connect Seminar	Chennai	10.12.2009
19.	Mr. Mahendra N. Jadhav Deputy Librarian			
20.	Mr. C.R. Sekar Assistant Librarian			
21.	Mr. Kunwar Singh Senior LIA			
22.	Mr. A. Gunalan Senior Assistant	Hands on Training	IIT Madras	10.12.2009 to 12.12.2009
23.	Sri. M. Rajendran Junior Assistant	Hindi Workshop	IIT Madras	6-1-2010
24.	Mahendra N. Jadhav Dy. Librarian	55 th ILA National Conf. on Library & Info. Science in the Digital Era	BIMTECH, Greater Noida, U. P.	21-01-2010 to 24-01-2010
25.	Mr. C.R. Sekar Assistant Librarian			
26.	K. Sethu, Library Information Officer			
27.	T. Ramakrishnan Library Information Officer			
28.	N. Gnanasekaran Senior Library Information Officer			
29.	Mahendra N. Jadhav Dy. Librarian	VTLS Users meet	Indian Habitat Centre, New Delhi	17-02-2010 to 18-02-2010

Sl.No	Name of the staff	Title	Institution	Period
30.	Mr. M. Muthu	Workshop on KOHA	Dept. of Lib. Sci. University of Madras	11-03-2010 to 13-03-2010
31.	Mr. S. Muthu Mari			
32.	Mr. K. Saravanan			
33.	Mr. B. Murugan			
34.	Mr. P. Rajkumar			
35.	Dr. Harish Chandra Librarian	Chaired Technical Session, Presented paper and Member of Panel Discussion on Knowledge Conservation and Preservation: at the National Seminar "Knowledge Conservation and Preservation"	DLIS, Aligarh Muslim University, Aligarh	13 th to 15 th March 2010
36.	Dr. Harish Chandra Librarian	Selection Committee meeting as External Expert for the post of Chief Librarian	ISI, Kolkata	25-03-2010.

Special Lectures Delivered by Faculty in other Institutions

Sl. No	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr. Harish Chandra Librarian	Management of Digital Resources, E-Journals and Bibliographical Database Development	Arjun Singh Library of Periyar Maniammai University, Vallam, Thanjavur on 25-04-2009
2	Dr. Harish Chandra Librarian	Challenges and Opportunities for LIS Professionals to the participants of 16th Refresher Course in Library and Information Science	Academic Staff College, University of Mysore 05-09-2009
3	Dr. Harish Chandra Librarian	Web based Services in Academic Libraries to the participants of 16th Refresher Course in Library and Information Science	Academic Staff College, University of Mysore 5-09-2009
4	Dr. Harish Chandra Librarian	Special Presentation to the Participants/Principals/Vice-Principals/Teachers/Students of Regional Children's Science Congress	Navodaya Vidyalaya Samit, Hyderabad Region for Jawahar Navodaya Vidyalayas Venue: IIT Madras 03-11-2009
5	Dr. Harish Chandra Librarian	Library Security System Focusing RFID use in Libraries to the Overseas Participants of Certificate Course on Modern Library Practices	NITTR, Chennai on 09-11-2009
6	Dr. Harish Chandra Librarian	Guest Speaker for the Elsevier Connect Seminar	Chennai on 10-12-2009.
7	Dr. Harish Chandra Librarian	Building Web Resources for Web based Services for Petroleum Sector : Opportunity and Threats to the participants of ONGC Library Network Meet	ONGC Southern Sector , Chennai on 09-01-2010
8	Dr. Harish Chandra Librarian	Address the gathering about SALIS Journal of Library and Information Science (An International Journal) on the eve of release function of SALIS Journals,	SALIS, Chennai on 06-03-2010.
9	Dr. Harish Chandra Librarian	Knowledge Management in Academic Libraries	DLIS, Aligarh Muslim University on 14-03-2010
10	Dr. Harish Chandra Librarian	Best Practices focusing Digital Library Initiatives to the participants of Refresher Course	DLIS, Aligarh Muslim University on 15-03-2010
11	Dr. Harish Chandra Librarian	Quality Assurance in Modern Libraries through ISO 9001:2000 with Reference to the Central Library of IIT Madras	DLIS, Aligarh Muslim University 15-03-2010

Honors and Awards:

Sl	Name of Faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	Mahendra N. Jadhav, Dy. Librarian	Best worker award	IIT Bombay	Golden Jubilee Year	27-01- 2010
2.	Dr. Harish Chandra Librarian		SALIS Journal of Library and Information Science in the release function of SALIS Journals	Memento for contributing as the Editor-in-Chief	06-03-2010
3.	Dr. Harish Chandra Librarian	Guest of Honour for the Valedictory	DLIS, Aligarh Muslim University, Aligarh	Function of National Seminar on Knowledge Conservation and Digital Preservation (NASKCON 2010)	14-03-2010

Journal Editorial Board

Sl.No	Name of Faculty	Level	Journal
1.	Dr. Harish Chandra Librarian	Member of Editorial Board	ISST Journal of Library & Information Sciences published by Intellectual Society for Socio-Techno Welfare

Paper Published in National Conferences / Festschrift Volume

- 1 Harish Chandra, Capacity Building Measures to Meet the Challenges Facing LIS Profession, Library & Information Science in Digital Age : Essays in honour of Prof. M.P. Satija edited by Jagtar Singh, Indevir Malhan and Trishanjit Kaur, New Delhi, Ess Ess Publications, 2009, pp.700-709
- 2 Harish Chandra, Disaster Management in Libraries and Information Centers, Proceedings of the 12th National Convention on Knowledge, Library and Information Networking (NACLIN 09) held at Punjab University, Chandigarh during Septemebr 22-30, 2009, edited by H.K. Kaul and V.K.Anand, pp. 273-287
- 3 Mahendra N. Jadhav and Daulat Jotwani, An Institutional Repository Initiative at Indian Institute of Technology Bombay (IITB) by using Open Source Software: DSpace, Proceeding of National Conference on "Putting Knowledge to work: Best Practices in Librarianship" held at C-DAC Kharghar, Navi Mumbai during May 1-2, 2009.
- 4 Mahendra N. Jadhav and Anita Narwade, An Integration of RFID with Open Source Library Management Software: A Case Study. Proceeding of National Conference on "Putting Knowledge to work: Best Practices in Librarianship" held at C-DAC Kharghar, Navi Mumbai during May 1-2, 2009.
- 5 Mahendra N. Jadhav, An Implementation of Open Source Software's: A case study, Proceeding of 55th ILA National Conference on Library & Information Science in the Digital Era" held at BIMTECH, Greater Noida during January 21-24, 2010, edited by D. V. Singh

8.14. Fellowships of Academies and Professional Societies

Sl	Name of Faculty	Name of Academy / Professional Society	Level
1.	Dr. Harish Chandra	Member: Standing Committee of <u>International Federation of Library Associations and Institutions (IFLA)</u>	2009-2013
2.	Dr. Harish Chandra	SLA Asian Chapter	Annual Member
3.	Dr. Harish Chandra	DELNET, New Delhi	Two Years, 2010
4.	Dr. Harish Chandra	ISKO (India Chapter) Bangalore	Ordinary
5.	Dr. Harish Chandra	Association of Government of India Libraries	Life
6.	Dr. Harish Chandra	Medical Librarians Association of India	Life
7.	Dr. Harish Chandra	Madras Library Association, Chennai	Life
8.	Dr. Harish Chandra	IATLIS, Patiala	Life
9.	Dr. Harish Chandra	Society of Information Science, New Delhi	Life
10.	Dr. Harish Chandra	Indian Society for Training & Development, Delhi	Life
11.	Dr. Harish Chandra	Tamilnadu Library Association, Chennai.	Life

12.	Dr. Harish Chandra	SALIS, Chennai	Life
13.	Dr. Harish Chandra	IASLIC, Kolkata	Life
14.	Dr. Harish Chandra	Association of Mathematics Teachers of India,	Life
15.	Mahendra N. Jadhav	ILA- Indian Library Associations	Ordinary
16.	Mahendra N. Jadhav	IASLIC – Indian Association of Special Libraries and Information Centres	Ordinary
17.	Mahendra N. Jadhav	Society of Information Science	Life
18.	Mahendra N. Jadhav	BOSLA- Bombay Science Librarian's Association	Life
19.	C.R.Sekar	SALIS, Chennai	Life
20.	P. Natarajan	SALIS, Chennai	Life
21.	K. Sethu	SALIS, Chennai	Life
22.	N. Gnasekaran	Association of Government of India Libraries	Life

8.15. Distinguished Visitors/Groups to the Central Library

Sl. No.	Name of the Visitor & Designation	Date of visit	Purpose of visit
1.	Dr. R.Ravichandran, Chief Librarian, NITTTTR led the team. 10 Participants from different countries.	04-08-2009	To see the facilities and functioning of the Central Library
2.	23 Participants from various countries. Led by Dr. R. Ravichandran, Librarian, NITTTTR, Chennai	28-10-2009	To see the facilities and functioning of the Central Library
3.	Vice Admiral Anurag G Thapliyal, AVSM and his team from Indian Naval Academy visited Library	23-02-2010	To see the facilities and functioning of the Central Library
4.	Ms. Avita Satoka, Chief Administrative Section from Kyushu Institute of Technology, Kilakyushu, Japan visited with 5 delegates	04-03-2010	To see the facilities and functioning of the Central Library

8.16. Other Activities

1. Sri. Mahendra N. Jadhav, Assistant Librarian, IIT Bombay joined as Deputy Librarian on 29-04-2009.
2. Sri. P. Sargunadoss, Technical Superintendent retired on 31-08-2009
3. Mr. V.Bhasker Rao, Library Information Officer retired on 31-01-2010
4. Six Graduate Trainees joined on 24-07-2009 for the period of two years (2009-2011)
5. 125th Library Advisory Committee Meeting was held on 12-10-2009.
6. Sri. Kunwar Singh, Senior Library Information Assistant resigned and relieved on 10-03-2010.
7. 126th LAC meeting held on 23-03-2010.
8. Three staff of Senior Library Information Assistant and one Senior Technician was joined at Library.
9. All the **children's corner** books and **textbook reference** books location have been changed in databases as per the matrix setup in VTLS.

8.17 Future Plan

1. Automation work of the user-interface systems in the library
2. To strengthen the Book bank to satisfy the requirements of courses offered and student requirements
3. Completion of RFID tagging process by mid 2010.
4. To complete the work for providing access to the abstracts of Ph.D theses submitted at IIT Madras
5. To bring out the list of Current Journals subscribed for the year 2010
6. To repair minimum 3000 books which will be identified from the stacks
7. To design an "Apprentice training programme" for Library professions

9. STUDENTS AMENITIES AND ACTIVITIES

9.1 Hostels:

All students admitted to IIT Madras required to reside in the hostels inside the campus. There are 15 men's hostels and 2 ladies hostel with total 5056 single rooms, 248 double rooms and 16 triple rooms. During the period under report, there were 4260 men and 674 women students residing in the hostels.

A Warden and an Assistant Warden administer each hostel. Hostel Council consisting of student secretaries and Assistant Warden assists the Warden in day-to-day functioning of the hostel. The Hostel Management is centrally administered body and is in overall charge on the functioning of the hostels and the Central Supplies Unit. There are 138 hostel employees and are responsible to the Hostel Management through the respective Wardens of the hostels. The Chairman, Council of Wardens is the Chairman of the Hostel Management. He is assisted by the supporting staff. During the period under report, the following wardens were in position:

Chairman, Council of Wardens and Hostel Management

Dr. A. Mani
Professor, Department of Mechanical Engineering

Name of the Hostel / Unit	Warden
Alakananda	Dr. K. Srinivasa Reddy Associate Professor, Department of Mechanical Engineering
Brahmaputra	Dr. V. Raghu Prakash Associate Professor, Department of Mechanical Engineering
Cauvery	Dr. K. Ananthanarayanan, Associate Professor, Department of Civil Engineering
Central Supplies Unit	Dr. A. Mani Professor, Department of Mechanical Engineering
Ganga	Dr. R. Sarathi Professor, Department of Electrical Engineering
Godavari	Dr. P. Selvam Professor Department of Chemistry
Jamuna	Dr. Sathyanarayana N Gummadi Associate Professor Department of Bio-Technology
Krishna	Dr. K.P. Sudheer Associate Professor, Department of Civil Engineering
Mahanadhi	Dr.K. Murali Professor, Department of Ocean Engineering
Mandakini	Dr. S. Ganesh Sundar Raman Professor, Department of Metallurgical&Materials Engineering
Narmada	Dr. Nilesh J Vasa Associate Professor, Department of Engineering Design
Pamba	Dr. T.J. Kamalanabhan Professor, Department of Management Studies
Saraswathi	Dr. Y.V.S.S. Sanyasiraju Associate Professor, Department of Mathematics
Sarayu	Dr. Indumathi Nambi Assistant Professor, Department of Civil Engineering
Sharavathi	Dr. Ligy Philip Professor, Department of Civil Engineering
Sindhu	Dr. B.S.Murty Professor, Department of Civil Engineering
Tamiraparani	Dr. V.S. Sampath Professor, Department of Metallurgical & Material Engineering
Tapti	Dr. A.R. Ganesan Associate Professor, Department of Physics

9.2 Medical Facilities:

Medical facilities are provided to the students in the well equipped Institute Hospital. Advice is given to the students on a wide range of health problems. The details of medical facilities available in Chapter 13 –Campus Amenities.

9.3 National Cadets Corps:

Enrolment: A total of 200 SD/SW Air Wing NCC Cadets were enrolled against the authorisation of 200 cadets during year 2009-10.

Kitting: All cadets were fitted with full set of uniform to meet the expected standard of turnout of NCC Wing.

Training:

- Training was conducted as per the NCC syllabus vide Director General NCC, Delhi No. 614/Trg/111 (revised) dated 31 December 2007
- Technical and common syllabuses were covered by specialist technical staff of this unit.
- Foot drill and drill with arms and weapon training were imparted by permanent instructional staff.
- Annual Training camp was conducted in the month of December 2009. An additional strength of 67 cadets apart from 200 enrolled strength also attended the camp. During the camp training conducted on aeromodelling, parasailing, range firing, visit to Air Force Station Tambaram, Sports and cultural activity etc. Twenty cadets participated in the adventure seminar conducted by Tamilnadu chapter of National Adventure foundation.
- 'B' Certificate exam was conducted and 200 cadets participated in the examination, Among them 48 cadets scored 'A' grade , 107 cadets scored 'B' grade and 45 cadets scored 'C' grade.

Cadets Attendance: The attendance of all the cadets was above 80% approximately.

Two cadets (Abhinav Ram of EEE and Gautham of Civil Engineering) were sent to Delhi to witness 2010 republic day celebration at Rajpath and Prime minister rally for NCC. Eight cadets were also taken to Rajbhavan (Tamilnadu) to have a personal interaction with the former president of India Dr. A.P.J. Abdul Kalam. The former president appreciated the activities of cadets of IIT MADRAS.

Wing Commander A. Ravindran took over the command of this NCC Unit on 25 May 2009. Dr. P.Shanmugam and Dr. Suresh Kumar are functioning very well as care taker and performing duties of Associate NCC Officer. The commanding officer, Faculty and staff were able to inspire IIT Students and motivated them to perform well in all activities of NCC.

9.4 National Service Scheme:

NSS at IITM provides each student with a significant con-text in which he/she can arrive at a deeper understanding of social reality in India today. NSS believes that a life of service is a life of fulfilment. By the spirit of seva, the NSS volunteers try to attain to the real knowledge of the person and the environment and to a set of values integral to the Indian way of life.

This year we've had 237 Volunteers, 35 Coordinators, 7 Working Committee members constituting the student body of NSS. Prof. Srinivasa Chakravarthy was the Faculty Coordinator and Mr. Arivanandam has joined as the Program Officer.

Owing to the better exposure of the NSS activities to the student community of IIT Madras this year, we've also witnessed participation from Foreign national students and Post graduate students.

Wings of NSS :

1. Teaching
2. Science Activities
3. Speak Easy Surf Easy
4. Environmentally Conscious Group
5. Neighbourhood Development
6. Head Quarters

Workshops and Lectures:

Inaugural Ceremony for NSS Activities 2009-10 on 15th Aug Chief Guest: Dr. Balaji Sampath

Balaji Sampath, a graduate from IIT Madras, is a central figure in AID (Association for India's Development). He has made several vital contributions in planning and executing large-scale campaigns in health, literacy and improving quality of education in India. He has been an AID Jeevansaathi since 1998.

Talk on 'ICT for Rural India' by Prof. Ashok Jhujhunwala on 14th Nov

Prof. Ashok Jhujhunwala leads the Telecommunications and Computer Net-works group (TeNeT) at IIT Madras which helps develop world class telecom and banking products for rural markets. He has been awarded several honors including Padmashri(2002), Shanti Swarup Bhatnagar Award(1998) and Dr. Vikram Sarabhai Research Award(1997). He has also been a member of the Prime Minister's set-up Scientific Advisory Committee.

Lecture by Prof. Ravishankar Arunachalam, Joint Secretary, AID India on 31st Jan

Ravishankar is well known to a number of AIDers – he has been an active volunteer with the Pittsburgh and Austin chapters and a member of the AID Executive Board. During the past year, he has worked tirelessly on Tsunami relief and rehabilitation programs. In light of his strong commitment and involvement with this work, he has resigned his position at IIT-Chennai and now works full-time with AID.

Talk by Dr. Jayaprakash Narayan on 'How can educational institutions contribute to better societal change?' on 13th Feb

Dr. Jayaprakash Narayan has an unquestionable voice in socio-political reformation of the nation. Dr. JP, as he is popularly known, is a physician by training and was ranked second in the civil service examination. He was in the Indian Administrative Service (IAS) for 16 years during which he enjoyed a formidable reputation in the state of Andhra Pradesh. But, for Dr. JP, the experience convinced him that faulty governance process was the biggest hurdle to India and Indians achieving greater success. So he resigned from civil service in 1996, and worked with like-minded colleagues for the formation of the Lok Satta movement and is currently its National Coordinator. Lok Satta is now a leading civil society initiative for govern-ance reforms and a political force in the AP assembly.

Workshop on RTI (Right to Information Act) by Dr. Vijay Anand

Along with his organisation, the fifth pillar, Vijay Anand is at the fore front of the anti- corruption efforts in India and abroad. His strategy in the battle against corruption is to make the best use of the Right to Information Act, 2005 in binging the corrupt before the law. Vijay Anand is the current president of the 5th Pillar.

Workshop on 'Measures to take during Medical Emergencies' by Emergency Management and Research Institute.

EMRI is one the leader among free emergency service providers in India. They run the highly successful 108 ambulance service in states including Andhra Pradesh, Karnataka, Gujarat, Uttarkhand, Goa, Rajasthan, Assam, Meghalaya and Madhya Pradesh. They also have a fleet of ambulances catering to the needs within Chennai.

Teaching

The primary objective of this program is to help school going kids in their academics and personal development. Duties of the volunteers range from clarifying doubts of the students to explaining the importance of education. We organize few games, painting and dance competitions once in a while for all round development of the kids. We also demonstrate some science experiments (with the help of Science Activities group).

Xth Class Teaching

After observing the potential of the students of the Govt. Higher Secondary School Velachery and their inability to afford tuition or coaching classes, the NSS teaching group took up the following initiative. The students of class eleven were screened by an entrance examination that tested their ability to think intuitively and apply theoretical concepts to practical problems. Those who did well were selected to be coached by volunteers with the aim of cracking entrance examinations to various colleges. The volunteers trained the students in mathematics, physics and chemistry. Our aim is to help them place their first step on their career.

After procuring the list of students who dropped out from schools around IITM, we visited each of the student's homes and tried to convince their parents and the student about joining the school again. We also tried to make people join some other institutes which offered training for 10th exam. We have succeeded in helping three students come back to school.

Vanavani School

We conducted classes for classes 6, 7 and 8 and discussed various topics in their curriculum and strengthened their basics. This was done through screening science videos and question answer session following the screening, along with conventional methods of teaching. It was well received by the students.

Kendriya Vidyalaya (NTSE)

We prepared extensive tutorial sheets covering both GMAT and SAT aspects of the exam. Mental abilities and Science classes were also conducted. A mock exam was conducted on the last day of the programme which was mainly aimed at reducing any exam fears.

Keasari High School, Mylapore

We sit with the students and teach them basic Maths and Science. With the help of SA group we demonstrated science experiments. We also presented a number of videos and PPTs to the students on topics like current affairs, career opportunities and environmental issues.

GHSSV, Velachery

- We try to implement the following ideas at Government Higher Secondary School, Velachery.
- Remedial Program to help those students who need extra attention.
- Network well with the teachers so as to get a performance report on students and modify the program as per their requirements.
- Conducting small tests to check if they understood a particular topic better.

Taramani Corporation School

We visited the school and taught students some basics in Maths and science. Students were also informed about various career opportunities available to them after schooling. This program was a great success.

Science Activities

We aim to endear science to school students through this group.

This is an endeavour to assist the teaching of the sciences, particularly at the secondary level in the under-resourced schools surrounding the IIT campus. The activities are based on the science syllabi of the students and the chronology of the activities would be in tandem with their learning of the various topics in Physics and Chemistry.

We work on bringing to light, the basic science involved in day-to-day life, using unconventional methods such as the following to attract students to be more observant and not textbook oriented.

Experimental Models

Models including Electric motor, Water Pump, Hydraulic Brakes, etc. were made to demonstrate cloud formation, elasticity of balloons, surface tension and many other natural phenomena.

Simulation Softwares

It will be possible to demonstrate almost all basic science principles, required for a high school student, with these virtual experiments.

Pamphlets

Pamphlets containing some short notes on different topics, with interesting pictures and facts, help to sustain the interest of the students to the curriculum and beyond.

Demonstration Videos

Demo videos help save time and effort. They allow us to target a larger audience and also serve to keep the models and experiments timeless.

Kaleidoscope

An online initiative taken up by us to teach science to students through Indian Languages.

Speak English Surf Easy

The main aim of SESE is to help students be able to face the future in par with the rest of the students in the world.

We plan to achieve this by improving their communicative English and computer skills, which would enable them to keep in balance with the requirements of the future.

English for Communication (EC)

We seek to help students feel comfortable with English and also to help them to communicate in English in real life situations. The activities mostly include plays, songs, dubbing movies and various other games than the normal school teaching methods proving to be a more interesting for both the students as well as the SESE volunteers.

At present we are also involved with an NGO called Juvenile Guidance Bureau to also help out the students in the Juvenile home in Purasaivalkam, Chennai totaling our target audience to about 500.

Computer Education (CE)

The focal point of the program is to equip the 11 and 12 standard non-computer science students with the basic knowledge of computers, which is necessary in all walks of life today. This program is currently being held in Government Higher Secondary School, Velachery.

At present we help out about 70 students with basic computer operations, paint, ms-office etc.

Environmentally Conscious Group

The purpose of ECG is to spread awareness about environmental issues among campus residents and outside.

We practice and preach environmentally responsible habits and hope to inculcate the consciousness towards Nature to the students and residents of IITM and thereby, help in preserving its rich ecological diversity. We also organize and participate in activities such as Beach Clean up and Cycle Rallies to promote green energy and clean environment.

Students Awareness Program

Through this program we aim to introduce students of Classes 6th and above to issues related to the environment and to sensitize them to be environmentally conscious citizens in the future.

Presentations and quizzes were conducted for the 6th and 7th standard students of Vanavani School.

We visited Cuddalore to inspect the deteriorating environment due to industrialization (SIPCOT) and to study its effect on the residents of the surrounding villages through interviews. We also went on a Toxic tour of North Chennai which included touring certain localities of North Chennai to get up-close with the injustice to the poor residents of these localities and to question the indifference shown by the industries set up in these areas and the Government.

We, along with an NGO SACEM (SIPCOT Area Community Environmental Monitors) participated in Bhopal Remembrance Rally on 3rd December, 2009 which concluded with a petition submitted to the Collector of Cuddalore condemning the uncontrolled industrialisation

Save Energy Campaign & Eco-Friends

We plan to reduce power consumption in our campus through various means such as sensitization through competitions, stickers with reminders about switching off fans and lights when we leave the room etc.

We organize E-waste collection and disposal programs in our hostels.

We also collaborate with start-up companies such as Rope International to promote Eco-friendly products. During our technical fest (Shaastra) during shaastra we held a "Save paper campaign" with the help of Students of Sustainability (SoS group) and we reduced paper consumption by 50%.

Neighborhood Development

Through 'Neighbourhood Development' (ND) , we aspire to generate the spirit of 'Seva' or Service in our volunteers and extend this 'Seva' to those in need in our neighbourhood. We serve our neighbourhood through the following programs.

ROOTS

This is a program launched by NSS in collaboration with the ROOTS trust at a slum in Thiruvanniyur. Through this program we aim to develop the community by addressing the educational needs of the children living in the slums. We teach these young children basic sciences and languages by using materials developed by NSS and the ROOTS faculty.

Vishranthi

Vishranthi is an old age home for women is located in a place called Palavakkam. It is home to about 110 old women and 16 school going girls. Our activities there include personally speaking to them, entertaining the Paattis by playing games, singing songs and arranging cultural programmes-with the main intention of making them forget their miseries and let them enjoy for at least a while, the volunteers also assist the staff in domestic work such as serving the food etc.

Cancer Institute (CI)

The Cancer Institute (W.I.A) in Adyar is a hospital that caters to patients with cancer from around the world. Sixty percent of the patients admitted here are given free treatment. We help this institute undertake this huge task with its limited number of employees in the following ways :

- Help them manage patients who have come for treatment.
- Help the patients who visit doctors with the medical procedures.
- Help the hospital computerize the huge amount of patient records.
- Spend time with the children in the pediatric ward and make their day brighter.

SEED

SEED is a non-profit organization which was started in 1989 by Mr. Palanisamy, an ex- Canara Bank employee. They run three schools where children of prisoners, cancer patients and tsunami victims all lead a good school life. We visit these organization to mainly help the children in their education. The teaching sessions are mainly concentrated on the 10th and 11th standard students to increase their pass percentage. The group has devised a systematic and well organized teaching program and proceeds as per schedule to complete the modules within a specific period.

Headquarters

Head Quarters is the administrative block of the NSS Activities. The main duties of the head-quarters are: Attend to the work of the NSS Office, maintain the premises of the NSS Office, compile the attendance of all the programs, organize lectures and work-shops on socially relevant issues, co-ordinate with all the team-leaders, make schedules and allotments, print Weekly Reports/Documentation, organize inspirational lectures.

DOS (Dhal—Oil—Sugar):

DOS is the short form for Dhal-Oil-Sugar. It is organized in the first week-end of every month in the campus. The NSS Volunteers visit the houses of all the families residing in the campus and collect various items like dhal, rice, oil, sugar, stationery etc. They are then distributed to various beneficiaries.

Joy Fest 2009

This was an event organized in conjunction with the Joy of Giving week—a nation wide movement. The NSS team, for the first time took to the hostel zone. All useful items were collected from the residents in the hostel zone.

Recycling Drive

The joy of giving a book made from what would have otherwise been a pile of papers in the corner of a room is inexpressible. We went around all the departments on a recycling drive to make note-books from one-sided paper.

Andhra Pradesh and Karnataka Flood Relief

We collected donations summing up to Rs 2,76,437 towards the people in Andhra Pradesh and Karnataka affected by the floods of September-October 2009. This amount was sent to the respective Chief Minister's relief fund on behalf of IITM.

Pledge on International Day of Non-Violence

We gathered on October 2nd, International Day of Non-Violence and took an oath against violence. This was organized for all the students of IITM by the NSS.

Winter Camps

Camp at Chittlapakkam Government School

A team of 16 volunteers and two coordinators of NSS at IIT-Madras went to the government school at Chittlapakkam in the first week of December. The camp took place with the permission of the Assistant Elementary Education Officer of Chittlapakkam. The focus of the camp was Spoken English.

The team attended to all the classes in the primary school- classes I to V. The strength of each class varied from 10-20, and hence we had a good volunteer to students ratio. However initially we had setbacks, as the situation at the school was quite different from what we had expected it to be. The children were not used to any other language other than Tamil, and hence the volunteers who did not know Tamil experienced difficulty in interacting with them. However we managed with allotting shifts in each class in a way that ensured that one Tamil speaking volunteer was always present in the class.

However, the children bonded with the volunteers quickly, and this enhanced the atmosphere of the camp. Despite the initial troubles, the camp caught up. On day I, the volunteers kept the camp in an interaction mode. Nursery rhymes were taught in classes I and II. In class III, small words and poems were taught. In classes IV and V, the students were more receptive, and hence the volunteers taught them small sentences and helped them with grammar.

Over the next few days, the volunteers taught the children words, sentences and helped them read and write. However, the students were not all of uniform abilities and training, as some of them did not even know their alphabets. Hence, most of the while, the sessions were kept flexible, depending on the ability of the child being taught. Some children in 3rd standard had to be taught alphabets, and hence some volunteers attended to them, while the others taught the rest of the children words. Attempts were made to teach the children phonetics, as many of them found it difficult to read. In Vth standard however, things were better, as their basics were thorough. Grammar lessons were done with them and they were given exercises and questions by the volunteers.

The students were taught mostly using flash cards and charts or pictures, which were available in the school itself. Topics like days of the week, action words, names of fruits and vegetables, seasons, names of months etc were covered.

We had also taken up afternoon sessions in the higher secondary classes. However, due to constraints posed by the number of volunteers, we were able to handle only classes VII and VIII there. However, they were more responsive, and non-tamil volunteers were able to manage the sessions there. Each day, the volunteers went to the higher secondary in the afternoon, and helped them revise English. They were taught difficult grammar portions, and their doubts were clarified by the volunteers. Questions were given to the students for revising their lessons.

All in all, despite a rough beginning and some obstacles, the team put in maximum efforts and worked. It was touching to see the children get attached to us, and tell us on the last day to come again. Some students even told us to take over the school and replace the teachers.

According to Chandni Chandran, a volunteer at the camp, *"The kids were so sweet and loving to the extent that I felt reluctant to come back to hostel those days. It was great to play with them and lose ourselves being one among them. Moving on to the arena of social service, the teacher of 1st std told me that those kids were from lower income group encircled by the vicious cycle of social issues alien to the privileged few like us and they are happy only when they are in school. Beyond doing these camps, us NSS people can and should help them more making the optimum utilization of the rich human resource we possess and we should also help the marginalised group of kids as they are not even getting the opportunity to go to school. I thoroughly believe NSS camp was really a motivational force for the dormant social worker in me."*

Through the camp, we hope to have made at least a minimal difference in the children's lives.

Cuddalore Camp

We, as a group of 13 NSS members, visited Cuddalore to learn about the effect of industrial pollution in the rural areas due to SIPCOT industries set up there by the TN Govt. We came to know from the NGO SIPCOT Area Community Environmental Monitors (SACEM) about the ill effects of the industries on health, occupation and agriculture in the villages of Cuddalore such as Semmankuppan, Sonanjavadi, Eechangadu to name a few. We stayed in Cuddalore from Dec 2nd to Dec 4th. Our activities are as follows.

December 2nd:

We interviewed Mr. Nijammuddin who is actively involved in Human Rights, Consumer Rights and SACEM activities in Cuddalore. He, along with Mr. Arul, one of SACEM coordinators, gave us an insight about how SACEM was established with the help of villagers as volunteers who got scientific training to test water samples and devised a system for keeping track of air pollution in Cuddalore. These volunteers happen to represent different communities of the villages such as fishermen, farmers, contract laborers etc. They document the pollution levels with very simple physical tests and report their findings on a continuous basis to the Tamil Nadu Pollution Control Board (TNPCB). We also interviewed a SACEM volunteer Mr. Ramanathan, a contract laborer at one of the SIPCOT factories and got to know about the possible reasons for uncontrolled pollution and about the very little safety provided by some industries for its labourers to avoid expenses.

December 3rd:

We split ourselves into groups and visited the affected villages to interview the villagers and to investigate the changes brought about by industrialization. We got a variety of responses. While most of them, especially fishermen, expressed their hatred towards the industries openly even without asking, a very few who worked as contract labourers, were scared to reveal their opposition towards the industries. There are others who are willing to leave the villages and go to the city due to lack of safety and occupation.

In the evening, we interviewed an officer from TNPCB who was openly disclosing to us how irresponsible and corrupt the officers are. He explained the legalities involved and how different governments have handled such issues in the past. He was looking for us to raise questions against uncontrolled industrialization, which SACEM is now actively doing.

December 4th:

We went on a toxic tour of Cuddalore. We could smell different very characteristic chemical odors from the industries just as we passed through them. We also saw the bad state of Health care in these industries, as all the industries together had just a single Clinic which was merely a room full of general medicine. We also visited Pichavaram Mangrove Forests, which are one of the world's rarest mangrove reserves. These forests have the danger of getting depleted if industrial pollution continues the way it is.

On December 5th, we went on a Toxic Tour of Chennai, organized by Mr. Nityanand Jayaraman, a Hindu journalist and one of the brains behind SACEM. We visited a few areas of North Chennai that are badly polluted by unauthorized dumping of waste and industrial pollution.

The camp was a very useful experience for all of us. It was also a great help to the NGO as we lent our ears to the problems raised by the public. We saw the effects of pollution on the public. We hope to have sent a message to all the youth of India to pay attention to such environmental depletion in our localities. After all, only questioning is going to bring about a change and for raising questions we need to know what is happening around us.

Kalpakkam Camp

Day 1:

Designing the Winter Intern

Deciding to go to Eureka School in Walodai, Kalpakkam, Tamil Nadu

Brief introduction to the chain of Eureka Schools run by Aid India

Brief explanation on the Teaching Kits and Evaluation Tools used by the NGO

Work back on campus

Dividing into groups and working on modules in Mathematics for kids of Class 1, Class 2, Class 3, and Class 4.
Coming up with various teaching techniques to make them understand the basic operation concepts
Setting up an Evaluation Technique

Day 2:

Travelled to Eureka School in Walodai

Interacted with the students and teachers

Evaluated the students

Teaching (giving individual attention)

Helped the teachers with concepts like Fractions, Decimals and Division

Fun session with students

Day 3:

Travelled to Eureka School in Walodai

Continued teaching the same module

Helped teachers by giving them a set of problems, which they can use to assess the understanding of the child in various topics

Fun Session with students

Day 4:

Travelled to Eureka School in Walodai

Continued teaching the same module

Evaluated the students

Gave a report to the teachers

Fun session with students

Day 5 (Work on campus)

Consolidated the evaluation sheets

Made a report to Aid India

Made experience report (to be submitted to NSS, IIT Madras)

It is true that education is the base for everything. But it is very sad that not every individual has access education. The situation of rural India was reflected in this Camp.

Farming class cannot afford education today. Education has become a business. Teachers no longer take the responsibility of the child or look into the development of the child. This is not the situation in rural India only. Even other children in the urban regions are pressurized to get first rank in the school. How is it possible for everyone to get Rank 1? The effort from the NGO to setup schools in rural regions should be appreciated. The activity based learning technique reached a new step under the trainers of this organization.

East Coast Road connecting Chennai and Kalpakkam is truly a treat for eyes. The clear horizon, blue sea (Bay Of Bengal), winding coast line, trees lining the coast gives an impression that we are in a Dreamland.

The school is in a village called Walodai amidst paddy fields. A share auto helped us to get to this school from Kalpakkam bus stop. The school looked welcoming. As told to us in the orientation the school is brightly coloured and makes the child love the environment.

When we did the evaluation we noticed that many students did not know the basic operations. We decided to bring each student up by one step at the least. The best part of the Winter Camp was that even teachers wanted to learn along with the students. The teachers wanted us to tell them so that they could in turn teach the students in the long run. They made notes as we went on teaching.

I am happy to say that we were able to create an "I like Math" attitude in the students of Eureka School, Walodai. At the end of the day we were satisfied that we made some difference.

Class 1

The kids are very good at grasping. We saw that 5 kids out of 21 kids didn't know how to write numbers and alphabets. There should be someone to take care of such kids. If they are left out, they sit ideally without any participation in the class.

We evaluated the kids on the basis of their ability to write numbers from 1 to 100, to write alphabets, and to add single digit numbers. The results are as follows:

Class 2

We were all surprised to find a school in such a remote place. The school looked attractive with its yellow paint and colourful students. The teachers welcomed us happily and we were allowed to take classes. Mr. Richards was really helpful. Besides taking us to the school, he also brought us translators. We went to the 2nd standard. We started with simple addition. And it was followed by subtraction. The next day we tried called each student individually and gave them problems in addition, simple subtraction and subtraction with borrowing. Later we tried to impart the basic lessons on multiplication. The next day we asked the teacher in charge to show us the study material. She was kind enough to bring it in minutes. We had a quick glance over the portions on the material and took a portion from the materials, which they had not covered yet and taught them. We knew broken Tamil and hence could adjust without the translators, still the teachers were there always willing to translate anything we ask them to.

For us, it was a new experience to teach students of the 2nd standard. Still we were amazed at their grasping power. There were a couple of students who found it difficult to follow. The students were eager to do more problems. But there were a few who always stayed back from coming to the board. They would do it only if insisted. A detailed account of each student's performance is also enclosed.

Actually we found that Dhanasthi, one of the students in the class, was not solving any problem. Then we tried explaining to her using real life models. We told her to think of having 5 chocolates and when I give you 6 more chocolates, how many do you have?(to do the problem $5+6=?$) she was solving them. But we did not have enough time to make her thorough in the concept. So we found that real life situation was making it easy for them to understand addition and subtraction. When one of us were teaching a weak student, one of the teachers came and told us to leave the kid as he is at a very low level of understanding. We really did not want to hear that from a teacher. The same teacher was later seen paying attention to a student who does all the problems well. A good teacher must try to make all their students understand the concepts well, they should actually spend more time on weak students. We believe the teachers have to be given proper orientation classes or their attitude towards the students will lower their morale.

Despite these shortcomings we would shower praises on their efforts for the cause of imparting education in rural India. "The study materials you have prepared for your students look really attractive." Their classrooms are also attractive. The teachers are kind towards students.

WE THANK YOU FOR GIVING US A CHANCE TO INTERACT WITH THESE STUDENTS...

Class 3

Assessment:

We went through the basics of addition and subtraction on the 1st day and taught some multiplication. On the second day, we gave the kids two problems each in addition, subtraction and multiplication. Based upon the mistakes committed we graded them.

Remedial Methodology:

"We gave individual attention to each student based upon their shortcomings and tried bringing them to a uniform level. To make their concept of multiplication clear, we made the practice multiplication tables. On the 3rd day we again evaluated them and this time the performance was much better...only some students faltered.

We also played interactive games, which would require them to clap at the count of a multiple of a particular number. This way, they were easily relating that to the concept of multiplication.

For example, a student knowing simple addition or subtraction was taught problems involving carrying-over. Someone knowing both addition and subtraction was taught tougher problems in multiplication." – Parag (Volunteer).

"The initiative (Eureka school) taken by your organization to impart quality education to young children who would otherwise be deprived of it, is wholeheartedly appreciated. Having visited the school as a volunteer, to contribute to the cause by teaching, the difference the school makes to the lives of those young children could be clearly seen. The effort taken to popularize the initiative and convince the people of the locality to send their wards to the school is also appreciated. The teaching methods adopted in the school (with emphasis on activity-based learning), which is quite different from that adopted in government schools, is a big step forward in the revolutionary process that the education system in the country today requires. Another major issue an educational institution located in a remote area faces, is to recruit competent teachers, and the idea of training literate people belonging to the locality to teach the children, is the best possible, and with further effort this issue can be overcome. One could also observe that rote learning, which is very common in most schools, is being discouraged to a large extent. This is a very positive attribute, which can be emphasized further by first making the teachers realize the ill-effects of the practice. The friendly, pressure-free atmosphere created in the school can be extremely beneficial to the kids' learning and the effect of this can be clearly seen over a period of time. By striving to provide, not just nominal education, but that at par with the education provided by many good private schools, this initiative could produce more than just literate individuals.

Details of the teaching camp : The students were initially evaluated (in basic mathematical operations), to identify problem areas. This was done by putting forward simple questions that tested the students' understanding of the operations. The students were then taught concepts and logic behind the mathematical operations, and the techniques involved, and at the end of every session, students were made to play interactive games that catalyzed the learning process. The final evaluation was made after the teaching process was completed, to assess the students' understanding, after the camp, with reasonable success." – Vishal Krishnan (Volunteer)

Kurnool Camp

- Teaching maths, English and science to 9th and 10th standard students of govt schools which were affected during the recent floods in Kurnool.
- Showing the students presentations and slides of various science and math experiments
- Motivating the students to continue education after 10th standard and explaining to them the importance of education.
- Giving important information of opportunities after 10th standard and giving guidance about their future.

The Schools visited:

- Govt. High School , Joharapuram, Kurnool
- Kesava Memorial High School, Budhwarpet, Kurnool
- Zilla Parishad School, E-thandrapadu-a village on the other side of Tunghabadra, Kurnool
- Zilla Parishad School, Vasanthnagar bondhiporla
- Vivekananda Sanskrit Vidyapathshala
- Saraswathi Vidya Pathshala near Kondareddy Burj Centre , Kurnool

As the flood started in the morning loss of life was averted but it took a heavy toll of property. But the worst part is life in the aftermath of floods.

Whole buildings became structurally weak and a rich collection of books in the library was lost. The clearing away of mud is very costly.

Kesari School, Tirumailai

We belong to the teaching group and we were given the responsibility of Kesari high school in Tirumailai. We were allotted different times to go and teach there in a batch of three. We started teaching them grammar in English as they were very poor at English. We started with the basics of grammar that is with the parts of speech and explained them the way and how to use them. We then gave some questions for them to answer and we got a very good response.

We then taught them the basics of tense and went deep into the subject of tense, giving them good examples of intricacies involved in using them. It was like an interactive session where we put some basic questions on whatever we have taught and made them think out of the box. We taught active passive voice direct indirect speeches and all other aspects of preliminary grammar.

We taught them the basic communication skills and soft skills and their importance in life apart from their marks. We taught them letter writing, essay writing, some synonyms and antonyms. We taught few lessons from their text book so that they could prepare for board exams. We also taught them some basic concepts in physics, maths and chemistry. In one of the classes we gave them an idea of the wide range of careers they can pursue after completing intermediate. The Principal of the school supported us in taking classes is very happy for the work which we are doing. The students were hesitant in the first few days, but later on they got interactive and the sessions were a lot interesting and enjoyable. Even though the school is far away the interactivity of the students made us work with double power. We could have done much more work if we had been given a school nearer.

We attended the door-to-door collection every first Sunday of a month in the last semester and this semester with a total of 8 doors being successfully done. We went around some of the residences in the campus and collecting items like rice, dal, sugar, clothes and deposit them in the NSS office. These were later on distributed to people who are in dire need of them. The people in the campus are very generous and never felt disturbed by our visits.

Many workshops were conducted to develop the service skills in the students and also to make us aware of the problems our country is facing today and the role that we can play in tackling them and thus make India a world power. Workshop by Dr. Ravishankar from AID INDIA was an eye opener as we came to know the truth behind the low level of education in India. The lecture by Dr J.P.Narayan, founder of Lok Satta party, gave us an outlook of the present day politics and the role of youth to curb corruption in India. Through the RTI workshop, we came to know about RTI (Right To Information) and how to use it to curb corruption. In the first semester, the lecture by professor Jhunjhunwalla on the services that can be rendered to the nation was a good one.

During the 1st semester vacation, we attended a camp in Atmakur, Nellore. Our camp lasted for a span of four days during which time, we taught them some concepts in physics, maths and chemistry. We taught them the uses of post-offices and banks. We told them about the future opportunities and we talked about some of the contagious diseases. We taught them logical reasoning and arithmetic questions. On the last day of our camp, we conducted a simple test on the concepts, we taught them and distributed prizes to the winners.

Coordinating with science activities volunteers we conducted certain experiment which made the students very enthusiastic. They asked a lot of questions on basic physics and chemistry.

Finally it was a wonderful experience for all of us. This year left all of us fondly recalling those memorable experiences.

Atmakur Camp

DAY 1

We were warmly welcomed by the students and faculty at the ZPHS, Atmakur. We were introduced to the students in their regular assembly.

We took up the classes 7th to 10th by dividing ourselves into groups of three. We observed that they were hesitant to introduce themselves to us in the class when they were asked to do so. We then provided with some basic knowledge on future opportunities after SSC like the courses offered in 11th and 12th. We also inquired them about their interest and explained them about the opportunities in each field and they were very happy to know about them. We inspired each one to do whatever they wished and also to continue with their studies whatever their financial position is. We explained all this with the help of presentations created by us in the laptops we took there. They were very excited to see them.

We briefly described them the uses of post-offices and banks. Regarding banks, we discussed about the different types of accounts and how to operate them. We told about the loans available for different purposes. We told them about the money transactions like usage of ATM, Cheque book, Demand Drafts (DD), etc. We discussed about different kinds of mailing, such as speed-post, courier, book-post, registered post, etc.

The first day ended with cheers in the students as we all enjoyed interacting with them.

DAY 2

We started the day with great enthusiasm to interact with them. We spread awareness among them regarding the dangerous diseases they are prone to like malaria, jaundice, AIDS, cholera, tuberculosis, polio, typhoid, chickenpox, etc. We explained the causes, symptoms, precautions. We asked them to spread awareness among their parents and neighbours. We invoked a thought of cleanliness in their village by making them realize that dirty surroundings is the main reason for the spreading of these diseases. It was not like a regular lecture session where we find most of the students drowsy. It was an interactive session with them and we were amused to know that they had a great knowledge on these things as they were shouting out the symptoms and causes we completed telling the name of the disease.

DAY 3

We dealt with some topics from their Physics & Math textbooks in a logical way rather than in a bookish manner. We observed that the students were used to normal methods of teaching and learning, but they were also enjoying it this way. We then also clarified their doubts and gave them some interesting problems to work out. Some really interesting puzzles were later discussed in the class. Logical and reasoning type questioning was introduced to them as it is very much required in the present day competitive exams. We discussed some questions on series, sequences, codes, etc. and gave them the logics of decoding them. We asked them to talk about a general topic to know their communication skills. But no one was ready to do so except a few. So, we had a great time to bring each of them out of their fears and made them at least speak out what their friends have already talked. We were successful to a little extent in bringing them to the board.

DAY 4

An exam was conducted on the last day by testing them in the topics that we had discussed in the last few days. The questions were divided into two sections, one testing their knowledge of subjects and the other testing their general knowledge and logical ability. Students took the test seriously which was evident from the results. After the exam, we once again gave a topic to talk on while some of us corrected the papers. The results were good depicting their comprehending ability. We later declared the results and awarded the 1st, 2nd, 3rd prizes in three classes.

We encouraged them to put in their best efforts and have a bright future. We enjoyed the camp. It was a great experience for all of us including the students as it was evident from their participation. We then ended the camp with great memories.

9.5 Gymkhana:

The Institute Gymkhana takes care of general welfare, Sports, Co-curricular and Cultural activities of students. Sports activities form an integral part for the overall development of personality, which prepares the students to overcome challenges in their various walks of life after their graduation. Hence the students are encouraged towards participation and organization of a number of sports activities.

The following tournaments were conducted during the year 2009-2010 by the Institute Gymkhana of IIT Madras.

- The Inter-Collegiate Invitation Tournament "SPORTFEST – 2009".
- All India Inter-Collegiate Basketball Tournament for Men (Gerhard Fischer Cup) and for Women (Mrs. Koikila Rajaiah Trophy).
- IIT Sanmar Inter-Collegiate Invitation Cricket Tournament
- Inter-Hostel Tournament – "SCHROETER TROPHY"
- Non-Media Tournament- "Dean (Students) Trophy"
- Institute Annual Open Road Race
- Institute Annual Cycle Race
- Institute Triathlon Race
- Institute Open Chess Tournament.

Sportfest – 2009:

The Inter Collegiate Tournament was conducted for city colleges both for men and women during 20th to 24th September 2009 in few games. This tournament helps to finalize the Inter IIT team probables. Our students took part enthusiastically in all the games and won few events.

Basketball, Football, Table Tennis, Teams won the Gold medal.

Inter-IIT Aquatic Meet 2009:

The Inter-IIT Aquatic Meet was held from 2nd – 5th October 2009 at IIT Kanpur. IIT Madras contingent won the silver medal in Water Polo.

Inter-IIT Sports Meet 2009:

The 45th Inter-IIT Sports Meet was held between 11th and 18th December 2009 at IIT Kanpur. The intense practice during mini camp in the month of November improved our preparations quite a bit. IIT Madras won first position in women section. IIT Madras won the Gold in Table Tennis and Volleyball, and bronze in Tennis, IITM women section secured fourth place with a total of 32 points. The Women's Basketball team performed well to receive the top honors, while the Women's athletics team got third place. Table Tennis Girls won Gold Medal. In lawn tennis Girls won the Gold Medal. No doubt most of our teams performed at their best.

All-India Inter-Collegiate Invitation Basketball Tournament 2010:

This tournament was conducted from 17th January to 21st January 2010 and attracted teams from South India. The venue of the tournament is the new flood-lit basketball courts. A large number of spectators attended this tournament, witnessed many exciting matches wherein excellent performance was displayed by many teams. Sathyabama University, Chennai retained the Gerhard Fischer Trophy for Men for fifth year in succession and IIT Madras Girls team entered into the league stage and came fourth. First time Jeppiaar Engg. College won the coveted Kokila Rajaiah Trophy for women.

IITM-Sanmar Inter- Collegiate Cricket Tournament:

The prestigious IIT-Sanmar Inter-Collegiate Cricket Tournament for city Colleges sponsored by ' Sanmar Group' was conducted from 26th February to 16th March 2010. There was a record entry from 20 city colleges competing for top Honours. A high level of competition was witnessed throughout the tournament. For first time Loyola College won the coveted Trophy and Gurunanak entered in the finals and was placed runner-up.

Inter-Hostel Tournaments:

The Inter-Hostel Tournament was conducted in all the Games/events spread over the academic year and were contested for the Schroeter Trophy for General Championship, adhering to the Inter-IIT pattern of sports events. Also

the Dean's Trophy events were conducted on non-media and non-Inter IIT Sports events. "GANGA" Hostel won the Schroeter Trophy as well as the Dean's Trophy.

The following non-media tournaments were conducted for the students: (i) 9-a-side Tennis ball Cricket, (ii) 9-a-side Tennis ball Cricket for Freshers, (iii) 6-a-side Football, (iv) 6-a-side Hockey, (v) 3-a-side Basketball and (vi) 3-a-side Volleyball and institute open events namely, Road Race, Cycle Race, Triathlon, and Open Chess were conducted. All these events encourage larger participation of the students / campus community. These events were a grand success, attracting a large number of participants and student spectators, who witnessed and encouraged their hostel teams.

All the Gymkhana clubs like Fitness Club, with newly added facilities, Badminton club, Tennis club and Swimming Pool club functioned very well during the period. More than a few thousand students, staff, faculty and Campus children benefited from these excellent facilities and coaching offered by the Institute Gymkhana.

The Swimming pool club had a registered membership of 1460, the Fitness club had a registered membership of 734, the Tennis club membership of 196 and the Badminton club a membership of 91. Excellent training and able guidance were provided for the students and the Campus residents at the fitness club and tennis, bringing out the importance of maintaining good physique and health.

The advance planning of the calendar of sports events including the fixtures for both Schroeter and Dean's Trophy events helped the smooth satisfactory conduct of the various sports events. Also, the new flood-lit facilities attracted many students to the Basketball, the Volleyball and the Tennis courts. The new international "Synthetic Tennis Courts" added the sports and games facility at the campus.

New Indoor Sports Complex was inaugurated. It is going to house few facilities like Table Tennis, Weight Lifting, fitness centre with new equipments and two Squash courts.

National Sports Organisation:

National Sports Organisation (NSO) is functioning as per the Government of India's decision for improving sports with special reference to upkeep the fitness of students. Our Institute has been taking necessary steps in encouraging students to participate in various games and sports events and in physical fitness activity as well.

In the academic year 2009-10 nearly 225 first year undergraduate students were registered under this scheme. Coaches/experts from various Sports Federation and sports Development Authority of Tamil Nadu were engaged for coaching our NSO students.

The noteworthy performance of sizable first year students at the various tournaments viz. Inter-IIT Sports Meet, Sportfest and All India Invitation Inter-Collegiate Basketball Tournament is partly due to the quality training given to the students and the hard efforts put forth by the students during the NSO programme.

Overall, it has been an eventful year for the Gymkhana activities.

9.6 Women's Forum:

Dr. K Srilata, Chairperson, Women's Forum addressed B.Tech and M.A students during their orientation in August 2009 on gender issues and IIT Madras policy on protecting female students. Pamphlets were distributed to sensitize all incoming students.

Women's Forum organized an off-campus retreat to members on 27.02.2010, in which 53 members participated. Dakshinchitra, Mahabalipuram and Mudaliar Kuppam were visited and cultural and sports events were conducted.

Sports events were organized on 03.03.2010 for members at IIT Campus Stadium.








Women's day was celebrated on 08.03.2010. Deputy Director Prof. Idichandy addressed the members. Dr. Padmini Swaminathan, Professor, MIDS, Chennai was the chief guest for the event. Prizes were distributed to winners and participants of the sports events conducted by Women's Forum.

Dr. Anshu Bansal, Gynecologist, Apollo Hospital, Chennai gave a talk on "The Breast: Myths and Facts". The program was organized with the help of IIT Madras Hospital.

Ms. Latha Satish, Director, Yoga Mandir conducted an interaction program on "Balancing Work & Family - A Yoga Approach".

9.7 Alumni Affairs:

The quality of education and training that our alumni had received as students of our Institute enabled them to graduate into professionally satisfying and successful careers, and nearly all have distinguished themselves professionally. Many of them occupy top positions in India and abroad in Industries, Government Organizations and Educational Institutions. Till 2009, 33226 students have been awarded degrees. Since 1997, we are honouring selected alumni for their distinguished contribution to society, through Distinguished Alumnus Awards every year. The names of the awardees for this year (2010) were announced during the Republic Day Function. They are:

1	Prof. V. Ramamurthy [1968/M.Sc/Chy]	Chair Professor, Dept. of Chemistry, University of Miami, Miami, USA	
2	Prof. Subbarayan Pasupathy [1966/MT/EE]	Professor, Dept. of Ele. & Computer Engg., University of Toronto, Ontario, Canada	
3	Prof. Suresh V. Garimela [1985/BT/ME]	R. Eugene and Susie E. Goodson Distinguished Professor, School of Mech. Engg. Purdue University, Indiana, USA	
4	Dr. P. Chellapandi [1983/MT/AM, [1995/Ph.D/AM]	Outstanding Scientist and Director, Nuclear Engg., IGCAR, Kalpakkam	
5	Dr. Lalit Chordia [1980/BT/CH]	Founder President and CEO, Thar Technologies Inc. Pittsburgh, USA	
6	Dr. P. Anandan [1977/BT/EE]	Managing Director, Microsoft Research India, Bangalore	
7	Mr. R. Sri Kumar [1970/BT/EE]	Former Director General of Police, Karnataka, Bangalore	

The alumni of all IITs have come together and formed PANIIT as an umbrella organization. PANIIT aims to provide networking opportunities for members of the IIT system and proactively contribute to nation building; in addition, it aims to enhance the engagement of alumni with governance.

The following are the venues where PANIIT was held from its inception:

☞ 2003 : San Jose

☞ 2004 : New Delhi

☞ 2005 : Washington DC

☞ 2006 : Mumbai

☞ 2007 : Santa Clara

☞ 2008  2008 GLOBAL CONFERENCE  Chennai

☞ 2009 : Chicago

List of participants from IITM in PAN IIT 2009 – Oct. 9 – 11, 2009 at Chicago, USA:

Prof. V.G. Idichandy, Deputy Director
Prof. Bhaskar Ramamurthi, Dean Planning
Prof. R. Nagarajan, Advisor, Alumni Affairs
Prof. G.K. Suraishkumar, Dept. of Bio Technology
Prof. K. N. Satyanarayana, Dept. of Civil Engg.,
Prof. M.S. Shanmugam, Dept. of Mech. Engg.,
Dr. Sandhya Shekhar, CEO, IITM Research Park



Staff at the Office of Alumni Affairs (from Left to Right) Prema, Lakshmi, Ilavarasi, Prof. R. Nagarajan, Advisor, Bala murugan, K. Suresh, P. Saravanan and M. Imagaran

Activities of Office of Alumni Affairs:

Serve as outward-facing window from the Institute to the Alumni:

- act as primary interface from Institute to alumni-at-large
- authorize alumni access to campus facilities
- administer Distinguished Alumnus Award program
- administer Travel Grant program, etc.

Drive Institute-related fund-raising activities among alumni:

- devise fund-raising strategy
- coordinate fund-raising activities
- ensure timely deployment of funds
- report to Institute and back to donor regarding status of funded projects

Register graduating students into the alumni database:

- enroll students into the database
- provide permanent alumni e-mail ID
- maintain and grow database
- provide database access on as-needed basis

Serve the student community:

- administer scholarships and awards
- solicit alumni funds towards student travel, facilities, projects, etc.
- facilitate student mentoring by alumni



- A cheque for a sum of Rs.50,000/- being donated by Prof. R. Nagarajan, Advisor, Alumni Affairs to Prof. Deshmukh towards meeting the travel expenses of nine students to visit TIFR, Mumbai

Serve the faculty community:

- promote interactions between visiting faculty and local alumni
- promote campus and department visits by alumni
- promote research & consultancy relationships between faculty & alumni

Serve the alumni community:

- support networking activities and events, such as reunions
- support alumni communications, such as monthly newsletter
- support alumni registration in database
- work closely with IIT Madras Alumni Associations (IITMAA, IITMAANA, etc.) on alumni-related matters
- support PanIIT activities (e.g., Club) and events (e.g. Annual Meets)

The following re-unions were held in Dec. 2009:

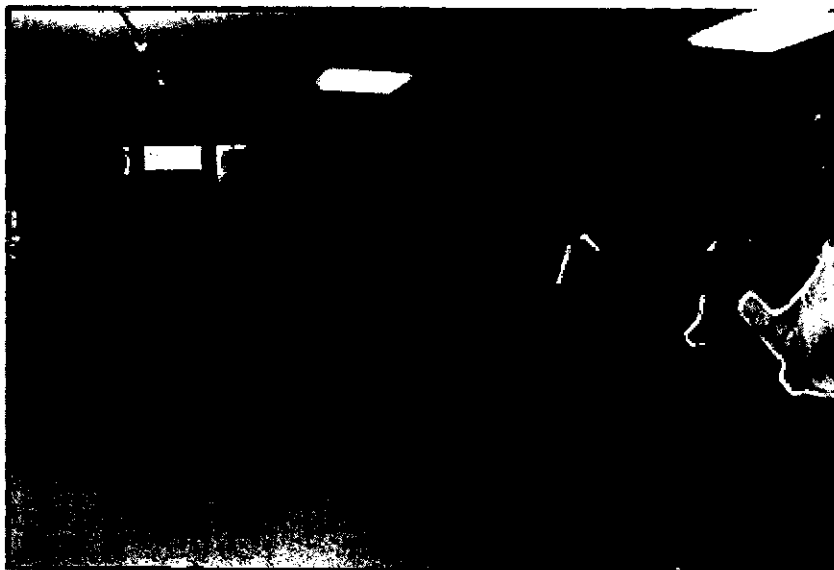
- Ruby re-union (1969 batch) : 10th – 12th Dec 2009
- Silver re-union (1984 batch) : 26th – 28th Dec 2009
- Pearl re-union (1979 batch) : 26th – 28th Dec 2009

Office of Alumni Affairs had held the first-ever Alumni Day on 26th Dec.2009 at IC & SR Auditorium. Nearly 700 alumni attended with family.



GOLDEN JUBILEE ALUMNI DAY— Dec 26th: Largest gathering of IITM alumni on campus (> 700 attendees)

- "Alumni Matter!" video shown
- Director's inaugural address
- "State of the Institute" addresses by DD, Deans, followed by Q & A
- Guest Lecture by Dr. Badrinath (Shankara Nethralaya)
- "State of Alumni Affairs" addresses by Presidents of IITMAA, MAANA, and by Advisor, OAA
- All-day Family Fun activities, exhibit of SRP's involving alumni
- PM sessions: Mentoring program, PanIIT initiatives, IIT Club, IITM Heritage Quiz, NPTEL/Alumni initiative, DA Forum, PG Alumni Forum
- Inauguration of "Donor Wall of Fame" in SAC, followed by networking reception & dinner



Donor wall of fame unveiled at SAC by the Director

- Movie at OAT ("Mohandas" by '84 alumnus), Music at CLT (Gayathri Girish, Lakshmi Sriram, K Bhaskaran)

In 2009 (July and Sept) a sum of Rs.7.37 lakhs has been granted as Travel grant to nearly 58 M.S/Ph.D and few B.Tech students by OAA from the donations received from IITMAANA as Travel Grant. Additionally:

1. Mobilized donation for a sum of Rs.3.5 lakhs towards Travel expenses of six B.Tech students attending Stanford Summit 2010 – **Rs.3.50,000/-**
2. On its part, OAA has donated Rs.50,000/- from IITMAANA Travel grant to the above 6 B.Tech students for attending Stanford Summit 2010 at USA.

The "Golden Jubilee Alumni Fund" was launched in April 2009 by "Kris" Gopalakrishnan with a target of Rs.100 crores. Following is the status of Funds Received and deployed (from April 09 to Feb. 2010) towards Golden Jubilee Alumni Fund:

Period	Funds Received Rs.	Funds Deployed Rs.
Apr.'09	1,02,000	50,000
May '09	52,000	5,54,849
June '09	32,87,895	9,58,234
July 09	60,000	9,50,000
Aug'09	2,53,397	3,14,000
Sept'09	12,000	4,78,355
Oct. 09	4,74,840	
Nov. 09	2,39,500	1,50,000
Dec. 09	*a)1,24,500 *b)7,05,023 *c)*****	3,00,000
Jan. 10	*a)18,93,800 *b)***** *c) 16,62,339	19,83,353
Feb.10	*a)12,19,500 *b)50,000 *c) *****	32,94,342
Total	1,01,36,794	90,33,133

10. STUDENTS PLACEMENT

The number of students/scholars placed during 2009-2010 is summarized below:

Branch	B.Tech	Dual	M.Tech	M.B.A	M.Sc	M.S	Ph.D	Total
Aerospace	10	3	7	-	-	2	-	22
Applied Mechanics	-	-	10	-	-	2	1	13
Bio Technology	14	9	-	-	-	2	-	25
Civil	27	11	18	-	-	2	1	59
Chemical	23	9	14	-	-	1	1	48
Chemistry	-	-	-	-	2	-	3	5
Com. Science	26	7	35	-	-	17	1	86
Electrical	35	43	31	-	-	11	2	122
Engineering Design	-	20	-	-	-	2	1	23
Engineering Physics	6	-	-	-	-	-	-	6
Management Studies	-	-	-	43	-	-	-	43
Mathematics/IMSC	-	-	3	-	11	-	-	14
Mechanical	46	39	44	-	-	10	5	144
Metallurgical	11	7	6	-	-	-	-	24
Ocean	15	3	8	-	-	2	-	28
Physics	-	-	2	-	-	-	-	2
Total	213	151	178	43	13	51	15	664

During the year 664 students / scholars were placed in various organisations.

11. FINANCIAL ASSISTANCE TO STUDENTS

Financial assistance in the form of scholarships and fellowships are given to meritorious students who are pursuing engineering, technology and science education at this Institute. The details of Scholarships and Fellowships sanctioned to the students of different programmes during 2009-10 are as follows:

11.1 Assistance to B.Tech students:

Merit-cum-means scholarship: 25% of students admitted to B.Tech/Dual Degree programmes and whose parental income is less than Rs. 4.5 lakhs were sanctioned MCM Scholarship (i.e exempted from payment of tuition fee of Rs. 25000/- semester plus pocket allowance of Rs. 1000/- per month). During the period under report 581 students benefited. The year-wise details of number of students were benefited are given in Table 11.1(b).

SC/ST students admitted to B.Tech/Dual Degree programmes and whose parental income is less than 4.5 lakhs were sanctioned the concession of free messing plus pocket allowance of Rs.250/-p.m. and exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules. As on 31.3.2010, 239 students were benefited.

Institute free studentship scholarship for B.Tech/Dual Degree programmes were sanctioned to the students, which comprises of exemption from payment of tuition fees.

The batch-wise details of number of students benefited also are given below:

Table 11.1 (a)

SI.No	Name of the Scholarships	No. of students
1.	Govt of India Ministry of Tribal Affairs ST Scholarships	5

Table 11.1 (b) - No of MCM and SC/ST scholarships

Batch	MCM Scholarship	SC/ST Scholarship	Student Freeship
2009	171	53	35
2008	149	64	60
2007	130	52	26
2006	131	70	36
Total	581	239	157

In addition to the above, the Institute sanctioned notional prize of Rs. 1000/- to 25 first B.Tech top ranking (in the JEE 2008) students whose parental income is more than Rupees two lakhs.

11.2 Other Scholarships:

Scholarships were sanctioned by NCERT, GOI and State Governments to meritorious students pursuing B.Tech programme in this Institute. The batch – wise details of number of students benefited by these scholarships are given below:

No of NCERT Scholarship obtained by B.Tech students

Batch	Total no. of students
2009	18
2008	34
2007	30
2006	35
Total	117

No. of State Government Scholarship obtained by B.Tech students

State	Batch / Total no. of students				Total
	2009	2008	2007	2006	
Andhra Pradesh	6	7	5	10	28
Delhi	10	3	5	10	28
Karnataka	3	2	3	2	10
Kerala	5	4	4	3	16
Tamil Nadu	2	1	-	-	3
Other States	-	-	3	6	9
Total	26	17	20	31	94

11.3.1 M.Tech:

Students who joined M.Tech programme through GATE were awarded Half-time Teaching Assistantship (HTTA) at Rs.8000/- per month. During the period under report 302 fresh assistantships and 245 renewed assistantships were given. The discipline-wise details are given below:

No. of HTTA awarded

Sl. No.	Discipline	Fresh – 2009 batch		Renewal - 2008 batch
		I Sem.	Non-HTTA got HTTA	
1	Aerospace Engineering	10	3	10
2	Applied Mechanics	10	1	11
3	Chemical Engineering	29	4	27
4	Civil Engineering	33	9	38
5	Computer Science & Engg.	46	-	37
6	Electrical Engineering	55	-	41
8	Indl. Maths & Sc.Computing	8	2	4
9	Mechanical Engineering	63	7	51
10	Metallurgical & Mat. Engg.	17	6	12
11	Ocean Engineering	24	1	9
12	Solid State Technology	7	-	5
Total		302	33	245

11.3.2 M.Tech Dual Degree

Students who joined M.Tech programme under Dual Degree of 2005 batch were awarded Half-time Teaching Assistantship (HTTA) at Rs.8000/- per month based on their obtaining valid GATE score or on seaming CGPA of 8.0 or above (CGPA of 7.5 & above for SC / ST). During the period under review 177 students were awarded fresh assistantships of Rs.8000/- per month from June 2009 and 172 renewed assistantships in Jan. 2010 out of which 147 students were renewed HTTA at the rate of Rs. 8000/- p.m and 25 student at the rate of Rs. 4500/-p.m. since they obtained CGPA of less than 6.5 in July-Nov. 2009 semester. The department-wise details are given below:

Sl. No.	Discipline	2005 batch	
		Fresh (9 th Sem.)	Renewal (10 th Sem.)
1	Aerospace Engineering	11	10
2	Biotechnology	13	12
3	Chemical Engineering	11	11
4	Infrastructural Civil Engg.	12	12
5	Computer Science & Engg.	10	10
6	Electrical Engineering	44	42
7	Engineering Design	22	22
8	Mechanical Engineering	43	42
9	Met. & Mat. Engineering	7	6
10	Naval Arch. & Ocean Engg.	4	5
Total		177	172

11.4 M.Sc.:

Students admitted to M.Sc programme were sanctioned Rs 1000/- p.m. merit scholarship as per rule. Exemption from payment of tuition fee was also given to certain students. During the period under report 81 students benefited. The department-wise details are given below:

No. of Merit Scholarship and freeship awarded

Sl. No.	Course	Merit scholarship		Freeship (tuition fees waiver)	
		1 st Year	2 nd Year	1 st Year	2 nd Year
1.	Chemistry	11	8	4	3
2.	Mathematics	13	7	5	3
3.	Physics	11	7	6	3
Total		35	22	15	9

11.5 M.A.:

Institute Merit Scholarship: 25% of students admitted to M.A programme and whose parental income is less than Rs. 4.5 lakhs were sanctioned Merit Scholarship (i.e exempted from payment of tuition fee of Rs. 3000/- semester plus pocket allowance of Rs. 1000/- per month).

SC/ST students admitted to M.A programme and whose parental income is less than 4.5 lakhs were sanctioned the concession of free messing plus pocket allowance of Rs.250/-p.m. and exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules.

Institute free studentship scholarship for M.A. programmes were sanctioned to the students, which comprises of exemption from payment of tuition fees.

The batch-wise details of number of students benefited also are given below:

Batch	Merit Scholarship	SC/ST Scholarship
2009	2	1
2008	1	1
2007	-	2
2006	-	-
Total	3	4

11.6 M.S.:

The scholars admitted to MS programme through GATE are given Half-time Teaching Research Assistantship (HTRA) of Rs 8000/- p.m. for three years. During the period under report 277 scholars received this assistantship of which 52 were fresh scholars. The department-wise details of the assistantships awarded and renewed are given below:

No. of HTRA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	3	26	29
2	Applied Mechanics	3	12	15
3	Biotechnology	1	16	17
4	Chemical Engineering	3	10	13
5	Civil Engineering	4	16	20
6	Computer Sc. & Engg.	10	24	34
7	Engineering Design	1	8	9
8	Electrical Engineering	11	47	58
9	Management Studies	5	16	21
10	Mechanical Engineering	7	31	38
11	Metallurgical & Mat. Engg.	-	7	7
12	Ocean Engineering	4	12	16
Total		52	225	277

11.7 Ph.D:

The Scholars admitted to Ph.D. full time programme in Engineering are sanctioned Half-time Teaching / Research Assistantship (HTRA) of Rs.14000/- p.m. for first 2 years and Rs.15000/- p.m. for next 2 years. Scholars admitted to the Ph.D fulltime programme in the Science subjects through GATE or other equivalent exams are sanctioned Rs.12000/- p.m. for first 2 years, Rs.14000/- p.m. for next 2 years and Rs.15000/- for fifth years. During the period under report 435 students obtained assistantships of which 69 were fresh scholars. The department-wise details of the assistantships awarded and renewed are given below:

No. of HTRA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	3	19	22
2	Applied Mechanics	4	20	24
3	Biotechnology	3	29	32
4	Chemical Engineering	3	22	25
5	Chemistry	1	27	28
6	Civil Engineering	9	34	43
7	Computer Science & Engg.	2	13	15
8	Engineering Design	0	6	6
9	Electrical Engineering	11	40	51
10	Humanities & Soc. Sciences	1	12	13
11	Management Studies	1	15	16
12	Mathematics	2	11	13
13	Mechanical Engineering	15	54	69
14	Metallurgical & Mat. Engg.	2	15	17
15	Ocean Engineering	6	6	12
16	Physics	6	43	49
Total		69	366	435

11.8 (a) Financial Assistance to Research Scholars/Students for presentation of papers abroad:

This Institute is encouraging the Research Scholars to present papers in international conferences for which they are given financial assistance. The financial assistance provided to M.S. & Ph.D. scholars are given under:

Adhoc amount	:	Rs. 70,000/-
Registration fee	:	US \$ 500/-

11.8 (b) National/International conferences in India:

Research scholars and students of course programmes are given the following financial assistance for presentation of papers in National/International Conferences in India:

Registration fee:

National conference	:	Rs. 2,000/-
International conference	:	Rs. 3,000/-
Travel	:	Second class rail fare
Daily allowance	:	Rs.200/- per diem subject to a maximum of 10 days

12. WEAKER SECTION & FOREIGN NATIONAL STUDENTS

12.1 B.Tech programme:

As per the GOI orders 15% and 7.5% of seats are reserved for SC and ST students respectively in the B.Tech. programme. These students are admitted through the Joint Entrance Examination with a relaxation. These students have to get only 60% of the marks obtained by the last student of the general category to get qualified for admission. During counselling prior to admission, the Adviser explained to each student the requirements of different branches. This helped the students to choose a suitable branch based upon their capability and interest. When a student finds the chosen branch is tough, he is allowed to switch over to lower JEE cut-off branch at the end of his first semester.

The following are the details of number of SC/ST students admitted to B.Tech programme through JEE and Preparatory Course in July 2009:

Total Sanctioned Intake	Sanctioned Intake		No. joined through				
			Programme	JEE		Preparatory Course	
	SC	ST		SC	ST	SC	ST
B.Tech - 403	62	30	B.Tech	53	17	-	8
Dual Degree - 310	48	29	Dual Degree	47	12	2	8

SC/ST students admitted against reservation are given the following benefits:

- Travelling allowance (II Class train fare/ordinary bus fare) from the place of residence to Chennai to join the B.Tech programme.
- Tuition fee waiver.
- Free lodging and messing (basic menu only) and pocket allowance of Rs.250/- p.m. provided their parents' income is Rs.4,50,000/- net per annum or less.
- A Book Bank as part of Central Library is maintained for the benefit of the SC/ST students. The students are issued 12 tickets for taking books from the Book Bank. Books are issued for a semester.
- Drawing instrument (Mini-drafter) free of cost.
- Help in getting placement. Wherever possible, industries are requested to conduct separate interviews for SC/ST students and the requirements for these students are lower than those for the general category.

12.2 Preparatory Course for admission to B.Tech programme:

A preparatory course of one academic year was initiated by the Ministry of Human Resource Development, Government of India, during the year 1983-84 exclusively for SC/ST students. Selection for this course is made from the Joint Entrance Examination list of SC/ST students who did not qualify for admission. Upon successfully completing the preparatory course at the IIT, they would be eligible to join the B.Tech programme and they will not require to write the JEE again. Following are the details of admission in July 2009:

Offer issued for PC		No. joined	
SC	ST	SC	ST
-	28	-	24

21 Preparatory course 2008-09 batch candidates were offered admission to B.Tech/Dual Degree Programme in July 2009 as they have successfully completed the preparatory course.

12.3 M.Tech programme:

Seats are reserved for SC and ST candidates as per the Government of India orders. They are admitted through GATE by a separate merit list. Following are the details of admission in July 2009:

Offer issued		No. joined	
SC	ST	SC	ST
172	68	52	21

12.4 M.Sc programme:

Admission was made to the M.Sc. programme through entrance examinations only. 17 SC and 2 ST students were admitted in M.Sc. These students were given tuition fee waiver.

M.Tech and M.Sc students admitted against reservation are given the following benefits:

- Book Bank facility with 12 library tickets. Books are issued for a semester.
- Both Public Sector and Private Sector industries were requested to recruit SC and ST students. Other special steps were also taken to enhance the recruitment of this category of students.
- Scholarship is given to these students as per Govt. of India norms.

12.5 Admission of Foreign National Students and Indian National Residing Abroad:

In July 2009, 1 foreign national student joined M.S programme.

At the end of March 2010, 6 foreign nationals were on the rolls of the Institute. The programme and country-wise details are given below:

Country	I Year	II Year	III Year	IV Year	V Year	Total
1. Foreign National Students						
M.Tech						
Ethiopia	-	1	3	-	-	4
M.S.						
France	-	-	1	-	-	1
Ph.D						
Ethiopia	-	-	1	-	-	1
Total	-	1	5	-	-	6

Foreign students are also permitted to use the Book Bank. 4 Book Bank Library tickets are issued to each student. Books are issued for a semester.

In addition to the above, IIT Madras Alumni Association provides financial assistance to students under IITMAANA Travel grant program to assist IITM students to visit USA and present their papers at nationally recognized technical conferences. The grant will cover airline ticket charges and visa fees but exclude payment of conference registration fees.

During the period under report, 58 students benefited and Rs 7.37 lakhs released for the above purpose.

13. CAMPUS AMENITIES

IIT Madras is a residential Institution. It is housing about 4352 Students and 980 Staff members in the Campus. It provides various amenities in the Campus for students and staff.

13.1 Major Works:

The following are the major works completed during the year 2009-2010:

Sl. No	Name of work	Rupees in Lakhs
1.	Construction of a sports complex by replacing the existing fitness centre	550
2.	Raising compound wall from Taramani to Velacherry	25
3.	Re-carpeting of all major & minor roads at IIT Madras	290
4.	Creation of new infrastructure facilities (G+1_for central school by replacing the damaged primary school wing	750
Work in progress		
1.	Construction of 96 Nos. C2 type quarters	2966.77
2.	Construction of 60 nos. of G type Quarters for married research scholars	820
3.	Creation of new infrastructure facilities at Vanavani school by replacing the existing primary wing.	1145
4.	Construction of an additional floor (i.e., third floor) over Saraswathi, Alakananda and Narmada Hostels (3x64 rooms)	578
5.	Extension of Engineering Design building with an additional third floor	420
6.	Construction of additional students rooms at 4th floor of Sharavathi girls hostel	460
7.	Construction of 512 students rooms by replacing the existing mess, dining hall and construction of additional toilet block, common room and staircase at various hostels	2838
8.	Construction of additional students room (third floor) over Tapti and Brahmaputra Hostels.	354
9.	Construction on under ground sump 5.5 lakhs liters capacity (3 nos.) in main pump house.	235
10.	Reconstruction of compound wall with RCC precast panels and raising of boundary walls from Kanagam to Taramani	895

13.2 Housing Facilities:

As on 31.03.2010, 980 quarters are available for accommodation to the staff members. In addition to this 209 servant quarters are also in the campus.

13.3. Horticulture:

A separate horticulture unit is functioning under Engineering Unit. A Corridor has been formed near proposed sports complex area for movement of blackbuck from hostel zone.

13.4 Telephone Facilities:

A new Telephone Exchange was commissioned by BSNL, Chennai Telephones Division in the Campus. All direct lines of this institute, which were linked from Raj Bhavan Telephone Exchange, were linked to this Exchange.

13.5 Central Supplies Unit:

- It functions under the administration of a Warden. The Unit procures milk from Tamil Nadu Co-operative Milk Producers' Federation (TCMPF) and distributes to the student hostels.
- Under the provision supply scheme, the Unit procures the items of major consumption from the wholesale suppliers through Provision Selection Committee and Provision Purchase Committee and distributes them to hostels, thus economizing the mess expenditure in the Hostel.
- Further to the above, the Unit is procuring the branded cosmetics and eatables from the wholesale dealers and distributing the same to the students through Students Amenities Centres under nominal price which is comparatively very less than the maximum retail price (MRP).

13.6 Guest House:

There are two Guest House in the Campus viz. the Main Guest House and Taramani Guest House which have 7 suites and 84 rooms respectively.

13.7 Hospital:

The Institute Hospital with 6 medical officers about 24 visiting consultants, and about 34 supporting staff nursing/technical/ administrative staff managed the health problems faced by the students, employees and their families, retired employees and project staff. The sections in the hospital include MRD, reception and insurance, casualty with injection room, major and minor OT with gas autoclaving units, labour / neonatal unit, regular and special OPDs, immunization clinic, physiotherapy, digital X-ray and sonography unit, ECG, and a NABL accredited clinical collection lab, pharmacy, house-keeping and laundry, coded hospital waste clearance unit and administrative office.

In-house full time Doctors:

Dr. Sabitha Selvam	Chief Medical Officer (I/c)
Dr. Mahalakshmi M. Ravi	Medical Officer (on E.O.L.)
Dr. Rebecca Punithavalli	Medical Officer (on M.L.)
Dr. N. Porchelvi	Jr. Medical Officer
Dr. V. Thenral	Jr. Medical Officer
Dr. A.J. Tamilmani	Jr. Medical Officer (on E.O.L.)
Dr. D. Saraswathi	Jr. Medical Officer (on contract)
Dr. V. Sangamithra	Jr. Medical Officer (on contract)
Dr. Sobhana Devi	Jr. Medical Officer (on contract)
Dr. Shanmuga Priya	Jr. Medical Officer (on contract)

Part-time visiting Consultants:

Dr. J.S.N. Murthy	Cardiologist
Dr. S. Manoj	Cardiologist
Dr. N. Mahesh	Neurologist
Dr. V. Kumaravel	Endocrinologist
Dr. K. Arun	Endocrinologist
Dr. P.V. Jayashankar	Orthopaedic Surgeon
Dr. R.M. Alagappan	Orthopaedic Surgeon
Dr. Mohan Rao	General Surgeon
Dr. D. Parthasarathy	Anaesthetist
Dr. Tamil Selvi	Anaesthetist
Dr. Vasantha Jayaram	Psychiatrist
Dr. S. Vijayaraghavan	General Physician
Dr. Shobana Priya Sampath	Gynecologist
Dr. Indira Chaturvedi	Pediatrician
Dr. V.P. Sivakumar	Pediatrician /MO.
Dr. A. Chandan	Dermatologist
Dr. T. Muthumani	Oral Surgeon
Dr. K. Sharadhamani	Dentist
Dr. Meenakshi Pandey	Ophthalmologist
Dr. K. Balamurugan	ENT
Ms. Anu Rajan	Physiotherapist

Out-patients:

Out-patient service is available on all weekdays between 8.30 a.m. to 6.00 p.m. A total of 83,207 out-patients were treated in hospital as compared to 61,755 last year. We have introduced a new system of registration for Project staff, International students and for other students like IIIT- D&M and to IIT-Hyderabad with mandatory fitness and immunization status submission. During the SWINE-FLU epidemic this year a 14 day screening camp for about 5439 students was conducted for 17 hostels with the help of the corporation of Chennai.

In-patients:

There are 18 beds in our institute hospital for treating in-patients. In the year 2009-10, about 2,471 patients were treated as in patients in emergency room and wards. Rs.33,61,887/- was the medical insurance claim for admission in the Institute Hospital with a claim rate of about 150% for students and about 90% for employees.

Emergency services:

Emergency service is available round the clock on all days with a duty doctor and supporting staffs. 13,745 emergency cases were attended during Non-OP hours in 2009-10. An ambulance service run by Trauma Care Consortium is available at hospital round the clock. Emergency First aid is extended to the campus guests / Contract workers / Campus schools. Institute Hospital provided medical facilities for the Golden Jubilee activities like Moon-walk, Earth day walk and the Institute cultural festivals Saarang / Sasstra, Gymkana sports tournaments and academic workshops.

Diagnostics:

The hospital inaugurated the day light/chemical free and film free computerized digital X-ray facility and a Doppler added ultrasonography unit.

A total of 543 patients had Ultra Sound Scan and 2,227 patients had X-ray, 627 patients taken ECG . A total of 6,574 patients had various lab tests and a total of 7,881 patients had physiotherapy. Emergency sonography were about 72. Other radiological investigations like CT/MRI/PET SCAN are organized on a consessional rate and with reimbursable facility for employees and dependants.

Out-sourced Departments

24 hours Ambulance Services	- Health First -Trauma Care Consortium
Laboratory Services	- Sundaram Medical Foundation.
Ophthalmology	- Vasan eye care Pvt Ltd
Pharmacy	- Apollo Pharmacy Pvt Ltd
Physiotherapy	- Alpha Physiotherapy Centre.
Medical Waste disposal	- G.J. Multiclave Pvt Ltd
Housekeeping Services	- G4S facility services

IN PATIENTS & OUT PATIENTS										
Year	O.P	Emergency	In patient	In Patient	DENTAL	X-ray	ECG	USG	Lab	Physio
	DAY	Cases	Casualty							
	8am-6pm	6pm-8am	admission	In ward						
Apr-09	4701	925	194	32	144	169	52	38	492	127
May-09	5739	1149	127	25	172	165	46	37	486	86
Jun-09	6190	1178	109	17	162	159	55	25	530	165
Jul-09	5767	1084	118	22	198	179	71	35	472	109
Aug-09	5762	1653	152	76	170	203	45	47	539	99
Sep-09	5396	1294	172	53	167	185	34	47	540	114
Oct-09	5688	1415	203	50	149	190	48	47	604	99
Nov-09	5029	823	103	31	147	173	39	44	483	104
Dec-09	5828	975	188	26	111	135	41	41	478	57
Jan-10	6551	1207	211	28	173	152	62	62	562	94
Feb-10	6734	1009	187	57	129	234	64	50	663	145
Mar-10	6077	1033	259	31	195	283	70	70	725	133
TOTAL	69462	13745	2023	448	1917	2227	627	543	6574	1332

Grand Total = 83,207 Patients for the year 2009-2010

Activities for the Year:

Date	Programme
04.04.09	In the Golden Jubilee Celebration event, our medical personnel with first-aid kits accompanied the participants in the Nature walk.
19.04.09	In the Golden Jubilee Celebration event, our medical personnel with first-aid kits accompanied the participants in the Earth day walk /run.
25.04.09	"What is common about Hyperuricemia / Hyperlipidemia" by Dr.V. Kumaravel, Consultant Endocrinologist, sponsored by GSK & Co at Institute Hospital Conference room.
27.04.09	"Hepatitis" by Dr. V. Jayanthi, HOD, Gastro Enterologist, Stanley Medical College and "Acute diarrheal disease in children" by Dr. B. Sumathy, Pediatrician, Children Hospital, Egmore, Chennai sponsored by MERCK.
20.06.09	CME Program on "BPH (Benign prostate hyperplasia)" by Dr.Sengalvarayan, Urologist, Government Hospital, Chennai in the Conference Room and sponsored by Dr. Reddy's Laboratory.
24.06.09	CME Program on "Dyslipidemia in Diabetics Patients" by Dr. Sriram Mahadevan, MD. DM., Endocrinologist, SMF in the Conference Room and sponsored by Ranbaxy Co.
24.07.09	"Lowback Pain in Women" delivered by Dr. Sabitha Selvam for the Campus Women.
26.10.09 to 30.10.09	Dr. Sabitha selvam attended a training program on Hospital administration with emphasis on logistic management at Port Blair and also visited Pant Hospital, Port Blair
28.10.09	Institute Hospital Staff Nurses attended a training program on "Nebulization and respiratory devices usage techniques in Acute Asthma" conducted by CIPLA.

20.11.09	The hospital Doctors and sisters witnessed a live web telecast programme by Eminent Cardiologist Dr.Pale Paleotone (Italy) at 8.30 p.m. in Institute Hospital Conference room.
25.11.09	Dr.Vasantha Jayaraman delivered a lecture on "Mental health in women" in the Institute Hospital for the campus residents.
26.11.09	An interactive discussion about the Five phases of women-hood and their well being at ladies club BY Dr. Shobana priya sampath, Consultant Gynac IIT Madras and Dr. Sabitha.
08.01.10	"MARVELS IN RABIES VACCINE" a lecture was given by Dr. A. Parthasarathy, Deputy Superintendent Institute of Child Health and hospital for Children Egmore, Chennai.
26.01.10	Health check-up camp was held in KV-IIT for 1500 children.
07.02.10	Polio Vaccine given to campus children (Below 5 years)
26.02.10	"CARDIO PULMNORAY RESUSCITATION (CPR)" a lecture was given by Dr. Sai Krishnan, ICU (i/c) Isabel's Hospital, Mylapore, Chennai
08.03.10	In connection with Women's day A lecture on Breast Cancer was given by Dr. Anshul Bansal, Consultant Gynac Apollo ACE at CLT.
09.03.10 to 11.03.10	Women's Health check up camp was conducted with emphasis on Cardiac/urology problems for Institute students Female Employees, dependants and Self Help groups.

13.8 Bank:

State Bank of India IIT branch is functioning on the campus, which has provided 2 ATMs. Canara Bank branch is also functioning on the campus. ICICI Bank has provided an ATM in the Hostel Sector.

13.9 Post Office and Telecom centre:

There is a post office on the campus opposite to the State Bank of India to cater to the needs of the staff, students and residents of the campus. A 24 hours telecom centre is functioning to cater to the needs of the staff, students and residents of the campus.

13.10 Schools:

Vanavani Matriculation Higher Secondary School (VVMHSS) administered by IIT Madras Educational Trust is functioning on the campus besides a Kendriya Vidyalaya (K.V.) VVMHSS school is offering courses from LKG to XII Standards and the KV is offering courses from I standard to XII standard.

13.11 Open Air Theatre:

An Open-Air Theatre is available for screening films by the Film Club during week-ends and for use for other functions of the Institute and the Schools.

13.12 Student Activities Centre:

This building is used for indoor games of the students as well as for the conduct of important functions such as Convocation, orientation programme for freshers etc.

13.13 Cafeteria:

Two Canteens, viz. IIT Staff Canteen and Tifans Restaurant are available on the campus to cater to the needs of the staff and students.

13.14 Creche:

A Crèche is functioning in the campus for the benefit of staff/ working women. There were about 50 children in the Crèche during the period under report.

13.15 Transport Services:

The Institute has 5 buses and 11 eco-friendly (Battery operator) vans which provide transport facility to the staff, students and residents of the campus. Transport facilities are also available for the official work

13.16 Campus News:

Campus News is published every Friday highlighting the important events of the Insti

14. FINANCE AND ACCOUNTS

The financial year of the Institute corresponds with that of Government of India i.e., 1st April to 31st March of the following year. The Accounts of the Institute are annually audited by the Principal Accountant General (Tamil Nadu & Pondicherry), Chennai on behalf of the Comptroller & Auditor General of India.

The 75th Finance Committee of the Institute in its meeting held on 17/11/2009 recommended Non-Plan Revised Estimates of Rs. 20156 lakh (Gross) for the year 2009-10 and Budget Estimates of Rs. 17771 lakh (Gross) for 2010-11. The Committee recommended Revised Estimate of Rs.6601 lakh under Normal Plan and Rs. 15440 lakh under Capacity Expansion (OSC Grant) for 2009-10 besides recommending budget estimate of Rs.6800 lakh under Normal Plan Schemes and Rs. 9500 lakh under Capacity Expansion Schemes for 2010-11.

The following are the Summary of Revised Estimates 2009-10 and Budget Estimates for 2010-11 as approved by the Board of Governors of the Institute in their 203rd Meeting held on 17/11/2009.

	(Rs. in Lakhs)		
Head	BE – 2009-10	RE ~ 2009-10	BE – 2010-11
I. Non-Plan			
Opening Balance	0	2072.99*	0
Income	2854.20	2883.01	3271.00
Grant from MHRD	14621.00	15200.00	14500.00
Total	17475.20	20156.00	17771.00
Expenditure	18329.13	20156.00	17771.00
Suplus / Deficit	-853.93	0	0
II. Plan			
a. Normal Plan:			
Grant from MHRD	8000.00	6447.47	6800.00
Expenditure	8000.00	6447.47	6800.00
Suplus / Deficit	0.00	0.00	0.00
b. Capacity Expansion:			
Grant from MHRD	10028.00	15198.41	9500.00
Expenditure	10028.00	15198.41	9500.00
Suplus / Deficit	0.00	0.00	0.00

* C/o to 2009-10 for payment of 6th CPC arrears to Faculty Members

Audit

The Annual Accounts of the Institute for the year 2008-09 was audited by Principal Accountant General (Tamil Nadu & Pondicherry) during July 2009. The certified copy of Accounts and Audit Report were sent to MHRD, New Delhi for placing before Parliament on 23rd December 2009 after obtaining approval of Board of Governors of this Institute on 23rd December 2009 in its 204th Meeting. Summary of Plan/Non-Plan funds utilization for 2008-09 is as below.

Plan

	(Rupees in Crore)
Opening Balance	Nil
Normal Plan Grant Sanctioned during 2008-09	56.00
OSC Capacity Expansion Grant	79.76
Total available	135.76
Capital Expenses during 2008-09	
Buildings & Construction	37.66
Furniture & Fixtures	2.45
Equipments	23.25
Books	1.16
Journals & Periodicals	8.70
Revenue Expenditure	2.87

Loan to IIT Hyderabad	5.00
Loan to NPTEL Project	0.50
Repayment to Corpus	19.70
Total	101.29

Non-Plan

(Rupees in Crore)

Opening Balance	Nil
Grant Sanctioned during 2008-09	127.40
Tuition Fees	8.25
Hostel Fees	0.59
Entrance Examination Fees	10.78
Administrative Income	3.40
Interest Income	5.53
Other fees	2.18
Other Income	0.76
Total available	158.89
Expenditure during 2008-09	
Pay & Allowances	54.22
Service Pension & Family Pension- Retirement Benefits	26.32
Library Services	0.24
Health Services	1.69
Student Scholarship	15.77
Hall Subsidy	1.19
Administrative Expenses	2.06
Departmental/Laboratory/Workshop expenses	7.57
Transport Subsidy	0.43
Student Support Activities	0.41
Computer Facilities	1.80
House Keeping & Estate Maintenance	8.55
Water/Electricity Charges	13.73
Entrance Examination Expenses	4.18
Total utilized *	138.16
Surplus	20.73

Surplus Rs 20.73 crore is retained for payment of 6th CPC arrears to Faculty.

1. THE SENATE

CHAIRMAN**Prof. M.S. Ananth**

- | | | | |
|-----|----------------------------|------|---------------------------|
| 1. | Bhaskar K | 56. | Pandurangan C |
| 2. | Chakravarthy S.R. | 57. | Siva Ram Murthy C |
| 3. | Job Kurian | 58. | Srinivasa Kumar P |
| 4. | Ramakrishna M | 59. | Archita Patnaik |
| 5. | Santhakumar S | 60. | Bhaskaran S |
| 6. | Sriram P | 61. | Byrappa P |
| 7. | Velmurugan R | 62. | Chandrakumar N |
| 8. | Sujith R I | 63. | Dhamodharan R |
| 9. | Lakshmana Rao C | 64. | Indrapal Singh Aidhen |
| 10. | Ramasubba Reddy M | 65. | Loganathan D |
| 11. | Ramesh K | 66. | Mishra A K |
| 12. | Sivakumar M S | 67. | Pradeep T |
| 13. | Anju Chadha | 68. | Ranga Rao G |
| 14. | Chandra T S | 69. | Sangaranarayanan M V |
| 15. | Doble Mukesh | 70. | Sanjay Kumar |
| 16. | Guhan Jayaraman | 71. | Sankararaman S |
| 17. | Karunakaran D | 72. | Selvam P |
| 18. | Ramachandran K B | 73. | Varadarajan T K |
| 19. | Suraishkumar G K | 74. | Varadaraju U V |
| 20. | Boominathan A | 75. | Vidyasagar K |
| 21. | Devdas menon | 76. | Krishnakumar R |
| 22. | Gandhi S R | 77. | Amitava Dasgupta |
| 23. | Kalyanaraman V | 78. | Anil Prabhakar |
| 24. | Koshy Varghese | 79. | Aravind R |
| 25. | Ligy Philip | 80. | Bhaskar Ramamurthi |
| 26. | Meher Prasad A | 81. | Devendra Jalihal |
| 27. | Murthy B S | 82. | Enakshi Bhattacharya |
| 28. | Rajagopal K | 83. | Giridhar K |
| 29. | Ramachandraiah A | 84. | Harishankar Ramachandran |
| 30. | Ramamurthy K | 85. | Jagadeesh Kumar V |
| 31. | Ravindra Gettu | 86. | Janakiraman P A |
| 32. | Sathyanarayana K N | 87. | Jayashankar V |
| 33. | Sivanandan R | 88. | Jhunjunwala A |
| 34. | Srinivasan K | 89. | Karmalkar S |
| 35. | Thamizh Arasan V | 90. | Krishna Vasudevan |
| 36. | Veeraragavan A | 91. | Mahesh kumar |
| 37. | Balakrishnan A R | 92. | Nandita Dasgupta |
| 38. | Krishnalah K | 93. | Prabhu K M M |
| 39. | Nagarajan R | 94. | Rajagopalan A.N. |
| 40. | Panda T | 95. | Ravinder David Koilpillai |
| 41. | Pushpavanam S | 96. | Sarathi R |
| 42. | Ramachandra Rao V S | 97. | Shanthi Pavan Y |
| 43. | Ravi R | 98. | Shanthi Swarup K |
| 44. | Sai P S T | 99. | Sridharan K |
| 45. | Shankar Narasimhan | 100. | Srinivasan S |
| 46. | Sreenivas Jayanti | 101. | Vinita Vasudevan |
| 47. | Tanmay Basak | 102. | Srinivasan Umesh |
| 48. | Swaminathan T | 103. | Evangelina Manickam |
| 49. | Deepak Khemani | 104. | Malathy Duraisamy |
| 50. | Hema A Murthy | 105. | Muraleedharan V R |
| 51. | Janakiram D | 106. | Sudhir Chella Rajan |
| 52. | Kalyanakrishnan R | 107. | Arindama Singh |
| 53. | Kamakoti V | 108. | Choudum S A |
| 54. | Kamala Krithivasan | 109. | Kalpakam S |
| 55. | Krishna Moorthy Sivalingam | 110. | Kamath S G |

111. Kulkarni S H
112. Parthasarathy PR
113. Ponnusamy S
114. Rama R
115. Satyajit Roy
121. Vetrivel V
122. Ajit Kumar Kolar
123. Babu V
124. Balaji C
125. Chandramouli P
126. Ganesan N
127. Gopinath K
128. Govardhan M
129. Krishnan Balasubramaniam
130. KUMARASWAMY S
131. MANI A
132. Mayuram M M
133. Mehta P S
134. Muthuveerappan G
135. Narayanan S
136. Prakash Maiya M
137. Prasad B V S S S
138. Raju Sethuraman
139. Ramamoorthy B
140. Ramesh A
141. Ramesh Babu N
142. Sarit Kumar Das
143. Seshadri Sekhar A
144. Shunmugam M S
145. Singaperumal M
146. Sitaram N
147. Siva Prasad N
148. Srinivasa Murthy S
149. Sujatha C
150. Sundararajan T
151. Swarnamani S
152. Vekatarathnam G
153. Venkateshan S P
154. Vijayaraghavan L
155. Murty B S
156. Bhattacharya S. S.
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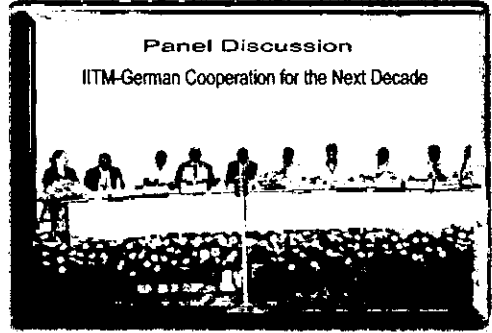
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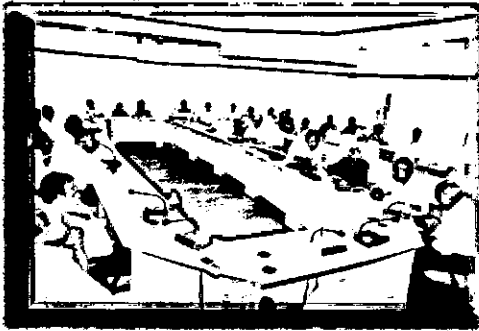
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