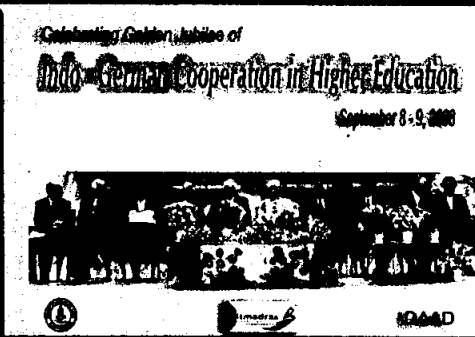




Annual Report

2008-09

INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI - 600 036



Annual Report

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INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI - 600 036

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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 5 Research Centres 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. It has responded to environmental changes and user needs by redesigning curricula, offering new programmes and 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. 2 SC and 26 ST candidates have been admitted to this course in 2008.

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 2008-09.

1. THE FORTY-FIFTH CONVOCATION

At this Convocation, a total of 1367 degrees are being awarded: 165 Ph.D., 110 M.S., 348 M.Tech., 61 M.B.A., 85 M.Sc., 120 Dual Degree and 358 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: 28 QIP candidates (teachers from other colleges), 13 sponsored candidates and 44 UoP candidates, 158 ladies, comprising 36 Ph.D., 21 M.S., 36 M.Tech., 14 M.Sc., 15 MBA, 10 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 and Petroleum Engineering will be introduced from August 2009. In addition, a 5-year Dual Degree (BS & MS) in Physics will also be introduced from this year.

As a part of modernizing the Central Workshop, first year students are introduced to the use of power operated hand tools in the Fitting shop and Carpentry shop. In Welding shop a Plasma arc cutting equipment has been procured and students are given hands on training in Plasma arc cutting.

3. ACADEMIC RESEARCH

IITM continues to be active in research and during the year under review, 165 Ph.D theses and 110 Master's theses have been completed. Our faculty and research scholars have published 936 research papers in refereed International (829) and National (107) Journals and have presented 649 research papers in International (510) and National (139) Conferences.

3.1 Ph.D. Work

Aerospace Engineering

Jayaraman & Chakravarthy produced aluminium particles in the size range around 50 nm by electrical wire explosion and showed that the nano-aluminized propellants yield about 50-100% higher burning rates, with low pressure exponents in the elevated pressure range.

Kumara Gurubaran & Sujith studied comprehensively the dynamic behavior of non-evaporative and evaporative sprays in axial acoustic fields and investigated the highly complex three way interaction between a non-evaporative spray, swirl flow and acoustic field.

Shreenivasan & Chakravarthy investigated the onset of combustion instability in a non-premixed dump combustor. The heat release fluctuation is modulated by the vortex shedding and excites acoustic oscillations in the duct, whose natural frequency locks on to the vortex shedding. They reported a novel map of the instability onset.

Applied Mechanics

Anup, Sivakumar & Suraishkumar studied the bone toughness and the significance of structural arrangement, ratio of strength of constituents, and special properties of the constituents in providing enhanced bone toughness.

Ashokan & Ramesh explored new strategies for data reduction in digital photoelasticity with a view to make the technique industry friendly. Interalia they developed a simulated dark field approach for ambiguity removal and adaptive scanning scheme for ease of stress separation in complex models.

Biotechnology

Gobinath & Chandraraj optimised process parameters for production of industrial enzyme alpha-amylase in a bioreactor using low cost agro-residues based production medium and a hyperproducing carbon catabolite derepressed bacterial strain bacillus subtilis KCC103.

Sivakumar & Mukesh Doble established through animal trials, very good TB activity of chalcones and good anti-inflammatory activity of Pyrazolines.

Swati Sucharita Dash & Sathyanarayana Gummadi characterized a novel caffeine degrading strain and optimized the growth conditions for maximum caffeine degradation. They reported higher maximum caffeine degradation rates by the new strain compared to other strains reported so far.

Chemical Engineering

Rahul Ashok Damodar & Swaminathan developed a novel process using an immobilized rotating tube photoreactor and evaluated it for the degradation of toxic synthetic dyes in wastewaters.

Rameshbabu & Shankar Narasimhan proposed a novel preprocessing technique to deal with noisy data for effective extraction of source signals from measured mixed signals.

Ravi & Swaminathan compared performances of three different bioreactors for the degradation of a persistent volatile organic compound dichloromethane.

Shyam Prasad & Sreenivas Jayanti studied in-depth the characteristics of flow and water vapour evacuation in a interdigitated flow field, which is known to be superior compared to conventional flow fields for a PEM fuel cell and developed design procedures for the optimization of the flow field for low pressure drop and high water evacuation rate.

Vasudeva Kumar Mantravadi & Pushpavanam analysed the non linear behavior exhibited by coupled reactor separator systems and modeled biochemical reactions using the cybernetic approach to understand the differences between predictions of standard models and experimental observations.

Chemistry

Biswarup Sen & Chandra studied the microbial diversity and community succession during vermicomposting of sugar cane industry wastes press mud, bagasse and trash using molecular nucleic acid and spectroscopic techniques.

David Jeba Singh & Pradeep discovered several closed-cage clusters of molybdenum in the gas phase and performed detailed experimental and theoretical studies to understand their diverse properties.

Divya & Mishra developed some novel analytical techniques for complex multicomponent systems, combining chemometry with synchronous fluorescence and excitation-emission matrix fluorescence and applied them to the problem of petroleum fuel adulteration.

Harihara Subramanian & Dhamodharan established a new copper based catalytic system for the ambient temperature atom transfer radical polymerization of tertiary butyl acrylate and proposed a new polymerization mechanism, namely, single electron transfer - radical addition fragmentation chain transfer or SET-RAFT.

Janet, Viswanath & Varadarajan achieved synthesis of ammonia at atmospheric pressure by using conventional catalysts based on supported Fe as well as by exploring newly designed combinations of supported Mn and Co.

Navaladian, Viswanath & Varadarajan synthesized high surface area and mesoporous manganese oxide materials at ambient conditions by a cost-effective route.

Pooja & Chandra isolated unusual bacteria which can degrade xylan as well as fix nitrogen from termite mounds and vermicompost and used them for accelerating vermicompost of sugar industry wastes and production of polysaccharide polymer.

Prakash Babu & Dhamodharan demonstrated new ways of synthesizing graft copolymers by the radical addition fragmentation chain transfer polymerization (RAFT) using new, odourless chain transfer agents based on trithocarbonate and showed nanopattern formation through self-assembly.

Rajeev Kumar & Pradeep synthesized novel nanocomposites involving noble metal nanoparticles and nanorods and investigated their assemblies. They used nanoparticles as labels to understand the initial stages of the molecular self organisation of oligo(p-phenylenevinylenes).

Rajeswari & Varadarajan synthesized nanorods of MoO_2 and WO_3 and showed that they make good electrochemical super capacitors with high electrochemical stability and reversibility.

Satyananda Kishore & Varadarajan used phosphotungstic acid effectively as catalyst for the direct condensation polymerization of lactic acid into poly (lactic acid) at 150°C in the absence of solvents. The polymer PLA exhibited high glass transition temperature.

Sreedevi Mannam & Sekar developed very efficient copper catalysts for aerobic oxidation of alcohols to corresponding carbonyl compounds or carboxylic acids and successfully extended the aerobic oxidation to asymmetric version of synthesis of important biologically active chiral alcohols.

Susithra & Mishra studied the physicochemical interaction of bile salts with certain drugs and observed that amphotericin-B, an antifungal antibiotic, exists in both monomeric and dimeric forms in post-micellar bile salt concentrations.

Vaijyanthi & Anju Chadha prepared a variety of Chiral synthons, significantly aryl amines using a yeast-candida parapsilosis ATCC 7330. Part of the published work has been quoted in Synfacts.

Civil Engineering

Elangovan, Ligy Philip & Chandraraj developed an integrated bioremediation technique for the complete treatment of COD rich industrial effluent with hexavalent chromium.

Glory Joseph & Ramamurthy studied the influence of mixture composition on workability, strength and permeation behaviour of cold-bonded fly ash aggregate concrete through statistically designed experiments

Gnanasekaran & Amlan Sengupta investigated both experimentally and numerically the strengthening of columns in buildings to resist forces due to earthquakes and proposed design guidelines for practicing professionals.

Jayasree & Ravindra Gettu studied the mechanisms that influence cement-superplasticizer interaction through flow, setting time and microstructural analyses and proposed a simple methodology for the selection of compatible cement-superplasticizer combinations for high performance concrete.

Kantha Kumar & Veeraragavan investigated the role of fine aggregate gradation on the performance of bituminous concrete mixes and applied the results in development of performance based design of highway pavements.

Laishram Boeing Singh & Satyanarayana identified delay in financial closure as one of the critical risks in implementing Indian PPP road projects and developed a framework that will assist the sponsors to determine the desirability of PPP road projects from debt financing perspective.

Mini Remanan & Lakshmana Rao demonstrated the feasibility of active control of buckling of struts using piezopolymers, experimentally as well as analytically for a variety of column materials, control laws and geometric parameters.

Munirami Reddy & Nageswara Rao developed a new Fractal Finite Element Method (FFEM) based method for sensitivity and probabilistic fracture analysis of single and multiple cracked structures.

Pradip Sarkar, Meher Prasad & Devdas Menon proposed a new approach for quantifying the irregularity in stepped buildings, and carrying out accurate pushover analysis for seismic evaluation of such irregular buildings.

Priya, Veeraragavan & Karthik Srinivasan developed a comprehensive framework for optimisation of maintenance costs and treatments of highway projects integrating both preventive maintenance and rehabilitation actions duly considering the uncertainties in pavement performance prediction and maintenance history during the design life.

Purnanandam & Rajagopal investigated a new technique for reducing earth pressures on rigid box culverts through field and laboratory tests and developed guidelines for proper selection of materials.

Rajeevan & Amlan Sengupta investigated the modeling of behaviour of wall type structural components, under shear forces both experimentally and numerically. They proposed a refinement in an existing theory to improve the prediction of the behaviour.

Rama Krishna & Ligy Philip investigated the bioremediation of mixed pesticide contaminated soils using various enriched bacterial cultures.

Rama Mohan Reddy & Kalyanaraman modelled the process of learning on the job by the designer using locally weighted projection regression algorithms. Online learning was demonstrated using a prototype plate girder bridge super-structure design software and implemented following object oriented method in C++ environment.

Rangaswamy, Boominathan & Rajagopal performed advanced cyclic triaxial tests and numerical analysis using hypoplastic constitutive modeling on Gujarat sand samples and found that at the same relative density, the cyclic resistance of sand decreases as the non-plastic silt content increases.

Robin Davis & Devdas Menon proposed various methods to perform aseismic analysis of open ground storey buildings, ranging from nonlinear dynamic analysis to simplified equivalent static analysis that result in more rational and economical designs when compared to the existing code-based methods.

Sajna Sayed, Rajagopal & Dodagoudar quantified the uncertainty in the performance of the reinforced soil retaining walls through rigorous reliability analyses and developed innovative approaches for evaluating the influence of different parameters on the performance of these structures.

Smitha & Satish Kumar verified the suitability of steel-concrete composite semi-rigid connections for seismic design and enabled the prediction of their moment-rotation characteristics.

Velayudhan Jaya, Boominathan & Dodagoudar performed a finite element based seismic soil-foundation-structure (SFSI) analysis for nuclear reactor building and found it advantageous to embed the nuclear structures into the engineered backfill.

Computer Science and Engineering

Chundry Jagadish & Gonsalves proposed novel techniques based on field experience and implemented some of them for management of large telecom networks especially in rural areas, to reduce management traffic and server load.

Noor Mahammad & Kamakoti proposed novel fault tolerant reconfigurable high performance hardware architectures that are efficient, online testable and dissipate low power.

Masilamani & Kamala Krithi-vasan developed computationally efficient algorithms to reconstruct 3D objects from a small number of projections in order to reduce side-effects. They gave correctness proofs, discussed complexity and did a simulation study.

Radhika Selvamani & Deepak Khemani looked at knowledge management in the manufacturing setting presenting a new approach to learn causes of defects by using data mining methods in a case based reasoning setting.

Sri Rama Murty Kodukula, Yegnanarayana & Chandra Sekhar proposed new methods to extract the epoch locations and estimate their excitation strengths from the speech signal. These methods do not depend on the response of vocal tract system.

Venkatesh & Siva Ram Murthy proposed a network-tomographic technique to estimate the losses and a machine learning-based technique to classify them in optical burst switched networks. They also proposed mathematical models to analyze the loss minimization techniques.

Electrical Engineering

Geetha & Jayashankar showed that pumped storage schemes can help increase energy availability and make better use of renewable energy in the Indian context.

Leena Dinesh Vachhani, Sridharan & Arun Mahindrakar explored the power of a mobile robot equipped with only ultrasonic sensors and a low-end field programmable gate array (FPGA) device to perform a high level memory-intensive task autonomously, namely constructing the Generalized Voronoi Diagram of an indoor environment.

Rajalakshmi & Ashok Jhunjhunwala developed innovative techniques for circuit switched optical WDM networks without wavelength convertors, to get the same performance as in the network with wavelength convertors.

Rajiv Ranjan Sahay & Rajagopalan attempted to expand the scope of the shape-from-focus technique for optical microscopes and off-the-shelf cameras.

Selvajyothi & Janakiraman developed a new single IC chip composite observer to estimate the harmonic components of the voltage signals of inverters and thereby eliminate by a feed-back control procedure, the distortion due to non-linear electronic loads.

Somashekara Bhat & Enakshi Bhattacharya designed and fabricated several test structures to determine physical and mechanical properties of MEMS structures. The simple electrical measurement technique involved is versatile enough to permit the use of even packaged devices.

Srinivas, David Koilpillai & Giridhar showed that a simple mixing scheme of the real and imaginary parts of complex data symbols provides full diversity and enabled linear decoding of spatially multiplexed signals. This co-ordinate interleaving scheme was also applied to other communication problems, including ISI channels and relays, and the efficacy of the same is brought out by DMT and BER analysis.

Sujatha & Enakshi Bhattacharya demonstrated, by simulation and fabrication, that converting part of the silicon membrane into porous silicon greatly enhances the sensitivity of MEMS pressure sensors and is a viable option for low pressure measurements.

Sumathi & Janakiraman developed a single chip ultrasonic range finder in which a Sliding Discrete Fourier Transform (SDFT) filter was locked in phase with a reference infrared signal, to extract the sinusoidal envelope of an amplitude modulated ultrasonic wave for accurate range measurement.

Varadarajan & Swarup presented the differential evolutionary computation based optimal power flow for reactive power dispatch and voltage control in electrical power system planning and operation studies.

Vincent & Mahesh Kumar contributed new ideas and concepts in high power voltage source inverter topologies and their current control strategies for DSTATCOM applications.

Humanities & Social Sciences

Geetha & Srilatha analysed & traced the evolution of Tamil Dalit writings from early decades of the twentieth century to the present and explored its impact on the academia and highlighted the emergence of certain significant trends in contemporary Tamil Dalit literature.

Management Studies

Ajith Kumar & Ganesh examined empirically the role of inter-individual knowledge transfer in product development organizations in the manufacturing sector and recommended specific Knowledge Management practices for realizing greater product development effectiveness and efficiency.

Brijesh Paul & Rajendran developed exact mathematical models and heuristic genetic algorithms to determine the best order-up-to levels and review periods in a periodic review system operational in two-stage divergent supply chains, coupled with the determination of inventory allocation rules (assuming inventory rationing).

Chandra Sunil Kumar & Narendran addressed the problems belonging to the class of static Traveling Repairman Problems (TRP) and dynamic Pickup and Delivery Problems (PDP), and developed exact and heuristic algorithms based on classical optimization techniques.

Jayasree, Kamalanabhan & Madhumathi studied the information content representing managerial risk, investment risk and operational risk, influenced market risk and investor perception of risk and observed that further risk behavior of investors was affected by their mental accounting process.

Kashi Komala Rama Ayangar & Ganesh examined empirically the influence of Work Place Spirituality on employees' work attitudes and experiences in healthcare organizations and identified specific spiritual practices that can eventually lead to higher employee productivity and superior organizational climate.

Megala & Rajendran proposed the development of ant-colony optimization algorithms for forming cells and part-families in cellular manufacturing systems with the three objectives of maximizing the grouping efficacy, minimizing the volume of inter-cell moves and minimizing the total within-cell load variation.

Padma, Rajendran & Prakash Sai presented an investigation of the patient-perceived service quality and attendant-perceived service quality in Indian hospitals and studied the relationship between the critical dimensions of these service qualities and the consequent satisfaction and behavioral intentions of patients and attendants and made various insightful observations and recommendations.

Rajendra Sethupathi & Rajendran considered the determination of inventory control policy parameters such as the order-up-to levels and review periods, and order quantities and re-order points or levels in periodic and continuous review systems respectively, developed a hybrid policy and determined the inventory parameters in a serial supply chain.

Ram Kumar & Narendran addressed the Convoy Movement Problem in the domain of military logistics, constructed mathematical models for peace-time and war-time conditions and developed exact and heuristic methods to solve these problems in quick time.

Shijin, Arun Kumar & Sanghamitra studied the fundamental issues of the risk return puzzle in finance. The study tests, the ICAPM view and Fama-French models in a time varying intertemporal setting in the Indian market.

Mathematics

Anuradha & Veeramani established an equivalence of Mizoguchi-Takahashi's fixed point theorem to Nadler's theorem on a metrically convex complete metric space.

Jitendriya Swain & Radha studied various characterisations of Fourier multipliers for scalar valued and vector valued functions defined on the Heisenberg group.

Lavanya & Choudum obtained several results on embedding various kinds of paths and trees in the interconnection networks of parallel computers.

Pallavi Mahale & Thamban Nair considered general regularization methods for nonlinear ill-posed operator equations and derived order optimal error estimates under general source conditions extending many results from the linear setting and generalizing methods such as Tikhnov regularization to general regularization.

Ramesh & Kulkarni investigated approximation methods, including projection and modified projection methods to find solutions to operator equations involving unbounded closed operators on Hilbert spaces.

Sankar Raj & Veeramani demonstrated the existence of a best proximity point for a relatively nonexpansive mapping, without using the concept of proximal normal structure and Zorn's Lemma.

Selvanayagam & Vetrivel presented an optimal control approach for the isothermal film casting process with free surfaces described by averaged Navier-Stokes equations, controlling the thickness of the film at the take-up point using the shape of the nozzle and the initial thickness.

Mechanical Engineering

Amarnath, Sujatha & Swarnamani analysed signals from experimental gear box using artificial intelligence and advanced signal processing techniques to identify degree of advancing induced faults in gear teeth.

Bansode Annasaheb Sampat, Sundararajan & Sarit Kumar Das studied the strategy for water and thermal management of proton exchange membrane fuel cells.

Benny Paul & Ganesan predicted air motion and combustion in a direct injection diesel engine using CFD for various manifold configurations.

Binu Eldose & Ramamoorthy investigated different multi layers depositions such as DLC/TiN/Ti and DLC/TiN/Ti/Cu/Ni using the DC magnetron sputtering. They made two different types of TiN and TiAlN coatings using PVD process on burnishing rollers and analyzed their performance in the burnishing process.

Chadalavada Venkateswara Babu, Sitaram & Govardhan conducted computational and experimental studies to estimate the effect of tip clearance on the flow and losses in a high deflection impulse turbine rotor cascade.

Elansezhian, Kesavan Nair & Ramamoorthy studied the effect of two types of surfactants, namely sodium dodecyl sulfate and cetyl tri methyl ammonium bromide, a electroless nickel coating bath separately and showed that there was a significant improvement in the quality of the coatings particularly with reference to surface roughness, hardness, adhesion, friction, wear and corrosion resistance properties.

Hemantha Kumar & Sujatha Chandramohan studied analytically and experimentally vertical and lateral dynamics of a Southern Railways coach running on a broad gauge track. They analysed different rail vehicle rigid body models, as well as coupled vehicle track model for stability and ride.

James Gunasekaran & Ganesan studied the optimization of the direct injection spark ignition engine mixture preparation for performance improvement.

Janapati Vishnuvardhan & Krishnan Balasubramanian developed imaging approach to the materials characterisation and structural health monitoring of composite structures using ultrasonic guided and employing a novel blind inversion method.

Jayakrishna, Basak & Sarit Kumar Das presented the analysis of isotropic natural and engineering systems such as fibers and rod bundles in food, power and nuclear industry treating them as heat generating anisotropic porous media.

Jayashankara & Ganesan studied through multi-dimensional modeling of CI engine processes, the effect of important CI engine parameters on combustion process using CFD and validated the predicted values.

Kharimkuty, Krishnamurthy & Mayuram evaluated the characteristics and the functional response of detonation gun sprayed alumina and alumina-titania ceramic composites.

Kothamasi Sumithra Raju & Arunn Narasimhan analysed using simulations and experiments the thermo-hydraulics of porous medium enhanced compact heat exchangers modeled as partially filled porous medium configurations. They obtained fresh insight into determination of interface coefficients between the porous medium and clear fluid flow.

Mallikarjuna Reddy & Swarnamani applied special signal processing techniques to successfully detect and estimate small damages in structures using vibration modal data.

Manoj, Muthuveerappan & Gopinath showed that cryogenic treatment on rolling contact fatigue (RCF) of case carburized EN 353 and through hardened AISI 52100 steels improved the RCF strength by 200 to 400 Mpa and the RCF life several-fold.

Manu & Ramesh Babu investigated the influence of jet traverse rate on dimensional quality of cylindrical and conical shaped parts produced by abrasive water jet turning. They developed a semi-analytical model for selection of optimal axial jet traverse rates in effective turning of parts and also proposed three different strategies for precise turning of parts.

Ram Subhash Maurya, Sundararajan & Sarit Kumar Das numerically analysed a falling liquid film with evaporation particularly for the developing zone of the film.

Samir Kumar Nath & Krishnan Balasubramanian developed a new reliability assessment approach to the ultrasonic sizing of cracks in complex surfaces and geometries as found in turbines in the thermal power plants.

Sendhil Kumar & Srinivas Reddy investigated cavity receivers for fuzzy focal solar parabolic dish concentrator developing a 15kWth parabolic dish collector to evolve a viable solar power generating system.

Shankar & Mayuram undertook contact analysis of surfaces through single and multi asperity models and contributed in identifying the transition from elastic to elasto plastic contact.

Sudhakar, Venkateshan & Balaji proposed a new optimization methodology wherein an artificial neural network based on a few CFD simulations drives a Genetic Algorithm based optimization engine for geometric and thermal optimization of heat generating electronic equipment and predicted optima in excellent agreement with in-house experiments.

Tide, Babu Viswanathan & Srinivasan studied the prediction of noise from jet engines and evaluation of design modifications for noise abatement.

Venugopal, Venkateshan & Balaji proposed a new methodology of estimation of thermophysical parameters as well as heat transfer coefficient in a class of convective heat transfer problems by synergistically combining transient heat transfer experiments with state of the art hybrid optimization algorithms, addressing simultaneously traditionally orthogonal performance metrics like rapidity and accuracy.

Metallurgical & Materials Engineering

Arivazhagan & Kamaraj demonstrated experimentally flux-cored arc welding, Metal cored arc welding and Shielded metal arc welding processes for joining of modified 9Cr-1Mo steels for power plant components. The toughness of weld joint is shown to largely depend on its chemical composition and the postweld heat treatment

Arnab Chattopadhyay, Murty & Subramanya Sarma studied the galvanisation of hot rolled low carbon steel sheets for automotive applications and recommended suitable process parameters for obtaining good coating.

Biju, Prasada Rao & Phani Kumar showed that direct current electrode negative polarity and multipass techniques in gas tungsten arc welding and pulsed EB technique in EB welding improved the mechanical properties (tensile and toughness) of gas tungsten arc (GTA) and electron beam (EB) welded AA2219 alloy.

Chakravarthy, Uday Chakkingal & Venugopal characterized preforms of steel in terms of density analysis, deformation and temperature assisted sintering vide microstructure examination demonstrating the techno-economic aspects with respect to cold extrusion route to make products like the Commutator Sleeve.

Kumar, Murty & Subramanya Sarma studied the tribological behaviour of Al-7Si and Al-4Cu based in-situ composites with TiB₂ and TiC reinforcements and correlated this with the microstructures. They also successfully carried out

synthesis of functionally graded in-situ composites and controlled the gradient through selection of related process parameters.

Siddharthan, Sampath Kumar & Seshadri prepared nano biomaterial very similar in composition and size to the inorganic constituent of bone by re-cycling eggshell waste and coated the material on metallic implants to improve the integration with bone by a novel microwave processing route.

Sivaraman & Uday Chakkingal investigated the workability of ultra fine grained aluminium and an aluminium alloy processed by equal channel angular pressing and optimum processing routes.

Srinivas Rao, Phani Kumar & Prasanna Kumar analyzed the spatial and temporal heat flux distribution at the metal-mould interface during die casting of aluminum alloys using carefully measured temperature data in the mould as inputs. The model results indicated substantial variation of the heat flux controlling solidification along the mould wall, resulting in different types of grain structures in the casting due to variations in heat flow.

Surekha, Prasad Rao & Murty developed and characterised corrosion resistant surface in an Aluminium alloy by friction stir processing.

Varalakshmi, Murty & Kamaraj developed and characterised nanocrystalline high entropy alloys by mechanical alloying.

Ocean Engineering

Krishna Kumar, Sundar & Sannasiraj experimentally studied the hydrodynamic characteristics of the wave screens as an absorber and as a breakwater exposed to the action of uni- and multi-directional waves.

Nasar & Sannasi Raj explored liquid sloshing dynamics in a rectangular tank rigidly fixed inside a barge under the beam wave excitation from a laboratory study. Various liquid excitation modes, modal sacrifice and secondary resonances were identified.

Noarayanan, Murali & Sundar experimentally studied the effect of vegetation on the forces on structures and run-up on beaches due to long waves and obtained empirical equations for design of bio-shields.

Purushotham Reddy, Alagu-sundaramoorthy & Sundaravivelu studied experimentally the behaviour of RC piles wrapped with GFRP wrapping by casting and testing pile specimens with and without GFRP wrapping. A non linear finite element model developed for the analysis of RC piles with GFRP wrapping is validated using the experimental results.

Sankar Babu Karanam, Sundar & Sannasiraj investigated through mathematical and experimental modeling the phenomenon of wave scattering due to the presence of a group of dual porous cylinders. The proposed mathematical model has been extended to study the influence of multidirectional waves and solitary waves.

Sivakholundu, Mani & Idichandy studied the sedimentation problem in port channel situated in estuarine environment. They used the characteristics of tidal asymmetry in current field to control sedimentation pattern and tested the methodology with numerical experiments in a navigational channel in the Hooghly estuary.

Physics

Ambika Nautyial & Bisht studied the optical parametric amplification of tunable femtosecond pulses and obtained conical emission on pumping with pico-second laser pulses.

Biju & Mahaveer Kumar Jain developed a novel high rate deposition technique called MARE for InN and GaN thin film deposition as well as for other nitrides and oxides.

Haribabu, Markandayulu & Subrahmanyam studied structural and magnetic properties of pseudo-binary and pseudo-ternary RFe₂-type Laves phase intermetallic compounds.

Krishna, Srikant Joshi (ARCI) & Subrahmanyam designed a cylindrical magnetron cathode. They grew tantalum and tantalum nitride thin films and studied their mechanical properties.

Mohankant, Ramachandra Rao & Sethupathi synthesised nanoparticles of magnetite of various sizes with silica and zinc oxide coatings and discussed the size effect on the electrical and magnetic properties.

Muthu Karuppasamy & Subrahmanyam prepared doped and undoped tungsten oxide thin films by electron beam evaporation and DC magnetron sputtering techniques and studied their electrochromic and photocatalytic properties.

Neetu Jha & Ramaprabhu prepared multiwalled carbon nanotubes by chemical vapour deposition technique and tested their use in direct methanol fuel cell, nanofluid and biosensor applications.

Rakhi, Sethupathi & Ramaprabhu synthesized multiwalled carbon nanotubes by chemical vapour deposition and studied their hydrogen absorption characteristics.

Sanoop Ramachandran & Sunil Kumar developed a model for active particles suspended in a fluid and studied the effect of the flippase-like proteins on the membrane mechanical properties and its morphology. They showed that buds and blisters can appear on fluid bilayer membranes depending on the rate of flipping.

Sarath Kumar, Kasiviswanathan & Subramanian grew thin films of transition metal doped, transparent conducting oxides and characterized them. They also fabricated transparent thin film thermocouples.

Savitha Pillai & Santhosh reported the crystal structure, magnetic and magnetotransport properties of several polycrystalline manganites and ruthenates.

Sendhil Raja & Kothiyal designed, fabricated and tested miniaturized diffractive optical elements (DOE) for laser beam wavefront applications.

Shubhra Singh & Ramachandra Rao synthesized various transition metal doped ZnO nanostructures by chemical route, thermal evaporation and pulsed laser deposition techniques. They also investigated the optical and electrical transport properties.

Ummal Momeen, Rangarajan & Deshmukh studied the relative intensity of the Zeeman profile and magnetic and optic field controlled nonlinear magneto-optic rotation in the D1 and D2 lines of Rb85 and Rb87 atoms.

3.2 M.S. Work

Aerospace Engineering

Abhishek Burman, Ramakrishna & Singh, ADA studied experimentally and numerically the flow over a generic fighter aircraft with an unconventional double delta wing leading to the alleviation of a "pitch-up" problem and improved lift to drag ratio of the aircraft in combat conditions.

Diwakaran & Job Kurian studied experimentally and computationally heat transfer and pressure distribution on the surface and base of sphere-cone-flare model in hypersonic flows.

Hamza Naseem & Murty obtained analytical solutions for mixed boundary value problem of partial reverse slip for common plane contact geometries like cylindrical punch, square ended flat punch and nominally flat punch and studied load history effect on contact shear under these mixed boundary conditions.

Biotechnology

Gurpreet Singh & Sanjib Senapati provided a molecular level description of the HIV-1 protease flap closing mechanism which can be crucial in the understanding of drug-receptor interactions.

Harit Mohan & Suraishkumar studied the effect of reactive oxygen species (ROS) on the lipid bilayer membrane of Bacillus subtilis cells and quantified the results through the physiochemical and the electrical parameters.

Saguna Dubey & Srinivasa Chakravarthy presented a model of visuomotor dynamics involved in copying oriented line diagrams and showed that it matches experimental data collected from human subjects.

Sujoy Bera & Guhan Jayaraman investigated the effect of various parameters such as induction strength, complex nutrient supplementation and suppression of acid tolerance response on recombinant streptokinase production in

Lactococcus lactis cultures. They designed optimal fed-batch bioreactor processes to maximize streptokinase productivity, which was amongst the highest reported in *L. lactis* cultures and comparable to that achieved by the industrial workhorse *Escherichia coli*.

Civil Engineering

Ambili Thampi & Devdas Menon analysed and quantified the errors made in simplified beam analysis of concrete box girder bridge decks with reference to 3D finite element analysis.

Cindrela Devi & Anantha-narayanan developed a Resource Driven Scheduling Model (RDSM) to find a repetitive construction project schedule for mass housing construction projects which minimizes the project duration and /or cost, and maximizes resource utilization while satisfying the resource constraints.

Jetson Ronald, Meher Prasad & Devdas Menon carried out a detailed seismic vulnerability assessment of typical gopurams and mandapams of a South Indian Temple at Kanchipuram.

Nandini & Kalyanaraman studied the interaction of local, distortional and lateral-torsional buckling of cold-formed lipped channel beams based on FEM modeling, calibration with experimental data. The study has led to a simplified method for the design of such members.

Shinto Paul & Devdas Menon proposed a new method based on 'Moment balancing' concept, for more economical and rational design of post-tensioned two-way concrete slabs.

Computer Science and Engineering

Amjad Shareef & Pandu Rangan used novel Game theoretic techniques to arrive at efficient protocols for rational consensus, one of the fundamental problems in secure distributed computing.

Anitha Jayaraman & Chandra Sekhar developed a modular approach to classification of strokes in online recognition of handwritten characters of Telugu script.

Anupam Mandal & Chandra Sekhar proposed techniques for improving the performance of a speech recognition system for voice over IP speech.

Apoorve Dubey & Narayana-swamy obtained results on the structure of contractible edges in chordal graphs and showed that they form a biconnected graph.

Bhanu Prakash & Narayana-swamy studied the trade-off between sparse spanners and approximate shortest paths in interval graphs, resulting in the design of a distributed algorithm for finding a tree spanner that optimally approximated the worst error of all shortest paths.

Bimal Viswanath and Siva Ram Murthy developed a stochastic model based on the theory of Markov chains to analyze the performance of different TCP variants over optical burst switching (OBS) networks.

Deivapalan & Hema Murthy used hierarchical HMMs for syllable-based isolated word recogniser for Indian languages. The method works very well for Out of Vocabulary words.

Gadhamsetty Ramakrishna & Narayanaswamy conducted a study of approximating the shortest path metric and discovered a lower bound on the error in approximation using tree shortest path metrics for 2-trees.

Harini & Pandu Rangan provided very efficient, novel solution to the CORE PATH problem when the network is a proper interval graph and bipartite permutation graphs.

Kiran Kumar & Siva Ram Murthy proposed energy efficient and scalable approaches based on the techniques of trajectory based forwarding and biased random walk for information discovery in unstructured wireless sensor networks.

Mallika & Pandurangan explored the problems in rational secret sharing where secret reconstruction is done by selfish players as opposed to malicious players in the traditional secret sharing problem and found a novel solution that is better than the ones reported so far.

Mani Kumar Reddy Obili & Gonsalves designed and implemented a dynamic survivable service provisioning system for SDH (optical fibre) networks to enable telecom operators to offer service on demand to their customers.

Phani Kumar Ayagiri & Janakiram proposed a peer to peer based execution platform for event based applications in distributed hetero-geneous wireless sensor networks that accomplishes the goal of high network life time.

Pranav Hamnabdkar & Hema Murthy proposed a novel method based on pattern recognition and machine learning for analysis and synthesis of alloys under different conditions (as opposed to Finite Element Analysis) that can predict the properties of materials before actually synthesising the same.

Rajesh Kumar Dasari & Shankar Balachandran studied a class of VLSI floorplan called floorplans of order 5 and proposed techniques that can derive information about wire length without evaluating the floor plan explicitly leading to efficient wirelength calculations during optimization.

Rohith Vallam & Siva Ram Murthy analyzed the misbehavior of colluding nodes in an IEEE 802.11 based three-node network and proposed an attacker-detector non-linear optimization model and modelled channel assignment problem in multi-channel multi-radio wireless networks with multiple collision domains as a non-cooperative game.

Sadhana Chevireddy, Hema Murthy & Chandra Sekhar developed a syllable based segment vocoder that operates at 1.4Kbps using group delay based segmentation, hidden Markov model based clustering and residual modeling using MELP.

Sammireddy Swapna & Chandra Sekhar proposed support vector machine based methods for identification of cryptosystem and clustering based methods for key space reduction.

Sheetal Reddy Pamudurthy & Chandra Sekhar proposed density estimation based methods and component learning method for pattern clustering for nonlinear and complex shaped cluster data.

Souvik Barat & Janakiram provided a formal model for representing business processes and a set of analysis techniques to ascertain with rigour important integration criteria of correctness and complete-ness.

Sravanthi & Sreenivasa Kumar designed and implemented a system that pre-processes a set of text documents so that an extractive summary of the information present in the documents pertaining to a given keyword query can be efficiently retrieved.

Sreehari Nagarajan & Gonsalves designed and implemented optimized delivery mechanisms to handle floods of traps that can otherwise overload the network.

Sreenivasulu Nagireddy, Hema Murthy & Chandra Sekhar proposed pattern recognition approaches to detection of encryption mode and identification of encryption system for block ciphers in cryptanalysis.

Sunando Sengupta & Sukhendhu Das solved the problem of ambiguity in 3-D reconstruction of an object from a pair of images, using a modified auto-calibration (MAC) approach. They obtained optimal values of camera parameters for best reconstruction using the proposed error norms.

Udayasree Gorantla & Shankar Balachandran developed new algorithms for efficient power consumption in FPGAs using the concept of pre-routing certain critical wires, addressed the power density of ASICs and proposed clustering methodologies to achieve uniform power density across the chip.

Venkata Ravi Kumar & Sreenivasa Kumar designed and implemented a system that converts XML documents into special sequences and prepares disk-based indices for them so that twig queries on the XML data can be very efficiently answered

Electrical Engineering

Aman Kokrady, Nitin Chandrachoodan & Ravikumar (TI India) proposed LAMPS, a method for layout aware programmable built-in self-test for memory in large VLSI designs together with a method for yield improvement through a series of memory tests of varying complexity.

Annepu Suresh & Shanti Bhattacharya designed an eyepiece with diffractive elements so that the system will be very light and fabricated the diffractive elements with good efficiency.

Anuradha Charugalla & Swarup presented the feasibility of application and implementation of intelligent agents for coordination and communication among the multi-agents for differential protection of transmission network.

Aritra Dey, Amitava DasGupta & Anjan Chakravorty developed analytical models for threshold voltage and subthreshold current of 3-terminal and 4-terminal double gate MOSFETs.

Atul Deshpande & Prabhu proposed a generic watermarking algorithm, based on interpolation and discussed both low complexity and secure, but high complexity, algorithms.

Baiju Alexander & David Koilpillai studied some aspects of applying Cognitive Radio (CR) principles in a GSM cellular system in order to enable more efficient radio spectrum.

Benix Samuel & Ashok Jhunjhunwala worked out step by step optimization of porting standard algorithms like MP3 or MPEG IV for embedded systems to get performance improvement of 25 to 50 times.

Kalyan Dasgupta & Swarup presented the formulation and implementation of a computationally efficient Distributed State Estimation Algorithm of large scale power systems.

Karthick Parashar & Nitin Chandrachoodan proposed SIMHA, an architecture and algorithm for accelerating logic simulation in hardware.

Khansa, Anil Prabhakar & Shanthi Bhattacharya developed the theory and fabricated a four wavelength erbium doped fibre laser for use in a fibre interferometer.

Krishna Chaitanya & Andrew Thangaraj developed novel methods in the area of rateless codes.

Manikandan & Srikrishna Bhashyam proposed cross-layer scheduling policies that take advantage of feedback of channel and queue measurements to improve performance of wireless networks. The proposed policies are more robust to delays in feedback compared to existing policies.

Nanda Govind & Nagendra realized a 10 Giga bits/second transmitter with equalization for communication over long backplane links and investigated configurations of multiple on chip inductors with the goal of minimizing crosstalk from one part to another.

Prashanth Reddy Erukonda & Prabhu derived the fast and exact implementation of FSLMS algorithm for ANC applications and developed an efficient implementation of VFXLMS algorithm without degrading its convergence characteristics.

Ramya, Ramalingam & Hema Murthy incorporated acoustic diversity in the linguistic search space and demonstrated improved accuracy of the underlying acoustic feature vector's ability to identify a syllable correctly.

Ranjitha Prasad & Giridhar presented a general framework in MIMO channels for doing decision-directed channel tracking using the expectation maximization algorithm along with robust estimators. They showed that the proposed approach yields a faster convergence to the true channel estimates compared to existing algorithms, and provided a justification analytically for this superior performance.

Raviteja Upadrashta & Andrew Thangaraj designed novel error control codes for quantum key distribution.

Sachin Madhavrao Narwade & Nandita Dasgupta designed and fabricated GaAs MESFET based transimpedance preamplifier used to convert a feeble current signal from a photodetector to a measurable voltage signal.

Sheela & Nandita Dasgupta realized InGaAs/InP PIN photo-detectors with extremely low dark current and developed a novel surface passivation scheme in order to achieve this low current.

Sreenidhi & Nandita Dasgupta developed a new recipe for reactive ion etching of GaN using SF₆ to realize a nearly damage-free surface and a new technique of deposition of dielectric material on GaN MIS devices.

Srikanth & Karmalkar proposed a new superjunction structure called the Charge Sheet Superjunction, which has nearly the same conduction area as a simple junction but higher breakdown voltage than the conventional superjunction.

Srikanthan & Mahesh Kumar generated many interesting ideas in the area of current control techniques for DSTATCOM in power distribution systems.

Sudhakar Rao, Devendra Jalihal & Nitin Chandrachoodan described a unified architecture for implementing decoders for the various turbo and convolutional codes described in the 802.16e (mobile WiMAX) standard.

Uday Bhaskar Katreddi & Enakshi Bhattacharya developed a novel process to fabricate polysilicon cantilever beams by surface micro-machining and used it to measure stiction which is a major reliability issue.

Vemulachedu Hareesh, Enakshi Bhattacharya & Shanthi Pavan used bulk micromachining to miniaturise silicon biosensors bringing down the sample volume by four orders of magnitude and developed a robust circuit for direct readout from the sensor.

Venkatesh, Bhaskar Ramamurthi & Giridhar designed an advanced spread-spectrum receiver which will enable the guidance of high-speed missiles. Not only does this design significantly exceed the design specifications in sensitivity and other operating parameters, it is also computationally less expensive than existing designs.

Venugopalakrishna, Ramalingam & Hema Murthy improved the naturalness of Hindi and Tamil text-to-speech synthesizers by classifying syllables based on context, ensuring correct duration of silence in the stop consonants, energy correction using CART, and inserting prosodic phrase breaks.

Vikram Kumar & Prabhu proposed a frequency domain formulation of block-filtered-s LMS (BFSLMS) algorithm and described a fast implementation of ANC with online feedback path modelling.

Latsa Babu & Balaji Srinivasan experimentally characterized the effects of atmospheric turbulence in free space optical communication links. Specifically, they constructed a 100 meter long link at the terrace of the Electrical Sciences Building to perform the characterization and demonstrated a wavelet-based signal processing technique to mitigate the turbulence effects.

Rajesh Joseph & Balaji Srinivasan investigated the link between the growth and decay of Bragg gratings inscribed in optical fibers and formulated a model through which the decay of fiber Bragg gratings may be predicted from the growth data.

Management Studies

Alexander Mathew & Sanghamitra Bhattacharyya examined the relationship between structural power, influence behavior and leadership approaches in prescribed and emergent intra-organizational networks, under the moderating influence of interpersonal trust using a non-experimental correlational design.

Priya & Thenmozhi showed that gold, silver and crude oil commodity futures serve as a price discovery vehicle for spot market and ARMA-EGARCH models are better forecasting models for commodity prices in developed and emerging commodity markets.

Mechanical Engineering

Kishore Kumar & Shankar Krishnapillai carried out system identification of non-linear dynamic systems using time domain acceleration responses.

Polisetty Venugopal & Shet studied experimentally and numerically the effects of partial premixing of fuel jet with air in swirling flows on flame characteristics viz., flame shape, flame height, flame stability, noise emission and the near burner temperature field established by these flames.

Prashant Bhokardole & Raghu Prakash developed an experimental methodology for in-situ evaluation of the static and fatigue property of metallic materials using a semi-invasive, spherical indentation technique.

Prashanth Pillai & Shankar Krishnapillai proposed a computationally efficient hybrid neural network strategy for structural damage identification, whereby the first stage is a Counter Propagation Network (CPN) and second stage is Back Propagation Network (BPN) that shows superior performance in speed and accuracy compared to the more usual single stage networks, using training data either in the frequency or time domain.

Pratish Patil & Shaligram Tiwari developed 2-D and 3-D computational codes to carry out numerical study of unsteady wakes behind stationary and vibrating bluff bodies.

Rajasekar, Srinivasa & Nilesh Vasa proposed a simplified, low order state space approach for dynamic modelling of a twin spool turbofan gas turbine engine and investigated its suitability for use in real time engine simulation studies.

Ramesh Babu & Seshadri Sekhar studied the dynamic behaviour of cracked shafts with an emphasis on fault detection using advanced signal processing techniques and operation deflection shapes of rotors.

Ramkumar & Gnanamoorthy studied the flexural fatigue characteristics of polyamide base nanocomposites using an sophisticated test facility developed in-house, capable of simulating different operating conditions and developed a viscoelastic model to predict the stress relaxation.

Sasi Kumar & Raju Sethurman characterised mechanical behaviour of bolted joint for wide range of material and geometrical parameters using finite element method and proposed an empirical formula in terms of nondimensional parameters for design.

Seshagiri Rao & Narayanan investigated the control of wave propagation of one dimensional active periodic structures by altering the stop and pass bands and the localization of wave energy in disordered periodic beams using piezoelectric actuators and sensors by a combination of wave transfer matrix and finite element approach.

Shanmugavel & Gnanamoorthy investigated the tensile and low cycle fatigue behavior of stainless steels and weldments and identified the micromechanism of the damage process which will assist in the design.

Sreenivasulu & Prasad analyzed computationally the flow and heat transfer characteristics in wire-wrapped annuli and rod-bundles to suggest optimum geometric configuration for the best possible thermal hydraulic performance.

Srikanth Reddy & Shunmugham developed modules that work with Standard for Exchange of Product model data (STEP) and native formats to make the seamless automation between design and manufacturing feasible.

Metallurgical and Materials Engineering

Mubarak Ali, Pathak & Ganesh Sundara Raman described the effect of plasma nitriding done at a temperature of 520 °C in two different atmospheres (pure nitrogen atmosphere and a mixture of nitrogen and hydrogen atmosphere in the ratio of 3:1) for two different time periods (4 h and 18 h) on fretting wear, plain fatigue and fretting fatigue behaviour of Ti-6Al-4V.

Niranjani & Subramanya Sarma studied the microstructure, texture and mechanical properties of Cu-Zn, Cu-Al and a commercial Al-Mg-Si alloys subjected to severe rolling deformation at cryogenic and room temperature and identified process parameters for obtaining ultra fine grained microstructure with improved strength and ductility.

Venkata Durga Ramesh, Achar & Prasanna Kumar estimated the heat input into the work piece during TIG arc welding using a robust algorithm for Inverse Heat Conduction. The influence of welding parameters on the welding arc efficiency and heat flux distribution in the arc region were quantified for the first time.

Ocean Engineering

Kurinjivelan, Anantha Subramanian & Vendhan simulated the hull motions in the sea environment and predicted the slamming load and structural response due to the slamming load by using Finite element method.

Lekshmi & Sannasiraj experimentally studied the energy dissipation and air entrainment characteristics of breaking waves and attempted to correlate them with the wave steepness.

Radhakrishnan & Nallayarasu presented the reflection and transmission characteristics of submerged horizontal double plate breakwater (placed in series) based on experimental and numerical investigations.

Sasmita Mohanty & Murali developed a time domain computer code and demonstrated its use for computation of non-linear water waves in 2D.

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. T. Pradeep (CY)	Bhatnagar Prize, CSIR
Dr. N.K. Sinha (AE)	Marqui's Who's Who in the World in Engineering
Dr. K. Ramesh (AM)	Distinguished Alumni Award for Academic Excellence for the year 2007-08, NIT Trichy
Dr. Rama S. Verma (BT)	Genomic Pioneer Award, The Human Genome Organisation
Dr. V.B. Maji (CE)	Prof. C.S. Desai Biennial Prize, IGS
Dr. A. Ramachandraiah (CE)	Silver Medal for his contributions in Architectural Acoustics, IRID
Dr. N.V. Ravi Kumar (CE)	Dr. R.L. Thakur Memorial Award for Young Scientists, Indian Ceramic Society
Dr. Anurag Mittal (CS)	HP Innovation Research Award
Dr. C. Siva Ram Murthy (CS)	IBM Ream-time Innovation Faculty Award
Dr. Ashok Jhunjhunwala (EE)	CII CONNECT 2008 Entrepreneurs Award in the category ICT Ecosystem, CII (Southern Region) 2009 Bernard Lown '42 Humanitarian Award, University of Marine Honorary Doctorate Award, Blekinge Institute of Technology, Sweden
Dr. T.E. Venkata Balaji (MA)	The Ramanujan Prize in Mathematics 2008, University of Madras
Dr. A. Thillai Rajan (MS)	Young Management Researcher Award, (December 2008), The Association of Indian Management Scholars International Dr. Harisingh Gour Award for Teaching Excellence in Management for the academic year 2008-09, Infotech Education Society, Bhopal
Dr. B.S. Murty (MM)	Platinum Jubilee Award, Indian Science Congress
Dr. N.V. Ravi Kumar (MM)	Dr. R.L. Thakur Memorial Award 2008, The Indian Ceramic Society, Kolkata
Dr. V. Sundar (OE)	National Design Award in Environmental Engineering 2008, The Institution of Engineers (India) National Design and Research Forum
Dr. S. Nallayarasu (OE)	Distinguished Alumnus Award, Kalasalingam Univ.,
Dr. Harish Chandra (Lib)	Punjab National Librarian Award 2008, SATKAL Trust
Dr. M.S. Ananth	Outstanding Achievement Award, CHEMTECH CEW in the R&D sector in recognition of sterling leadership

Fellowships

Dr. S. Mahalingam (BT)	DAE-SRC Project Award Fellowship of Rs. 20,000/- pm spread over a period of 5 years
Dr. N. Chandrakumar (CY)	J.C. Bose Fellowship, DST
Dr. G. Ranga Rao (CY)	Dharmasi Morarji Chemical Co. Visiting Fellowship in Chemistry for the year 2008-09, Institute of Chemical Technology, University of Mumbai
Dr. Ashok Jhunjhunwala (EE)	Fellow, IEEE
Dr. C. Balaji (ME)	Swarnajayanti Fellowship Award for 2007-08, GoI

Dr. M.K. Gajendra Babu (ME)	Honorary Fellowship of Indian National Academy of Environment
Dr. B.S. Murty (MT)	Fellow of National Academy of Science Fellow of Indian Academy of Sciences
Dr. Harish Chandra (Lib)	Fellowship 2008, Society for Information Science, ND

Membership in Editorial Board

Dr. K. Ramesh (AM)	Member, Editorial Board, Journal of Strain Analysis for Engineering Design, I Mech E' Journal, UK
Dr. Madhulika Dixit (BT)	Member, Editorial Board, Molecular and Cellular Biochemistry
Dr. Nitish R. Mahapatra (BT)	Member, Editorial Board, International Journal of Biosciences and Technology
Dr. T. Swaminathan (CH)	Member, Editorial Board, International Journal of Environmental and Waste Management
Dr. Srinivas Jayanthi (CH)	Sub-Editor, International Journal of Heat and Mass Transfer
Dr. T. Panda (CH)	Member, Editorial Board, The Open Biotechnology Journal, Bentham Science Publishers Member, Editorial Board, The Open Journal of Enzyme Inhibition, Bentham Science Publishers
Dr. R. Swarnalatha (HS)	Editor, Indian Journal of Ecocriticism Guest Editor of Trumpetu, Journal of Ecosophy Member, Editorial Board, Interdisciplinary Studies in Literature and Environment
Dr. A. Thillai Rajan (MS)	Member, Editorial Board, AIMS International Journal of Management
Dr. P.V. Subrahmanyam (MA)	Member, Editorial Board, Journal of Differential Equations and Dynamical Systems
Dr. A.K.B. Chand (MA)	Member, Editorial Board, International Journal of Bio-Science and Technology Member, Editorial Board, International Journal of Medical Science and Technology Member, Editorial Board, International Journal of Life Science and Technology
Dr. S. Narayanan (ME)	Member, Editorial Board, International Journal of Probabilistic Engineering, Elsevier Member, Editorial Board, Journal of Engineering Science and Applied Mathematics, Springer Verlag
Dr. M. K. Gajendra Babu (ME)	Member, Editorial Board, Journal of Automobile Engg., Institution of Mechanical Engineers, UK Chairman, Publication Board, SAE Board
Dr. M.S. Shunmugam (ME)	Member, Editorial Board, Journal of Mechatronics and Intelligent Manufacturing
Dr. B. Ramamoorthy (ME)	Member, Editorial Board, International Journal of Tribology and Surface Engineering
Dr. D.R.G. Achar (MM)	Member, Editorial Board, Journal of Ocean and Ship Technology
Dr. K.C. Hari Kumar (MM)	Associate Editor. CALPHAD Journal
Dr. V. Sundar (OE)	Member, Editorial Board, Journal of Engineering for the Maritime Environment, School of Engineering Sciences, University of Southampton, UK
Dr. S. Surendran (OE)	Member, Editorial Board and Publicity Director, International Journal of Ships and Offshore Structures, Taylor and Francis
Dr. K. Rajagopal (CE)	Member, Editorial Board, International Journal of Geotextiles and Geomembranes, Elsevier.

Membership of other Societies

Dr. Job Kurian (AE)	Vice President of the Aeronautical Society of India Chairman, Academics Committee of the Society
Dr. S.R. Gandhi (CE)	Member, Indian National Committee on Geotechnical Engineering and Construction Materials (INCGETM) constituted by the Ministry of Water Resources, GOI
Dr. A. Veeraragavan (CE)	Member, Highway Research Board of the Indian Roads Congress for a period of three years from January 2009
Dr. P. V. Subrahmanyam (MA)	Nomination Council for the Infosys Prize, Infosys Science Foundation
Dr. S. Srinivasa Murthy (ME)	Vice President, Solar Energy Society of India
Dr. D. R. G. Achar (MM)	Nomination Council, Infosys Science Foundation
Dr. K. Murali (OE)	Member, Executive Council of Asia-Pacific Division of International Association of Hydraulic Engineering and Research (APD-IAHR)
Dr. V. Sundar (OE)	Member, International Scientific Committee of Int. Conference on Hydrodynamics (ICHHD 2010)
Dr. R. Sundaravadivelu (OE)	Member, First Executive Council of Indian Maritime University
Dr. Harish Chandra (Lib)	Standing Committee, Reference and Information Services Section of International Federation of Library Association and Institutions (IFLA), The Netherlands

Books

Dr. K. Ramesh (AM)	Experimental Stress Analysis (e-book), IIT Madras
Dr. Sivakumar M. Srinivasan (AM)	Inelasticity of Materials : An Engineering
Dr. Arun R. Srinivasa (Texas A & M Univ)	Approach and a Practical Guide (Series on Advances in Mathematics for Applied Science Vol. 80), World Scientific
Dr. Devdas Menon (CE)	Advanced Structural Analysis, Narosa (Indian edition) & Alpha Science International (International Edition)
Dr. Mathews MS (CE)	Ta Prohm Conservation Strategy, ASI, New Delhi
Dr. V. A. Murty Bondada (CE) Dr. R. Sivanandan	Best Practices to Relieve Congestion on Mixed Traffic Urban streets in Developing countries, Allied Publishers, Chennai
Dr. Ravindra Gettu (CE) R. Zerbino, L. Agullor B. Arragan, T. Garcia	Rheological characterization of self compacting concretes (in Spanish), Universitat Politecnica de Catalunya, Barcelona, Spain
Dr. S. R. Satish Kumar (CE) Dr. Devdas Menon	CPWD Handbook on Seismic Retrofitting, CPWD, New Delhi
Dr. S. R. Satish Kumar (CE) Dr. V. Kalyanaraman	Designers Handbook for Steel Design as per revised IS 800, INSDAG
Dr. S. M. Shiva Nagendra (CE) Dr. Mukesh Khare	Artificial Neural Networks in Vehicular Pollution Modelling, Springer Verlag
Dr. Kamala Krithivasan (CS) Dr. R. Rama (MA)	Introduction to Formal Languages, Automata Theory and Computation, Pearson Education
Dr. Anil Prabhakar (EE) Dr. Daniel D. Stancil (CMU, USA)	Spin Waves Theory and Applications, Springer
Dr. Mani Subramanian (EE)	Network Management : Principles and Practices (Second Edition), Pearson Education
Dr. S. Devaki Reddy (HS) Dr. Shreesh Choudhary	Technical English, Macmillan

Dr. K. Srilata (HS) Lakshmi Holmstrom Subashree Krishnaswamy	The Rapids of a Great River, Viking, ND, 2009
Dr. Sudhir Chella Rajan (HS) Mayer Killamn Tina Fowcett	Suicidal Planet : How to Prevent Global Catastrophe, St. Martin Press, New York, 2008
Dr. Shreesh Chaudhary (HS)	Foreigners and Foreign Languages in India, A Sociolinguistic History Publisher, Cambridge University Press India Ltd.
Dr. Arindama Singh (MA)	Elements of Computation Theory, Springer
Dr. M. Thamban Nair (MA)	Linear Operator Equations : Approximation and Regularization, World Scientific
Dr. V. Ganesan (ME)	Heat Transfer (Second Edition), Pearson Education
Dr. A.F. Mills (UCLA, USA)	
Dr. G. Venkatarathnam (ME)	Cryogenic Mixed Refrigerant Processes, Springer
Dr. V. Balakrishnan (PH)	Elements of Nonequilibrium Statistical Mechanics, Ane Books India, Chennai

Best Paper Awards

S.Anjan Kumar (CE)	Best Paper Award, 9 th National Conference on Technological Trends, College of Engineering, Trivandram
R. Kalai Selvi (CE) Dr.A.Ramachandraiah VVGST Ramakrishna S. Karthigeyan Dr.K.Rajagopal	Best Paper. NSA 2008
Maj.Shailendra Singh (CE) Dr.A.Veeragavan	Indian Roads Congress Medal for their paper at the 69 th Session of the Indian Roads Congress, CPWD
Dr.Syed Jalaludin Shah (CE)	IGS Prof.Leonards Award for the best Ph.D thesis in Geotechnical Engineering for the biennial period 2005-2006, Indian Geotechnical Society
Sumanta Kumar Meher (CY) Dr.G.Ranga Rao	Best paper award, DAE-BRNS ISMC - 2008
B.Ravindra (CS) & a team of students	UKIERI standard research award for their project
Muralidhara (ME) Dr.N.J.Vasa Dr.M.Singaperumal	Best paper in the poster session, International Conference on MEMS
A.S.Gowd (ME) Dr.V.Ganesan Dr.K.Rajagopal Dr.K.H.Reddy	Certificate of Merit for paper published in the Journal of Institution of Engineers
Dr.Arshinder Kaur (MS)	Highly commended award winner of the 2008 Emerald/EFMD Outstanding Doctoral Research Award, International Journal of Physical Distribution and Logistics Management

A.Sadiq (ME)	K.Suryanarain Memorial Senior Student Appreciation Award 2009 for Research and
Dr.M.S.Shunmugam	Development in Smart Technology, Indian Society for Advancement of Materials and Process Engineering (ISAMPE)
Dr.S. Karunanidhi (ME)	Dr.V.M.Ghatage Award for Excellence
Dr.M.Singaperumal	2008, Aeronautical Society of India
Dr.S.Sankaran (MM)	Charles Hatchet Award for the best paper on the Science and Technology of Niobium and its alloys published in any scientific journal, Institute of Materials, UK
D.Swetha Reddy (OE)	Best student paper, OSICON'09
Dr.K.Murali	
Dr.V.Sundar	

Patents Filed

Mr. Balaraju (MS)	<ul style="list-style-type: none"> • Online security system serving as a unique and exclusive password generator for every internet transaction • Multiwalled carbon nanotube biosensor for the detection of paraoxon contained in organophosphorus nerve agents • Spacerless carbon nanotubes for cancer treatment and drug delivery • Online internet security system based on USB flash drive • An Online security system based on the automated Teller machine 	
Dr. L.S. Ganesh		
Dr. R. P. Viswanath (CY)		<ul style="list-style-type: none"> • Process and an apparatus for the removal of solids from water
N. Chandrakumar (CY)		<ul style="list-style-type: none"> • Method of 2D-NMR Correlation Spectroscopy with Double Quantum Filtration followed by Evolution of Single Quantum Transitions
Dr. T. Asokan (ED)		<ul style="list-style-type: none"> • A device for descaling the inner wall of a tank
Dr. Prem B Bisht (PH)		<ul style="list-style-type: none"> • A New dye with high quantum yield for applications in dye lasers and non-linear optics and as a fluorescence life time standards
Dr. Sreenivas Jayanti (CH)	<ul style="list-style-type: none"> • A Method of Oxy-Fuel Combustion 	
Mr.P.V.Manivannan (ME)	<ul style="list-style-type: none"> • A method of measuring the air fuel ratio of a spark ignition engine 	
Dr. A. Ramesh		
Dr. T. Pradeep (SAIF)	<ul style="list-style-type: none"> • A Method providing multi level security to prevent counterfeit by the combined use of optical, Raman, fluorescence, electron and X-ray microscopies at the mesoscale 	
Dr. Anurag Mittal (CS)	<ul style="list-style-type: none"> • An automated system for early detection of diabetic retinopathy 	
Mr. S. Kumar (MM)	<ul style="list-style-type: none"> • Functionally graded aluminum alloy based in-situ metal matrix composites 	
Dr. B.S.Murty		

Dr. S Ramaprabhu (PH)

- A process for the preparation of nanocomposite adsorbents for the removal of dyes from waste waters of industrial effluents
- A process for covalently bonding a drug to the surface of chemically exfoliated graphite oxide (CEGO) without spacer for the treatment of cancer

Dr. S. S. Bhattacharya (MM)

- Nanopowders by electrolytic oxidation of Aluminum to Alumina (NEO-ALUMINA)
- Nanopowders by electrolytic oxidation of Zirconium to Zirconia (NEO-ZIRCONIA)
- Nanopowders by electrolytic oxidation of Aluminum to Alumina (NEO-TITANIA)

Patents Granted

• Dr. Ashok Jhunjhunwala (EE)

A Lan trainer lab apparatus

• Dr. K Narayanasamy (ME)

Extrusion honing composition

• Dr. SK Seshadri (MM)

A Process for the preparation of wear and corrosion resistant coatings for electroless deposition on metal substrates

• Dr. Indrapal Singh Aidhen (CY)

A Process for the efficient synthesis of (2S 3R)-2-O-Benzyl-3 4-O-Isopropylidene-D-Erythritol

• Dr. T. Pradeep (SAIF)

Polyurethane foam coated with silver nanoparticles

A method of manufacture of a ice to monitor the flow of rate of liquids

• Dr. Anju Chadha (BT)

A Process for the lipase catalysed preparation of alkyl and aryl esters of hydrocinnamic acid

A Process for the Monoacylation of Polyols with Alkyl and Aryl Beta-ketoesters

• Dr. S. Karmalkar (EE)

Activation of polished silicon for autocatalytic electroless deposition of palladium and other metals

• Dr. M. Madhusudana Rao (ME)

Jet Pump

• Dr. U.V. Varadaraju (MSRC)

Process for the preparation of long afterglow phosphors

• Dr. M. M. Mayuram (ME)

A Method of manufacture of a steel worm wheel pair for a worm drive

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 155 for a total value of Rs.658 millions including 14 international projects for a value of Rs.28 millions and 7 Industry projects for Rs.25 million. Of these were 75 large projects of value exceeding Rs.2 millions each; the number of faculty members involved in these projects as Principal Investigators and Co-principal Investigators is 85.

Some high value sponsored projects are worth mentioning here :

- DST has funded a National facility to identify potential drug targets through functional cell dynamics for a total value of Rs.474 lakhs.
- NPMA has funded a project for Structural health monitoring using rapid hybrid array based ultrasound NDT methods for a total value of Rs.309 lakhs.

The number of active consultancy projects during the year is 550, for a total value of Rs.247 million including 68 Research Based Industrial Consultancy projects for Rs.95 million. The number of faculty members involved in these consultancy projects is 110 while 22 have been retained as consultants in various industries at a cost of Rs.7 million. Industrial consultancy not only provides technological solutions towards industrial development, but also brings a sense of relevance to the teaching-learning processes.

The ISRO-IITM Space Technology Cell renewed 20 projects and sanctioned 8 new projects during this year. Under the IGCAR-IITM Cell 2 new projects have been initiated and 10 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 246 members this year. Three Technology Appreciation programmes were conducted during the year for the benefit of the Industrial Associate Members.

We have signed 40 Memoranda of Understanding during the year under review with industries such as Autodesk India Pvt. Ltd., Bangalore; AMADA Co. Ltd. & AMADA Soft (India) Pvt. Ltd.; Xerox Corporation, New York; Saint-Gobain Recherche, France; Intellectual Ventures Asia Ltd., Singapore; The Proctor & Gamble Company, USA; Tamilnadu Road Sector Project, Highways Dept., GoTN.

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

IIT Madras is establishing a Research Park adjacent to its Campus at Chennai the first of its kind in India. For the purpose IIT M has obtained 11.42 acres of land from the Government of Tamil Nadu and has taken possession of the same. The mission of IITMRP is to create a collaborative environment between the industry and academia to enable, encourage and develop cutting-edge technology and innovation that meets global standards and nurture these into successful ventures. The main objectives of the Park are to promote technology innovation, incubation, start-ups and new ventures.

The activities would include: encouraging research and innovation; translating ideas and innovation into products/processes; incubating products/processes into ventures in the case of start-ups and translating innovation to tangible business benefits in the case of existing companies; nurturing ventures into enterprises & facilitating enterprises to harvest benefits.

Phase I of the IITM Research Park is expected to be functional soon. Being the first initiative of its kind in India there have been several challenges. These have been met with resilience given the enormous benefit that is likely to accrue

From this, not just to IIT, but to the industry and the society at large. Several companies like Amada, Nissan IFMR Trust, CeWIT and Ginger hotels have commenced their interiors work. Interiors have also been done up for incubation areas, conference rooms and the auditorium. The timing of this initiative couldn't be more appropriate. Given the economic recession, focused R&D and business relevant innovation is the immediate need for the industry. The next couple of years could provide a great window of opportunity to create value that could result in market leadership. The Research Park is likely to be an extremely important enabler in this process.

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: 14 under the Quality Improvement Programme and 57 under Continuing Education which benefited 1734 participants. The CCE generated a revenue of Rs.150.1 Lakhs.

Under the Book Writing Scheme, 33 proposals have been received. 6 books have been published during the year. 54 books have so far been published by our faculty, under this scheme. Additionally, during this Golden Jubilee Year, 12 text books, including one e-book have been published under a special Golden Jubilee Book Writing Scheme.

The Educational Technology Cell was established in 1989 by the Ministry of Human Resource Development, Government of India. The objective is to provide the faculty expertise and the resources of IIT Madras to the students of educational institutions, industrial and R & D organizations across the country by means of audio-visual media.

ETC has now acquired high-end non-linear editing systems, developed its second broadcast-standard studio complementing the existing one with the latest lighting systems and integrating equipment and a seating capacity of about 100 students. The studio has facilities for video conferencing and linking to EDUSAT the exclusive educational satellite which facilitates interactive video sessions with universities across India and abroad.

To meet the growing demands of excellence in technical education and to share the knowledge with other IITs, DIT, with the help of NIC, is implementing the National Knowledge Network providing an exclusive bandwidth of 1 Gbps or more with high definition video conferencing equipment. This has helped IIT Madras contribute immensely in the sharing of knowledge with students of other IITs. Faculty coordinators of various projects are helping the student community with many more on-line lectures using this facility.

The Web Studio in IIT Madras has been equipped with state-of-the art hardware and software. It has been assisting faculty members in the creation of electronic course contents, supplements, lecture notes, quizzes, making them available to the student community. The studio has helped in the creation of a total of 126 web courses and 96 video courses in the year 2008-09.

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 conference websites are also created here. The web studio has extended its services to many other internal and external clients.

Extramural lectures, special lecture, events and other recordings of importance has 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 NATIONALS&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), 455 faculty from other institutions have obtained their Ph.D degrees and 564 faculty from other institutions have obtained their M.Tech degrees from IITM since its inception. Currently we have a total of 107 QIP Scholars 99 Ph.D & 8 M.Tech which includes 20 women in Ph.D and 4 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 Bangalore in developing 110 video based courses and 129 web based courses. IIT Madras

coordinated this project. Both the web and video course contents are freely available to everyone 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. In addition more than 3700 lectures from approximately 95 engineering and science courses have been made freely available as streaming video lectures through YouTube and the website above is being continuously available. This site is recognized as the world's largest public video repository of high quality educational content. 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 500 additional under graduate level and 100 additional post graduate level web and video courses in all major branches of engineering physical sciences and management with possible online certification programs.

SAIF facility caters to Academic and Industrial users across the country. It provides access to state of art research facilities like "High Resolution Scanning Electron Microscope with EDX-WDS" (HR-SEM), "FT Nuclear Magnetic Resonance" (FT NMR 500 MHz), "Single Crystal X-Ray Diffractometers" (SC XRD), "Inductively Coupled Plasma Optical Emission Spectrometer (ICP-OES), X-Ray Fluorescence Spectrometer (XRF) to researchers all across the country. Regular training programmes are offered for the benefit of research scholars from universities on various sophisticated instruments. 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; 121 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, France, Germany, The Netherlands, USA, Korea, Japan, Singapore and Taiwan. So far IITM has signed 120 MoUs with international universities. We have also signed 8 MoUs with international companies and research laboratories for collaborative R & D.

During the summer, as many as 110 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 4 Ph.D, 6 M.Tech. and 1 M.S. scholar to undertake their project / thesis work in these German Universities last year. We have also received 5 Ph.D. and Dipl.-Ing. scholars from Germany to undertake their projects in our research laboratories. The DAAD sponsored IITM-Bremen Student Exchange programme will commence from this academic year. Under this programme, 3 students from the MA (Development Studies) will visit the University of Bremen for a semester. Under the MoU with EPFL, 6 students from EPFL did their course work in IITM. 1 Ethiopian student joined the M.Tech. programme in this institute in August 2008.

9. HUMAN RESOURCES TRAINING

HR training is a planned activity at IIT Madras and systematic efforts are made to provide training to our technical and administrative staff to upgrade and acquire new knowledge, skills and attitude through learning experience. During this year 12 in-service training programs were conducted covering 354 staff and faculty members. In addition 22 staff members were nominated for 9 external training programs.

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. The Review Committee for Computer Science and Engineering and Chemistry Departments completed their visit and have provided us valuable inputs this year.

International Organization for Standardization (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-9000 certification for academic and support services (QSM I: Academic Section, User

Oriented Programmes, Central Workshop, Central library, Computer Centre and IC & SR) since 1999, and for administrative support services (QSM II: Central Electronic 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 Electronic Centre is NABL-accredited for its Testing and Calibration laboratories since 2004.

11. INFRASTRUCTURE DEVELOPMENT & BIODIVERSITY MANAGEMENT

The Institute is gearing up for the capacity expansion due to OBC reservation. This year the additional intake will be 33% above the intake in 2007. IIT Madras was fortunate to have had excess seat capacity in the men's hostel, which enabled us to meet the immediate need in 2008 and 2009. An additional 800 seats are being added in 2009- 10, and a further 550 seats will be added by 2011. The situation in the women's hostel is less rosy, thanks to the fast rising proportion of women students. We are creating additional capacity of 240 seats for women on an emergency basis in 2009 itself. A further 550 seats will be added by 2011 in order to provide for the growth in intake of women students.

The academic facilities too need augmentation. By switching to a flip-flop time table for the I Year Undergraduate students, we will utilize our considerable laboratory and workshop facilities more efficiently and reduce the need for expansion. However, large electronic classrooms, and additional laboratory and research facilities will be created in a new building by 2011.

Faculty are a key resource of our Institute and housing on campus is one of the ingredients that go to make IITs special. The Institute has had a net addition of over 100 faculty in the last five years. We are close to adding 96 more faculty apartments, which will ameliorate the immediate shortage in faculty housing.

It is pertinent to point out that almost all the capacity expansion is being undertaken by replacing several old buildings with one multi-storeyed one, without any increase in the footprint of the built-up area on this lovely wooded campus. We are determined to retain the character of this campus even as we meet the growth targets expected of us.

The Institute acquired in 2008-09 for its P .G. Senapathy Center for Computing Resources, a 2048-node High-Performance-Computing cluster, that placed it amongst the top 500 in the world and second in India in terms of computing power. The cluster enables several faculty to take up large-scale modeling problems which they were hitherto unable to study. It is already used to 60% of capacity on average.

We have inherited a beautiful ecosystem on this campus, which is coming under increased pressure due to expansion, increased energy intensity of activities, generation of waste, etc. We have moved to restrict traffic growth on campus, and have begun efforts to see how we can contain growth in energy consumption. We already have a significant wastewater processing capacity, and we are putting in place processes for handling of all types of waste, including e-waste.

A Report on Biodiversity in our campus prepared two 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 three years. We are cautiously clearing some of the areas invaded by *prosopisjulijlora* to create open grass- and shrub-land suitable for blackbuck, as well as corridors for their movement. We have bought out two pocket guides to flora & fauna on the campus through the efforts of Care Earth.

As part of the continuing efforts of the Institute to improve and modernize its infrastructure, several new works have progressed significantly and many others have been initiated in the academic year 2008-09. A new Sports Complex of three floors with modern facilities of Gymnasium, Yoga Centre, Squash courts, etc. is nearing completion. Taramani Guest House has been revamped with renovation of rooms and a new kitchen / dining hall. Renovation has been carried out in IC&SR, Stadium, Tennis Court, GATE / JEE office. Major roads in the campus have been re-topped to the highest standards. Among the new projects that have begun are 90 numbers of G Type quarters for Research Scholars and new Building for Kendriya Vidyalaya.

As part of the efforts at developing a sustainable campus several projects have been initiated. These include : (1) installation of PV Bio-diesel hybrid version of Photo Voltaic Powered Sea Water Desalination System (Suryajal); (2) development of PV-utility powered LED lighting systems and installation in CEC laboratories as Demonstration Systems; (3) installation of SOLLEKTOR (Guiding the natural sunlight into the living area through Optical Fibres) developed by GSO University Nuereberg, Germany as a demonstration set up.

The Institute hospital caters to the health care of the Institute community. A film free and chemical free computerized radiography and upgraded sonography are a few recent additions 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-FOMs, e-journals, e-books, e-standards, e-patents and various other printed information materials. The Central Library has also been awarded the 'Highest Usage Award 2008' by Elsevier Publisher for using Science Direct and Engineering village-II databases and the 'Silver Rolling Trophy' by the Mylapore Academy for best maintained library in colleges for the year 2007.

12. STUDENT CO-CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

For the student's sector the Golden Jubilee year 2008-09 has been very remarkable. The co-curricular and extra-curricular activities continued with great enthusiasm and scaled new heights. Eminent personalities from all walks of life addressed our students in different forums. Several new initiatives were launched for the welfare of the students.

EXTRAMURAL LECTURE SERIES at IITM has a long cherished tradition of inviting prominent people from various walks of life to address students on a spectrum of issues. As a part of IIT-Madras' Golden Jubilee celebration, the EML team initiated the Golden Jubilee Lecture series inviting personalities such as the Deputy Chairman of the Planning Commission of India Dr. Montek Singh Ahluwalia, well-known sports commentator and Tennis player Shri Vijay Amritraj, social activist and actress Nandita Das, National award winning film Director Shri Adoor Gopalakrishnan, Air Marshal (retd.) Vinod Patney from the Indian Air force and the father of Green Revolution in India Dr. M S Swaminathan to name a few. The team also extended EML's purview to include interesting demonstrations such as the one by Dr. Margaret MacDonald on Mapping Brain Activities and socially relevant events such as the JaagoRe voting campaign which was clubbed with a lecture by former Chief Election Commissioner Shri T.S. Krishnamurthy. The team has indeed done a highly commendable job by organizing 14 EMLs this academic year covering an array of fields.

SHAASTRA-the technical festival of IITM was held from 2nd to 5th of October 2008. It was the biggest Shaastra ever on the parameters of participation, scope, scale and investment. A unique initiative- the Golden Jubilee Conclave was successfully organized which witnessed participation by eminent speakers like Ramachandra Guha, Ms Kanimozhi M.P., Central Cabinet Minister Anbumani Ramadoss & a plethora of corporate leaders. The conclave happened to be the first student initiative to be covered on a national television. The technical fest had over 60 events including 15 workshops signifying our growing impetus on learning and not just competition. From crowd intensive spectacles like the laser show & the robotics show to niche events like the hack fest, Shaastra 2008 went a long way in helping consolidate IIT Madras's reputation as a centre of highly motivated and talented student population.

The Centre for Innovation was inaugurated this year and has quickly created a formidable reputation for itself. While no other institution in this part of the world can pride itself of having such a unique facility, CFI a venue run by students has become a place of hectic non-stop activity. Any student of the Institute is free to work on any project or idea of their liking and gets full support in the form of infrastructure and finances from the institute. CFI's uniqueness lies in the fact that everything in the facility is run by students. In its first year itself this initiative has yielded tremendous dividends with IIT Madras becoming the national champion in Robocon 2009 and will represent India in the world championship in Tokyo. A team of students who designed and demonstrated a low-cost Aerial Surveillance Vehicle came second in a nation-wide DRDO Golden Jubilee Student competition. Such heady success has spurred a large number of students to work on very challenging problems and strive to participate in the toughest competitions all over the globe. It must be mentioned that initiatives like Shaastra and CFI have a large and highly committed team of students guided by faculty members who work tirelessly to make IITM synonymous with innovation and vision.

SAARANG 2009 was conducted with usual fanfare from 21st January to 25th January 2009. This year's Saarang saw fifty events symbolically marking the fifty glorious years of the institute. All events had participation from all over the

country and the level of competition was very high keeping up with the traditions set by our students. The professional shows were yet again the inadvertent crowd pullers, with Saarang playing host to the Swedish band Opeth's first ever performance in the country. The shows, with the ambience of the OAT adding to their exuberance, attracted large crowds and they continue to be the preferred programs of the Youth in January every year. The new attractions this year were the Theatre Fest and Madras Chennai Express. The Theatre Fest had three plays that ran to packed house in SAC. Saarang Village was reborn as Sanskriti, and was popular with the visitors because of the traditional food, performances and competitions like Street play conducted there. Stagecoach, our theatre group put up two shows of a play called "A Good Doctor" in the CLT, and the production got more audience than in the previous years. For the fifth year in succession our students demonstrated their social awareness and commitments by contributing a sum of Rs.8.7 lakhs from the proceeds of Saarang to charitable causes.

INTER IIT SPORTS - 2008 was organized and Sports Organizing Committee was constituted for the same which included many students. In Inter IIT Aquatics, IIT-Madras emerged overall winners bagging a gold in Water polo and silver in Swimming. The competition spread over 4 days was widely attended. Main Inter IIT Sports meet consisting of 10 major events had participation of more than 1000 sports persons from ten IIT's. The participation of new IIT's, though in small numbers was a pleasant experience. The gruelling competition spread over a period of 6 days at the end of which IIT-Bombay emerged victorious. IITMadras was placed 2nd but won first place in Volley-Ball, Tennis and Table Tennis. IIT-Madras launched a sports website which is accessible at www.sports.iitm.ac.in and its own Sports Newsletter 'Spinfo'.

Inter collegiate events like Sports Fest, GF&KR (Basketball) and IITM-Sanmar Cricket tournament saw good participation from some of the best college teams. Inter hostel sports competitions were held in a very cordial atmosphere.

The first ever ALUMNI STUDENT CONCLAVE held on 6th Sept. 2008 was the opening event which strengthened the alumni student interaction and made a pitch for PAN IIT 2008 Global Conference. November was marked by mock interviews. More than 400 mock interviews and about 20 GD sessions were organised by expert panelists arranged by the IITM Alumni Association. December '08 was predominantly marked by PAN IIT 2008 Global Conference where in a team of 100 student volunteers from IIT Madras worked in close coordination with the distinguished alumni.

PLACEMENT SERVICE was some what subdued this year due to the prevailing recession in the global economy. In spite of this, more than 170 companies (65% in core sector) visited the campus for recruitment this year. The process started on the 1st of December and continued through the semester that followed and over 60% of the students were recruited for core jobs.

THE GUIDANCE AND COUNSELING UNIT 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.

Current year saw very active contributions from GCU to the student community, not only of IIT Madras but also of the newly established IIT Hyderabad. The year started with a proper welcome and orientation for freshers, organizing informal lectures by Professors at hostel level and ensuring that there were no undesirable cases related to Junior-Senior interactions.

During September, a team of 6 students went to IIT Hyderabad for mentoring. The team organised a lot of activities ranging from technical, cultural to sports and talked to the first year students there about various issues of life at a campus. Right now, the IIT Hyderabad is setting up similar groups, with inputs from the IIT Madras team.

REFLECTIONS, IIT Madras, 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 January 2009.

The institute has been proud to have a very active Entrepreneurship Cell, C-TIDES. The cell has successfully been living up to its mission of promoting the spirit of entrepreneurship amongst the institute students. Apart from hosting workshops and lectures to aid its mission, the cell, for the third year continuously, ran Genesis, an international business plan competition that seeks to encourage business ideas which aim 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 bi-monthly newsletter, Entre'face, was also launched to serve as a platform for enterprise and innovation related information dissemination. We are also proud to mention that we have been successful in encouraging students to convert their ideas into actions and have incubated five companies over the course of the year. These companies operate in varying spaces, from biometric authentication to education to development of eco-friendly systems.

13. SOCIALLY RELEVANT ACTIVITIES

IITM has initiated activities for transfer of technologies, which are of immediate relevance to the society.

SOCIALLY RELEVANT PROJECTS program, is an initiative started by IITM back in the year 2003, for exploring ways of helping disadvantaged sections of the society through technology intervention. A condition for getting the funding for projects under this program is that the idea for the project should get initiated 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. Currently four projects funded by IIT Madras, two projects funded by alumni of 1967 under the Ramachandran Jaikumar Project for Rural Technologies and six projects funded by alumni of 1981 are underway.

RURAL TECHNOLOGY ACTION GROUP (RuTAG) is an initiative of Dr. R. Chidambaram, the Principal Scientific Adviser to the Government of India (PSA) aimed at improving technologies for the benefit of rural India. IIT Madras is nodal agency for RuTAG (Tamil Nadu) covering Tamil Nadu and other Southern States. RuTAG works on problems identified by rural NGOs and brings in technical inputs from IITM and other engineering institutes. Currently, RuTAG is providing improvement in quality and productivity for banana fibre extraction machine, artificial foot, solar fan, tiles, weevil detector, raiper kit for power looms, wind turbines etc. to name a few. RuTAG interacts with rural NGOs and Government Departments so that the benefits of the research and development work reach a large cross section of the society.

LEMELSON RECOGNITION AND MONITORING PROGRAMME (L-RAMP) is a joint initiative of Indian Institute of Technology, Madras and Rural Innovations Network, supported by The Lemelson Foundation, USA. L-RAMP identifies innovators and harnesses their creativity to build their innovations into sustainable, scalable enterprises. L-RAMP's goal is to transform living standards for poor communities through such sustainable and scalable enterprises.

L-RAMP provides incubation support. L-RAMP has so far funded 24 innovations and is currently supported 12 innovations. L-RAMP provides pre-incubation training to innovators who were not selected for incubation but who have the potential to be selected in the future. About 90 innovators have benefitted by it. L-RAMP in order to encourage engineering students work on socially relevant problems for their final year project, provides support to them. Grants have been provided for twenty four projects so far through nodal partners. .

My Idea Programme encourages the student community to pursue their ideas and innovate solutions to important social problems. The programme showcases the ideas of students and imparts knowledge and skill which are necessary to take their innovations further. The Programme stresses ideas for solving problems in agriculture, dairy, water and energy. Thirty such programmes were organized for students in various engineering colleges in association with the Nodal Partners.

L-RAMP Innovation Awards is an initiative to encourage and recognize the efforts of the innovator community and their supporters such as investors, enterprises, journalists/ media etc. L-RAMP has institutionalized an annual awards programme, namely the 'L-RAMP Award of Excellence'. The award categories include Grassroots Innovator Award, Woman Innovator Award, Young Innovator Award, Enterprise Award, Investor Award, Media / Journalist Award and, Lifetime Achievement Award. The innovations that have won an award are : Machine for handloom yarn sizing, Hydrofeeder for culture farms, Mosquito attraction and electrocution, Novel drip irrigation system, Herbal mosquito repellent, Multiple micronutrient fortified common cooking salt, Marker Instrument for System of Rice Intensification (SRI), Vaatsalya Healthcare Private Limited, IFMR Trust, DARE Magazine, Ela Bhatt(SEWA).

IITM has launched two 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 campus. It employs three 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 fundraiser receives voluntary support from faculty, staff, students and alumni. The chief beneficiaries from last year's fundraiser were Tribal Health Initiative, Sittilingi, (Dharmapuri Dt.); VHS Diabetes Department, Taramani; Seva Samajam Childrens' Home, Pallipattu; Gnana Deepam, Palam; Avvai Home and Orphanage.

14. ALUMNI MATTERS

Our Institute has so far awarded over 32000 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 nearly all have distinguished themselves professionally. Many of them occupy top positions in India and abroad in Industries, Government Organizations and Educational Institutions. 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 (2009) were announced during the Republic Day Function.

They are:

- Dr. L. Mahadevan (1986/BT/ME), England de Valpine Professor of Applied Mathematics Harvard University
- Dr. Jagadeesh S Moodera (1978/PhD/PY), Senior Research Scientist, Francis Bitter Magnet Lab., Massachusetts Institute of Technology
- Mr. P. Venugopalan (1971/BT/ME & 1979/MS/ME), Director, Defence Research & Development Lab.
- Mr. Shrikumar Suryanarayanan (1982/BT/CH), Director General, The Association of Biotechnology Enterprises, Former President (R&D), Biocon
- Mr. K. Ravi Kumar (1972/MT/EE), Chairman & Managing Director, Bharat Heavy Electrical Ltd
- Mr. M. G. Parameswaran (1977/BT/CH), Executive Director and CEO, Draft FCB Ulka Advertising
- Mr. D. Chandrasekhar (1970/BT/MT), Managing Director, MBI Metalloys Pvt Ltd

The Institute hosted the Pan-IIT Meet of 2008 on its campus, the first time ever any pan-IIT event has been held on an IIT campus. The conference was a grand success, and the Institute played host to several of its own alumni and those of its sister institutes in this golden jubilee year. More than 3000 delegates attended the Conference. The Conference featured six technical tracks (in Education, Research, Innovation, Infrastructure, Entrep-reneurship, Rural Transformations), a first-ever PANIIT Research Symposium, a "Leadership in Research" competition, Design and Business Plan competitions, an Exhibit and various mega Entertainment events. The Prime Minister, Hon'ble Dr. Manmohan Singh, delivered the Inaugural Address and the valedictory address was given by the Nobel laureate, Prof. Amartya Sen. Several notable plenary speakers graced the occasion Raghuram Rajan, C.K. Prahlad, Stephen Cohen, Kishore Mahbubani, Bob McDonald, B. Muthuraman, S. Ramadorai, Ravi Kant among them.

The Office of Alumni Affairs acts as a liaison between the Institute and the Alumni. Some of the Major activities of Office of Alumni Affairs are: Mobilization of Alumni Funds and maintaining records of all alumni contributions; Alumni sponsored travel grant disbursement to students; instituting alumni sponsored endowments, scholarships and awards and overseeing the completion of alumni funded projects eg., Centre for Innovation within IIT Madras.

The alumni have launched an ambitious Golden Jubilee Growth Fund to give an impetus to their alma mater in several key areas impacting research, student facilities, and infrastructure.

15. GOLDEN JUBILEE YEAR -A Brief report

General

The Indian Institute of Technology Madras was founded in 1959 as an Institute of national importance, is completing 50 glorious years today. The Institute has passed through various stages of development and growth, continuously striving to fulfil the objectives the founding fathers have set for it. Institute, during the past fifty years, has contributed to producing excellent Human Resources through its rigorous and advanced education programmes, technology development and knowledge creation through various forms of research, capability enhancement in industry through consultancy services, enrichment and development of professionals through continuing education and entrepreneurship development through incubation services. The Golden Jubilee celebrations of the Institute started on 31st July 2008 and will continue until 31st December 2009.

Inauguration

Golden Jubilee Celebrations of the Institute was kick started on the 31st July 2008 in a mammoth function organized in the SAC. The dignitaries attended the function were, Tamilnadu Chief Minister Hon'ble Dr Kalaignar M Karunanidhi, Union Minister of State for HR, Smt. D Purandeswari, Secretary Higher Education, Shri R P Agrawal, German Ambassador, Mr Bernd Mutzelburg and other dignitaries.

Indo-German Cooperation

On Sept 8, 2008, together with the German Academic Exchange Service, IIT Madras celebrated the Jubilee of Indo-German Cooperation in Higher Education. The Hon'ble Federal Minister of Education and Research Govt of Germany, Dr Annette Schavan and Hon'ble Minister of Science & Technology and Earth Sciences, Govt of India Shri Kapil Sibal were Chief Guests. New initiatives in Indo-German Cooperation in Higher Education and Research were announced by the Ministers. This was followed by a one and a half day Workshop on Sustainable Development. Participants were senior academics from India and Germany. During this workshop a frame work for establishing a Centre of Excellence in Sustainability in IIT Madras in collaboration with DAAD was finalized.

Nostalgia

Nostalgia, a celebration of the Golden Jubilee was held on 27th and 28th February 2009. This was an event which brought together about 25 German Faculty who were part of the Indo-German initiatives during the formative years of the Institute and our own faculty, retired as well as existing, who had interacted with the German Professors and setting up of various laboratories in the institute. It has been a very nostalgic journey for all the participants through the Institute and the laboratories they built. All participants felt very emotional and profusely thanked the Institute for honouring those on whose shoulders we stand. DAAD, GTZ, German Embassy, IGCC and Lufthansa co-partnered the event.

Conferences

In all, spread over the last twelve months, many conferences were organised by departments to celebrate the GJ. There were 15 International Conferences, 10 National Conferences and Seminars. Most of the conferences brought out Proceedings.

Golden Jubilee Book Series

The efforts made to inculcate the culture of writing books among faculty found good results during the GJ year. On 20th July 2009, in a very homely function organized, Dr Anil Kakhodkar, Chairman, Atomic Energy Commission released 11 books authored by our faculty members. These books were published by publishers like Springer, Pearson, Narosa, etc. It is hoped that another 10 to 15 books will be ready for release before the end of 2009.

International Journal

A quarterly thematic International Journal titled "Advances in Engineering Sciences and Applied Mathematics" published by Springer Verlag, released its first issue during the year. The theme of the inaugural issue was "Solid Mechanics". The publication was launched by Federal Minister Hon'ble Dr Annette Schavan and Central Minister Hon'ble Mr Kapil Sibal, the inaugural issue was released by Dr Anil Kakhodkar on 20th July 2009.

New Academic Programmes

Three M.Tech. programmes in Nuclear Engineering, Petroleum Technology and Catalysis Technology, and an Integrated B.S. and M.S. program in physics admission for which is through JEE are being launched from the academic session starting in Aug 2009. M.Tech in Clinical engineering and Ph.D. specializing in Biomedical Devices and Technology as a joint program with Sri Chitra Tirunal Institute and Christian Medical College, Vellore and the 2-year Visionary Leadership in Manufacturing in collaboration with I.I.T. Kanpur and I.I.M. Calcutta have been launched in July 08. As a Golden Jubilee initiative, all UG labs have been improved and workshop syllabus has been revised.

Centres of Excellence

Three virtual Centres of Excellence in Nano Technology, Bio Processing and Communications are starting this year with special funding under GJ scheme. This is in addition to the Indo-German Centre of Excellence in Sustainable Development.

Open House

The Golden Jubilee Open House when the portals of our Institute were thrown open to the public was held on October 4th and 5th 2008. Many technological success stories of the departments of IIT-Madras and their impact on society were showcased at the Open House.

The IIT Madras had selectively invited 130 schools, 150 colleges and 1300 industries in addition to the general public for the Open House. The visitors had a glimpse of some of the research projects in cutting-edge technology in IIT-Chennai. Thousands of students from various schools and colleges interacted with IIT students and research scholars and got to see the state-of-the-art laboratories of the institute.

In addition to the conducted tours of departments and laboratories, there were brainstorming sessions and quizzes with lot of fun for students and parents.

Cultural Programmes

The year witnessed a number of cultural programmes to satisfy the taste of young and old. The programmes varied from classical to contemporary. Some of the programmes were, Charishnu by Kalakshetra, Mahadevbhai a play by Jaimini Pathak, Dance Drama Flame of the Forest by Gowri Narayanan, Play Moonshine and Skytofee by Perch, Dancing Tales of Panchatantra by Shankarananda Kalakshetra, Emotions in Motion a variety dance programme by Dhananjayan's Bharata Kalanjali. All programmes were well attended by students and campus residents making the GJ celebrations very broad-based.

New Indoor Sports Complex

Our students always felt the need for an indoor sports complex. Their dreams became a reality today with the inauguration of the sports complex in close proximity to other outdoor sports facilities. The complex will house, table tennis, weight lifting, fitness club and squash.

15. Research Park

The Research Park is a first-of-its kind in India initiative of IIT Madras. It has been described in detail elsewhere in this report. We hope to have the Prime Minister, the Chief Minister of Tamil Nadu and the Human Resource Minister inaugurate the Park in September as the highlight of our Golden Jubilee celebrations.

16. 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 unconceivable without such enlightened support. I wish to thank Dr. R. Chidambaram, our Chairman for his valuable guidance and encouragement. We look forward to reaching new heights of achievement in all our endeavours with the able guidance of our Board of Governors

INDIAN INSTITUTE OF TECHNOLOGY MADRAS

MAJOR ACHIEVEMENTS

ANNUAL REPORT 2008-09 AND DEVELOPMENT TILL 31st August 2009

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 24 streams/ specialisations, M.Sc. programme in 3 branches, B.Tech programme in 10 branches, Dual degree (B.Tech and M.Tech) programme in 14 branches, M.B.A. programme and M.A. Integrated programme 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:

New Multi-institute M.Tech. in Clinical Engineering and Ph.D. in Biomedical Devices and Technology programmes have been introduced this year in collaboration with Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum and Christian Medical College, Vellore.

The M.S. and Ph.D. programmes emphasize research excellence and the M.Tech. (Clinical Engineering) programme addresses the management of the technology aspects in a hospital as well as the Medical Technology needs of the Country.

4. New Programmes Envisaged from July 2009:

- i) M.Tech. in Catalysis Technology
- ii) M.Tech. in Nuclear Engineering
- iii) M.Tech. in Petroleum Technology
- iv) Dual Degree (BS & MS) in Physics
- v) Post Doctoral Fellow for Women
- vi) Institute Post Doctoral Fellow

5. 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. 2 SC & 16 ST candidates have been admitted in B.Tech & Dual Degree in 2009. At present, 23-ST and 4 PD candidates have been admitted in the Preparatory Course 2009.

6. Convocation:

The Details of programme-wise degrees awarded:

Ph.D 3133 (162) : MS 2341 (121) : M.Tech 11038 (354): M.Sc 2466 (83) : MBA 349 (62): Dual Degree (B.Tech & M.Tech) 724 (172) : B.Tech 12997 (313) PGPEXVLM - 29

So far, till the 46th Convocation 34066 degrees were awarded out of which 1468 degrees were awarded during 46th Convocation.

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

Convocation 2009



7. Admission & Students on Roll:

1545 students (Inclusive of 218 Ph.D and 156 MS Scholars) have joined in various programmes in 2008-09. As on 31-3-2009, 5120 students on roll [Foreign Nationals: 9, Women Students: 721 and QIP (Teachers from other Engineering Colleges): 107].

8. Research and Development:

IITM continues to be active in research during the year, 165 Ph.D thesis and 110 MS thesis were completed. Our faculty and research scholars have published 909 research papers, (832) in refereed international journals and (77) in national journals and have presented 651 research papers, (511) in international conferences and (140) national conferences.

9. Patents:

18 patents have been filed in the year 2008-09 and 12 patents were granted.

10. Industrial Consultancy and Sponsored Research:

The number of active consultancy projects during the year 2008-09 was 550 for a total value of Rs.247 million. The number of faculty projects involved in consultancy projects is 110 and while 22 have been retained as consultants in various Industries. The ISRO-IITM Space Technology Cell renewed 20 projects and sanctioned 8 new projects. Industrial Associateship Scheme fostering close interaction with 246 Industry members during 2008-09. During the period April to July 2009, 180 Consultancy Assignments and 66 Sponsored Projects were taken up with a total value of Rs.815 lakhs and Rs.6313 lakhs respectively.

11. 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: 14 under the Quality improvement programme and 57 under Continuing Education which benefited 1734 participants. The CCE generated revenue of Rs.150 lakhs through its activities.

12. 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 107 QIP scholars 99 Ph.D & 8 M.Tech which includes 20 women in Ph.D and 4 in M.Tech in the Institute.

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

The Phase-I of the National Programme on Technology Enhanced Learning (NPTEL), funded by MHRD, was a pioneering joint initiative of all the 7 IITs and IISc Bangalore in developing 110 video based courses and 129 web based courses. IIT Madras coordinates this project. Both the web and video course contents are freely available to everyone through our website. 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. In addition, more than 3700 lecturers from approximately 95 Engineering and Science courses have been made freely available as streaming video lectures through YOU Tube and the website is being continuously available. 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 500 additional under graduate level and 100 additional post graduate level web and video courses in all major branches of engineering, physical science and management with possible online certification programs.

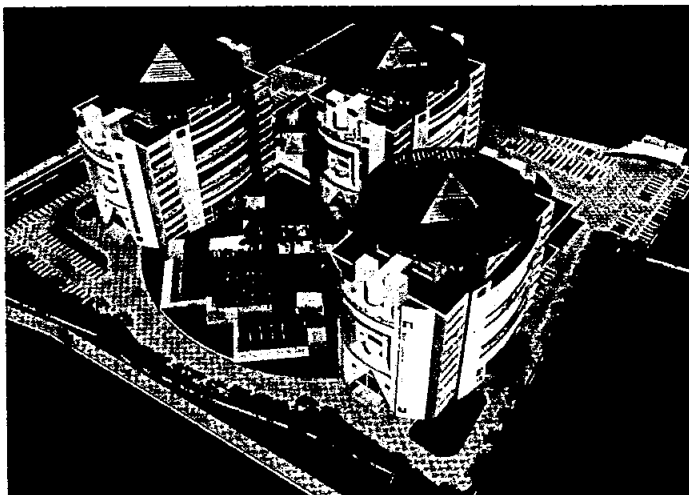
14. Golden Jubilee Celebration and Book Writing:

Inauguration of the Golden Jubilee Celebration was held on 31st July 2008. Under Golden Jubilee Book Writing Scheme, 33 proposals have been received. 13 books have been published during the year. Our faculty, under this scheme, has so far published 67 Books.

15. Research Park:

Phase I of the IITM Research Park is expected to be functional soon. Being the first initiative of its kind in India there have been several challenges. These have been met with resilience given the enormous benefit that is likely to accrue from this, not just to IIT, but to the industry and the society at large. Several companies like Amada, Nissan IFMR Trust, CeWIT and Ginger hotels have commenced their interiors work. Interiors have also been done up for incubation areas, conference rooms and the auditorium. Given the economic recession, focused R&D and business relevant innovation is the immediate need for the industry. The next couple of years could provide a great window of opportunity to create value that could result in market leadership. The Research Park is likely to be an extremely important enabler in this process.

Research Park (Proposed)



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.

In addition, the Board of Academic Research, Board of Academic Courses, Board of Students and Board of Industrial Consultancy and Sponsored Research are constituted by the Senate to help in the efficient administration of academic and research activities of the Institute.

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 31.03.2009, 422 Faculty, 55 Group A Staff, 9 Scientific Staff, 1 Design Staff, 265 Technical Staff, 213 Administrative Staff and 232 Group D staff were in position totalling 1197. During the period under report 111 faculty/staff members comprising 2 Professors, 4 Associate Professors, 43 Assistant Professors, 9 Visiting Faculty and 53 other staff were appointed. 28 staff members comprising, 7 Officers and 21 Staff retired from their services. 3 Staff members expired. 13 faculty members, 2 Group 'A' Officers and 8 staff members were on long leave. The details of all the above are given below:-

2.2.1 Faculty / Staff appointed from 01.04.2008 to 31.03.2009:

List of faculty members appointed during the period April 2008 to March 2009

Sl. No.	Name	Designation	Dept./ Section	Date of Joining
1.	Dr. CVR Murthy	Professor on deputation	Civil	10.06.2008
2.	Dr. Sudhir Chella Rajan	Professor	Humanities	30.01.2009
3.	Dr. Sujatha Srinivasan	Assoc. Professor	Mech. Engg.	17.06.2008
4.	Dr. Upendra Natarajan	Assoc. Professor	Chemical	30.01.2009
5.	Dr. L. Prakash Sai	Assoc. Professor	Management	02.02.2009
6.	Dr. Rayala Suresh Kumar	Associate Professor	Biotechnology	30.03.2009
7.	Dr. Balaji Narasimhan	Asst. Professor	Civil Engg.	16.06.2008
8.	Dr. N. Sujatha	Asst. Professor	App. Mech.	16.06.2008
9.	Dr. V. Raghavan	Asst. Professor	Mech. Engg.	17.06.2008
10.	Dr. B. Kalyan Kumar	Asst. Professor	Elec. Engg.	17.06.2008
11.	Dr. Parag Ravindran	Asst. Professor	Mech. Engg.	23.06.2008
12.	Dr. Rahul Ratnakar Marathe	Asst. Professor	Mgmt. Studies	23.06.2008
13.	Dr. Arti Dua	Asst. Professor	Chemistry	24.06.2008
14.	Dr. Srinivasa Rao Manam	Asst. Professor	Mathematics	25.06.2008
15.	Dr. D.G. Janaki Ram	Asst. Professor	Metallurgy	25.06.2008
16.	Dr. Rupen Goswami	Asst. Professor	Civil Engg.	30.06.2008
17.	Dr. Arya Kumar Bedabrata Chand	Asst. Professor	Mathematics	04.07.2008
18.	Dr. K. Arul Prakash	Asst. Professor	Applied Mech.	09.07.2008

Sl. No.	Name	Designation	Dept./ Section	Date of Joining
19.	Dr. S.S.Tabraz	Asst. Professor	Humanities	10.07.2008
20.	Dr. Arshinder Kaur	Asst. Professor (on cont)	Management	18.07.2008
21.	Dr. Somashekhar Hiremath	Asst. Professor	Mechanical	21.07.2008
22.	Dr. Vidya Bhushan Maji	Asst. Professor	Civil	28.07.2008
23.	Dr. Sridhara Kumar Narasimhan	Asst. Professor	Chemical	31.07.2008
24.	Dr. S. Krishna	Asst. Professor	Electrical	04.08.2008
25.	Dr. Ramanathan Muthuganapathi	Asst. Professor	Engg Design	04.08.2008
26.	Dr. Srirama Srinivas	Asst. Professor	Electrical	08.08.2008
27.	Dr. Balkrishna C Rao	Asst. Professor	Mechanical	11.08.2008
28.	Dr. K. Viswanath	Asst. Professor	Mechanical	18.08.2008
29.	Dr. Rajamanickam Murugan	Asst. Professor	Biotechnology	27.08.2008
30.	Dr. T. Thyagaraj	Asst. Professor	Civil	28.08.2008
31.	Dr. P. Shanmugam	Asst. Professor	Ocean	01.09.2008
32.	Dr. Aditi Simha	Asst. Professor	Physics	23.09.2008
33.	Dr. Kalpana Mahalingam	Asst. Professor (on cont)	Maths	24.09.2008
34.	Dr. Prahallad Padhan	Asst. Professor	Physics	30.09.2008
35.	Dr. A. Sameen	Asst. Professor	Aerospace	03.10.2008
36.	Dr. M.P. Ganesh	Asst. Professor (on cont)	Mgmt Studies	06.10.2008
37.	Dr. Sutanu Chakraborti	Asst. Professor	Comp. Sci.	17.11.2008
38.	Dr. G. Saravana Kumar	Asst. Professor	Engg. Design	01.12.2008
39.	Dr. S.T.G. Raghu Kanth	Asst. Professor	Civil Engg.	01.12.2008
40.	Dr. Manoj Gopalakrishnan	Asst. Professor	Physics	08.12.2008
41.	Dr. Amitava Ghosh	Asst. Professor	Mechanical	11.12.2008
42.	Dr. Dali Naidu Arnepalli	Asst. Professor	Civil	17.12.2008
43.	Dr. Bharath Bikkaji	Asst. Professor (on cont)	Electrical	29.12.2008
44.	Dr. Umesh Ramakant Kadhane	Asst. Professor	Physics	31.12.2008
45.	Dr. Raghuram Chetty	Asst. Professor	Chemical	05.01.2009
46.	Dr. A.J. Shaiju	Asst. Professor	Maths	02.03.2009
47.	Dr. Nandita Madhavan	Asst. Professor	Chemistry	16.03.2009
48.	Dr. James Frederick Libby	Asst. Professor (on cont)	Physics	16.03.2009
49.	Dr. Sabita Sarkar	Asst. Professor	Metallurgy	01.04.2009
50.	Dr. Andrew W. Batchelor	Visiting Assoc. Prof.	Mechanical	11.11.2008
51.	Dr. Suresh Dhaniyala	Visiting Faculty	Chemical	17.11.2008
52.	Dr. Mohansankar Sivaprakash	Visiting Asst. Professor	Electrical	08.12.2008
53.	Dr. Arunan Nadaraj	Visiting Professor	Chemical	08.12.2008
54.	Dr. Balasubramaniam Jayaram	Visiting Asst. Professor	Maths	15.12.2008
55.	Dr. Muthukumaran Packirisamy	Visiting Assoc. Prof.	Mechanical	02.01.2009
56.	Dr. S. Ashok	Visiting Professor	Electrical	05.01.2009
57.	Prof. Vojislav Radojevic	Visiting Professor	Physics	05.01.2009
58.	Dr. Kidambi Rangachari	Visiting Assoc. Prof.	Aerospace	02.02.2009

List of Staff Members joined during the period from April 2008 to March 2009

Sl. No.	Name	Designation	Department / Centre / Section	DOJ
1.	Mr. N. Sankar	Audit Officer (on deput.)	Admin III	31.12.2008
2.	Dr. Sharada Mani	Consultant Dentist	Hospital	05.08.2008
3.	Dr. A. Chandan	Consultant Dermatologist	Instt. Hospital	04.11.2008
4.	Dr. Shobana Priya Sampath	Consultant (O &G)	Instt. Hospital	15.11.2008
5.	Shri R. Sundaram	CTEO (on cont)	IC & SR	25.06.2008

Sl. No.	Name	Designation	Department / Centre / Section	DOJ
6.	Mr. P. Karthigai Raja	Graduate Apprentice	CAE Lab of ME Dept.	13.03.2009
7.	Mr. V. Karthick	Graduate Apprentice	CAE Lab of ME Dept.	13.03.2009
8.	Ms. S. Shanthy	Helper Nursing (on cont.)	Instt. Hospital	11.02.2009
9.	Dr. V. Sangamitra	JMO (on contract)	Instt. Hospital	03.11.2008
10.	Dr. N. Sakthivel	JMO (on contract)	Instt. Hospital	04.11.2008
11.	Dr. R. Jayavarma	JMO (on contract)	Instt. Hospital	08.12.2008
12.	Dr. C.K. Elandevan	JMO (on contract)	Instt. Hospital	09.12.2008
13.	Dr. Saraswathi Deiveegam	JMO (on contract)	Instt. Hospital	21.01.2009
14.	Dr. S. Ganga Muruga Bharathi	JMO (on cotract)	Instt. Hospital	23.03.2009
15.	Dr. V. P. Siva Kumar	Part-time MO	Instt. Hospital	08.01.2009
16.	Smt. R. Sivagami	Junior Superintendent	Academic Section	09.05.2008
17.	Mr. P. Mahesh Mithreevan	Junior Technician	Director's Office	15.05.2008
18.	Mr. E. Arun	Junior Technician	Finance & Accounts	22.05.2008
19.	Mr. M. Prabhu	Junior Techniican	Ocean Engg.	03.06.2008
20.	Ms. M. Gracy	Nurse (on contract)	Hospital	21.10.2008
21.	Mrs. Mili Senapati	Nurse (on contract)	Instt. Hospital	10.11.2008
22.	Ms. V. Kamakshi	Nurse (on contract)	Instt. Hospital	25.11.2008
23.	Ms. M. Suriyakala	Nurse (on contract)	Instt. Hospital	27.11.2008
24.	Ms. Y. Sasikala	Nurse (on contract)	Instt. Hospital	01.12.2008
25.	Ms. J. Deepa	Nurse (on contract)	Instt. Hospital	01.02.2009
26.	Mr. Kunwar Singh	Senior Lib. Info. Asst.	Central Library	21.05.2008
27.	Mr. M. Ramani	Senior Technician	Centl. Library	13.03.2009
28.	Mr. K.K. Mohan	Senior Technician	Mechanical	13.03.2009
29.	Mr. A. Boopathy	Senior Technician	Chemistry	13.03.2009
30.	Mr. B.Sampath	Senior Technician	Mechanical	13.03.2009
31.	Mr. S. Vedachalam	Senior Technician	Electrical	13.03.2009
32.	Mr. M. Sampath	Senior Technician	Placement Office	13.03.2009
33.	Mr. R. Chandrasekaran	Senior Technician	Electrical	13.03.2009
34.	Mr. R. Mukunthan	Senior Technician	Mechanical	13.03.2009
35.	Smt. R. Prema	Senior Technician	Computer Science	13.03.2009
36.	Mr. J. Vincent George	Senior Technician	Civil	13.03.2009
37.	Mr. B. Deivasigamani	Senior Technician	Mechanical	13.03.2009
38.	Mr. V. Manoharan	Senior Technician	Physics	13.03.2009
39.	Mr. G. Mohanasundaram	Senior Technician	Mathematics	13.03.2009
40.	Mr. V. Jothi Ramalingam	Senior Technician	Mechanical	13.03.2009
41.	Mr. M. Elangovan	Senior Technician	Civil	13.03.2009
42.	Mr. A. Dhanasekaran	Senior Technician	Civil	13.03.2009
43.	Mr. K. Deivasikamani	Senior Technician	NCC Office	13.03.2009
44.	Mr. V. Balasubramanian	Senior Technician	Engg. Design	13.03.2009
45.	Mr. A. Durai	Senior Technician	Metallurgy	13.03.2009
46.	Mr. S. Veerabathiran	Senior Technician	Metallurgy	13.03.2009
47.	Mr. A. Vijayan	Senior Technician	Engg. Unit	13.03.2009
48.	Mr. Baba Thangavelu	Senior Technician	Mechanical	13.03.2009
49.	D. Meganathan	Senior Technician	Chemical	16.03.2009
50.	Mr. P. Nelson	Senior Technician	Physics	24.03.2009
51.	Mr. S. Anandkumar	Technical Supdt.	Computer Science	15.05.2008
52.	Mr. J.Senthilnathan	Technical Supdt.	Civil	15.05.2008
53.	Mr. D. Inbamani	Technical Supdt.	CCE	15.05.2008

Faculty / Staff retired from 01.04.2008 to 31.03.2009

Sl. No.	Name	Designation	Department	Date of Retirement
1	Harishkumar	Tech. Supdt.	PY	30.04.2008
2	Jameela B.	Sr. Attdt.	Library	30.04.2008
3	Kannappan P.	Sr. Attdt.	Admn	30.04.2008
4	Tom C C	Asst. Librarian	Library	30.04.2008
5	Viswanathan. V	Tech. Supdt.	CWS	30.04.2008
6	Bakthavatsalu R	TO Gr. I	CE	31.05.2008
7	Venkatesan V	Sr. Attdt.	EU	31.05.2008
8	Nesamani M.	Supdt.	Admn	30.06.2008
9	Rajamani S.	Conductor (SG)	T.Cell	30.06.2008
10	Santhanam K.M.	Sr. Attdt.	PH	30.06.2008
11	Latha N	Tech. Supdt.	CY	07.07.2008 F.N. (VR)
12	Chinniah (Papaiah).P	Sr. Attdt.	EU	31.07.2008
13	Malhotra S.K.	Cf.Design Engr	CTC	31.07.2008
14	Manimuthu K.	SSI	SS	31.07.2008
15	Renganathan. H	SSO	EE	31.07.2008
16	Guruvaiah V	Sr. Attdt.	E.U	31.07.2008
17	Chandrasekaran. K	SO Gr I	MSRC	31.08.2008
18	Lazares. F	Sr. Lab Asst.	AM	30.11.2008
19	Baskaran V.	Supdt.	CY	31.12.2008
20	Padmavathy. D	Jr. Attdt	E.U	31.12.2008
21	Seshadri A.T.	SO Gr II	PY	31.12.2008
22	Jayapalan R	Sr.Security Inspector	SS	12.02.2009 F.N. (VR)
23	Bharathi, R.	Tech. Supdt.	PY	28.02.2009
24	Kanharuban V.	Sr. Attdt.	AM	28.02.2009
25	Arumugam N.	Sr. Attdt.	TGH	31.03.2009
26	Nelson P.	Sr. Attdt.	PH	31.03.2009
27	Panchalan K	Registrar	Admn.	31.03.2009
28	Singaram, A.	Jr. Tech. Supdt.	EE	31.03.2009

Expired: (while in service)

S.No	Name	Designation	Department	Date
1	Anbarasan M	Sr. Mechanic	Central Library	27.04.2008
2	Veeraraghavan D Dr.	Assistant Professor	Hum. & Soc. Sciences	05.02.2009
3	Damodara Das V Dr.	Professor	Physics	07.02.2009

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

S.No	Name, Designation & Department	From	To	Nature of Leave
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.	Sri K.K. Muthuswamy, Senior Tech. Officer	22.8.2008	12.12.2008	EOL
15.	Smt. K. Vijayalakshmi, Jr. Supdt.	28.8.2008	27.8.2010	EOL
16.	Sri K. Raman, Senior Assistant	1.9.2008	31.8.2010	EOL
17.	Smt. S.M. Fathima, Senior Assistant	20.10.2008	29.12.2008	EOL
18.	Dr. K. Prasad Rao Professor / Metl. & Matls. Engg.	09.04.2008 09.04.2009 (EL)	08.04.2009 06.08.2009 (EL)	Sabbatical Leave
19.	Dr. S. Srinivasan Professor / Electrical Engg.	30.07.2008 29.05.2009 (EL)	28.05.2009 11.06.2009 (EL)	Sabbatical Leave
20.	Dr. Satyajit Roy Professor / Mathematics	16.06.2008	15.06.2009	Sabbatical Leave
21.	Dr. Ganesh Sundara Raman Associate Professor / Metl. & Matls. Engg.	15.08.2008	17.08.2009	Sabbatical Leave
22.	Dr. G. Venkatarathnam Professor / Mechanical Engg.	01.09.2008	31.08.2009	Sabbatical Leave
23.	Dr. A. Subrahmanyam Professor / Physics	27.09.2008	28.09.2009	Sabbatical Leave

No. of faculty / staff members resigned/ relieved:

S. No.	Name	Designation	Department/Section	Date of Relief
1.	Dr. R. Gangaiamaran	Jr. Medical Officer (on contract)	Institute Hospital	23.05.2008
2.	Dr. Jaishree Vasudevan	Consultant Paediatrics (Part-time)	Institute Hospital	02.06.2008
3.	Dr. Debdeep Mukhopadhyay	Assistant Professor	Comp. Sci. & Engg.	09.06.2008
4.	Dr. S.K. Rajavalli	Consultant Dentist (Part-time)	Institute Hospital	22.06.2008
5.	Dr. Rajshri Kishan Kumar Jobanputra	Assistant Professor (on contract)	Hum. & Soc. Sciences	26.08.2008
6.	Dr. S. Bharadhwaj	Assistant Professor	Management Studies	20.01.2009
7.	Shri A. Sridhar	Senior Auditor (on deputation)	Finance & Accounts	30.06.2008
8.	Shri R. Jaganathan	Asst. Audit Officer (on deputation)	Admn.III	30.06.2008
9.	Shri S. Sivanandam	Sr. Section Officer (on deputation)	Internal Audit	31.07.2008

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/ Organisation. 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 2008 to March 2009

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
1.	Sri M. Divakaran	Tech. Supdt.	AE	International Conference on Aerospace Science & Technology	26.6.2008 to 28.6.2008	IISc, Bangalore
2.	Sri P. Radhakrishnan	Tech. Supdt.	ME	International Conference on Advances in Mech. Engg. (IC-ICAME)	2.7.2008 to 4.7.2008	IISc, Bangalore
3.	Sri L. Venkataraman	Executive Engineer (Civil)	Engg. Unit	One day Workshop on "Seismic Retrofit of Buildings"	12.07.2008	Ultra Tech Cement Ltd., Saidapet Chennai 15
4.	Sri H. Anandaram	Asst. Exec. Engineer	Engg. Unit			
5.	Sri M. Ramachandran	Asst. Exec. Engineer	Engg. Unit			
6.	Sri K. Dharmaraj	Asst. Exec. Engineer (Projects)	Engg. Unit			
7.	Sri K. Rizwan Ali	Asst. Exec. Engineer (AZ-Projects)	Engg. Unit			
8.	Smt. N.R. Vineetha	Asst. Exec. Engineer (DB)	Engg. Unit			
9.	Dr. V. Lawrence Gray Kumar	PTI	Gymkhana	FIVB Technical Seminar on outside Hitler at FIVB Regional Development Centre, Chennai	9.9.08 to 13.9.08	FIVB, Chennai
10.	Sri A. Sivakumar	Junior Engineer	Engg. Unit	Two-day seminar on "Building Services – 2008"	18.9.08 to 19.9.08	INSTRUCT Bangalore
11.	Sri D. Rajavel	Junior Engineer	Engg. Unit			

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
12.	Sri G.R. Kamalnab	Sr. Tech. Supdt.	SAIF	Training course for Bruker NMR Spectrometers	6.10.08 to 10.10.08	Bruker Switzerland
13.	Sri Amal Raj	Tech. Supdt.	CGBS	National Workshop on Glass-to-metal and ceramic-to-metal seals and a National Symposium on Science & Technology of Glass and Glass-Ceramics	13.10.08 to 17.10.08	BARC, Mumbai
14.	Sri A. Jayaraman	Jr. Tech. Supdt.	CY			
15.	Sri N. Achuthan	Sr. Tech. Supdt.	EE	Conference on 50 years of Indo-German Co-operation	16.10.08 to 17.10.08	InWEnt, Delhi
16.	Sri A. Sivakumar	Jr. Engineer	Engg. Unit	Two day Training Program on "Building Sciences – 2008"	14.11.08 to 15.11.08	INSTRUCT Bangalore
17.	Sri D. Rajavel	Jr. Engineer	Engg. Unit			
18.	Sri K.S. Narasinga Rao	Tech. Supdt.	CGBS	Workshop on "Special sealing techniques for special types of glasses"	26.12.08 to 30.12.08	IISc, Bangalore
19.	Sri P. Amavasaiayn	Tech. Supdt.	CWS	Training on "Train the Trainer"	10.12.08 to 11.12.08	Bosch training Bangalore
20.	Sri N.T. Sasikumar	Jr. Tech. Supdt.				
21.	Sri P. Dilli Babu	Sr. Technician				
22.	Sri D. Ramadoss	Sr. Mech.				
23.	Sri D. Muthurajan	Jr. Mech.				
24.	Sri K. Uthayakumar	Jr. Mech.				
25.	Sri V. Subramanian	Sr. Attdt.				
26.	Sri M. Jayavel	Helper (Mali)				
27.	Mr. V. Asaithambi	Jr. Engineer	Engg. Unit	Two day Training programme on "Leakage Problems in Buildings – Prevention & Remedies"	12.03.2009 & 13.03.2009	Hotel V.T. Paradise, Bangalore
28.	Mrs. P. Sarala	Jr. Engineer				

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

Sl. No.	Name of the Staff Member	Course Title	Duration	Venue
1.	32 Sr. Assistants	Two days HRD training program on "Communication Skills & Public Relations"	25.04.2008 & 26.04.2008	Visweswaraya Seminar Hall, Civil Engg. Dept.
2.	40 Sr. Assistants	Two days HRD training program on "Communication Skills & Public Relations"	16.05.2008 & 17.05.2008	Visweswaraya Seminar Hall, Civil Engg. Dept.

Sl. No.	Name of the Staff Member	Course Title	Duration	Venue
3.	27 Superintendent	Two days HRD training program on "Personality Development"	13.06.2008 & 14.06.2008	Visweswaraya Seminar Hall, Civil Engg. Dept
4.	33 CWS staff	Two days HRD training program on "Interpersonal Skills"	16.06.2008 & 17.06.2008	Visweswaraya Seminar Hall, Civil Engg. Dept
5.	30 Junior Superintendents	One day HRD training program on Noting & Drafting and Interpersonal Skills	30.08.2008	Seminar Hall, Management Studies Dept.
6.	30 Junior Superintendents	One day HRD training program on Noting & Drafting and Interpersonal Skills	20.09.2008	Seminar Hall, Management Studies Dept.
7.	37 staff	One day HRD training program on Interpersonal Skills	22.11.2008	Visweswaraya Seminar Hall, Civil Engg. Dept
8.	Sri Murali Prakash, AEE Sri Chinnian, AE Sri Ravichandran, AE	National Conference on Refrigeration and Air conditioning (NCRAC)	8.1.2009 to 10.01.2009	R&AC Lab, IIT Madras
9.	35 Tech. Supdts	One day HRD training program on Interpersonal Skills	31.01.2009	Visweswaraya Seminar Hall, Civil Engg. Dept
10.	39 Tech. Supdts	One day HRD training program on Interpersonal Skills	21.2.2009	Visweswaraya Seminar Hall, Civil Engg. Dept
11.	34 Jr. Tech. Supdts.	One day HRD training program on Interpersonal Skills	21.3.2009	Visweswaraya Seminar Hall, Civil Engg. Dept

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 2008-09, 38 staff members were attended the Hindi Examination. As on 31.03.2009, 1220 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 28 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.32.91 lakhs was sanctioned for the following:-

S.No.	Advance	No. of Employees	Amount sanctioned in Rs.
1.	House Building Advance	1	7,50,000
2.	Car Advance	8	14,22,400
3.	Two Wheeler Advance	15	3,78,725
4.	Personal Computer Advance	5	1,73,350
5.	Cycle Advance	1	3,000
6.	Festival Advance	210	5,64,000
Total			32,91,475

Insurance:**GROUP MEDICLAIM INSURANCE SCHEME FOR THE PERIOD FROM 01.02.2008 TO 31.01.2009**

Sl.No.	Category	No. of Persons covered	Premium Paid Rs.
1	Employees & Dependants	1194 + 3299	8567901
2	Pensioners & Spouses	718 + 651	
3	Family Pensioners	378	
4	Fire Insurance		196179
	Total	2290 + 3299	8764080

Additional Coverage:			
5	Employees & Dependants	218	852568
6	Pensioners & Spouses	358	
7	Family Pensioners	56	
	Total Premium paid	632	9616648

GROUP TERM INSURANCE SCHEME FOR THE PERIOD FROM 01.02.2008 TO 31.01.2009

SL.NO.	GROUP	No. of Employees covered	Sum Insured per employee	Annual Premium/employee	Total Premium Paid	Death Claims made during period
			Rs.	Rs.	Rs.	Rs.
1	A	437	20 Lakh	5612	24,52,444	40 Lakh
2	B	213	10 Lakh	2806	5,97,678	-
3	C	350	7 Lakh	1963	6,87,400	7 Lakh
4	D	62	4 Lakh	1122	69,564	-
		1062			38,07,086	47 Lakh

2.3.7 Meetings of the Authorities:

Board of Governors	:	Four meetings were held on 25.07.2008, 01.11.2008, 17.12.2008 & 24.03.2009.
Finance Committee	:	One meeting was held on 17.12.2008.
Buildings & Works Committee	:	One meeting was held on 25.02.2009.
Senate	:	Five meetings were held on 15.07.2008, 29.08.2008, 15.10.2008, 10.12.2008, 11.03.2009 (241 st Senate) & 17.03.2009 (241 st Senate).

ISO 9001:2000 in IITM: APRIL 2008 – MARCH 2009

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 Electronic 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 Electronic Centre is NABL-accredited for its Testing and Calibration Laboratories since 2004.

The following ISO activities have been carried out during April 2008 - March 2009:

- Re-certification Audit for QSM I was carried out in September 2008, by TUV India Pvt. Ltd., and the certificate is renewed (valid up to August 2011).
- Surveillance Audit for QSM II was carried out in February 2009, by TUV India Private Limited.

2.3.8. List of Faculty members and officers in the academic and general administration

(i) Academic Administration:

DIRECTOR : Prof. M.S. Ananth

Deans:

Academic Courses	: Dr. S. Santhakumar
Academic Research	: Dr. K. Krishnaiah
Administration	: Dr. M. Singaperumal
Industrial Consultancy & Sponsored Research	: Dr T.T. Narendran (upto 10.03.2009) Dr. Job Kurian (from 11.03.2009)
Students	: Dr. V.G. Idichandy
Planning	: Dr. Bhaskar Ramamurthy

Heads of Departments:

Aerospace Engg.	: Dr. Job Kurian (upto 25.02.2009) Dr. P. Sriram (from 26.02.2009)
Applied Mechanics	: Dr. K. Ramesh
Bio-Technology	: Dr. G.K. Suraish Kumar (upto 03.08.2008) Dr. K.B. Ramachandran (from 04.08.2008)
Chemical Engg.	: Dr. Shankar Narasimhan
Chemistry	: Dr. R. Dhamodharan
Civil Engg.	: Dr. K. Rajagopal
Computer Sci.& Engg.	: Dr. T.A. Gonsalves
Electrical Engg.	: Dr. V. Jagadeesh Kumar
Engineering Design	: Dr. R. Krishna Kumar
Humanities & Soc. Sci.	: Dr. V.R. Muraleedharan
Management Studies	: Dr. L.S. Ganesh (upto 13.07.2008) Dr. C. Rajendran (from 14.07.2008)
Mathematics	: Dr. S.A. Choudam (upto 09.12.2008) Dr. P.V. Subrahmanyam (from 10.12.2008)
Mechanical Engg.	: Dr. M.S. Shunmugam
Metallurgical & Materials Engg.	: Dr. P. Kesavan Nair
Ocean Engg.	: Dr. R. Sundaravadivelu
Physics	: Dr. P.C. Deshmukh

Heads of Research Centre:

Materials Sciences Research Centre	:	Dr. R. Dhamodharan
Sophisticated Analytical Instrument Facility	:	Dr. S. Pushpavanam Dr. A.K. Mishra (Head i/c from 09.01.2009 to 27.03.2009)

Head of Special Facilities for interaction with Other Institutions:

Centre for Industrial Consultancy & Sponsored Research	:	Dr T T Nareendran (upto 10.03.2009) Dr. Job Kurian (from 11.03.2009)
Centre for Continuing Education	:	Dr. K. Ramamurthy (upto 02.09.2008) Dr. Ajit Kumar Kolar (from 03.09.2008)
Central Electronics Centre	:	Dr. M. Kumaravel

Central Administration

Director	:	Prof. M.S. Ananth
Registrar	:	Dr. K. Panchalan

Deputy Registrars

Academic	:	Dr. T. Suryakumar (from 02.06.2008 to 18.12.2008) Shri A. Thirunavukkarasu (from 19.12.2008)
Administration	:	-
Finance & Accounts	:	Shri J. Rammohan
Stores & Purchase	:	Shri R. Esakkimuthu
Internal Audit	:	Shri A. Thirunavukkarasu (upto 18.12.2008) Dr. T. Suryakumar (from 19.12.2008)
Training & Placement	:	Shri Jayakumar

Assistant Registrars

Stores & Purchase	:	Shri A.V. Sudarsanam
Finance & Accounts	:	Shri S. Sambasivam Shri D. Ravee
Administration	:	Shri S. Sundaravinayagam Shri B. Ramaswamy Shri J. Lazar (from 15.01.2009)
Engineering Unit	:	-
IC & SR	:	Smt. Prema Chakrapani
Hostels	:	-
Academic	:	Shri G. Ravichandran Shri J. Lazar (upto 14.01.2009) Shri B. Nagarajan (from 12.01.2009)
Internal Audit Section	:	-
Chief Security Officer	:	Sri. G. Selvamani
Secretary i/c to Director	:	Sri. N. K. Seshadri

Head of Central Services, Facilities and Section

Central Library	:	Dr. Harish Chandra
Chief Medical Officer in-charge	:	Dr. S. Sabitha
Central Gas Supplies Unit	:	Dr. T K Varadarajan (upto 16.07.2008)
Central Glass Blowing Section	:	Dr. V. Sankaranarayanan (from 17.07.2008)
Central Workshop	:	Prof. M. Govardhan
National Service Scheme	:	Prof. K. Giridhar
Advisor, Sports	:	Dr. M. Kamaraj
Advisor, Cultural	:	Dr. S. Sundar
Foreign & Weaker Section Students	:	Dr. R. Gnanamoorthy (upto 27.08.2008)
Vigilance	:	Dr. M. Govardhan
Placement & Training	:	Dr BVSS Prasad
Guidance & Counselling Unit	:	Dr. P. Sriram
Prof-in-charge (Alumni Affairs)	:	Dr. K.N. Satyanarayana (upto 01.02.2009) Dr. R. Nagarajan (from 02.02.2009)

Engineering Unit

Chairman, Engg. Unit	:	Dr. Ravindra Gettu
Co-Chairman, Engg. Unit	:	Dr. S.R. Gandhi (from 06.08.2008)
Superintending Engineer	:	R. Arumugam
Executive Engineers	:	K. Viswanath L. Venkataraman
Assistant Executive Engineers	:	V. Seenivasan K. Dharmaraj M. Ramachandran M. Murali Prakash H. Anandaram N.R. Vineetha K. Rizwan Ali
Public Health Officer	:	V. Veerasamy

3. ACADEMIC PROGRAMMES AND AWARD OF DEGREES

The Institute offered Ph.D. programme in all the 16 departments, M.S. programme in 12 departments, M.Tech programme in 24 streams/ specialisations, M.Sc. programme in 3 branches, B.Tech programme in 10 branches, Dual degree (B.Tech and M.Tech) programme in 15 Streams / Specialisation, M.B.A. programme and M.A. Integrated programme besides a preparatory course for SC/ST students during the year under report.

3.1 Admissions 2008-09 :

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 2008 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 2008.

The number of students and scholars admitted to various programmes both in July 2008 and in January 2009 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.	25	14	--	20	--	--	23	10	95
2.	Applied Mechanics	--	--	--	14	--	--	12	9	35
3.	Biotechnology	26	13	--	7	--	--	8	36	95
4.	Chemical Engg	53	13	--	30	--	--	8	7	113
5.	Chemistry	--	--	32	--	--	--	--	31	63
6.	Civil Engg.	42	28	--	77	--	--	13	13	175
7.	Comp. Sc. & Engg.	25	20	--	55	--	--	23	13	132
8.	Electrical Engg.	40	53	--	54	--	--	23	14	180
9.	Engg. Design.	--	43	--	--	--	--	4	6	53
10.	Hum. & Soc. Sci.	--	--	--	--	--	29	--	4	33
11.	Management Studies	--	--	--	--	64	--	9	13	86
12.	Mathematics	--	--	30	10	--	--	--	9	49
13.	Mechanical Engg.	63	50	--	82	--	--	21	26	235
14.	Met. & Mat. Engg.	23	8	--	17	--	--	6	10	67
15.	Ocean Engg.	24	10	--	20	--	--	6	6	67
16.	Physics	22	--	28	7	--	--	--	11	67
	Total	343	252	90	393	64	29	156	218	1545

In addition to the above, 28 students (SC:2 & ST:26) joined Preparatory Course.

OBC/SC/ST Students under Fresh Admission:

Sl.No	Programme	OBC	SC	ST
1.	B.Tech	35	51	23
2.	Dual Degree	25	39	17
3.	M.Tech	19	43	19
4.	M.Sc.	16	7	1

5.	M.B.A	2	6	--
6.	M.A.	1	5	--
6.	M.S	47	4	2
7	Ph.D	45	13	2
Total		190	170	64

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

Foreign Nationals	1	User-oriented Programme (M.Tech)	25
OBC	190		
Scheduled Castes	170	Q.I.P.	M.Tech 8 Ph.D. 10 18
Scheduled Tribes	64	Sponsored	M.Tech. 18 18
Physically Handicapped	9	Project	M.S. 18 Ph.D. 19 37
Women Students	253	External Registration	M.S. 20 Ph.D. 34 54
Defence Officers (M.Tech)	40		

3.2 Students/Scholars Enrolment:

The total numbers of students on roll in various programmes of the Institute in the academic year 2008-09 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.	84	53	--	41	--	--	38	39	255
2.	Applied Mechanics	--	37	--	33	--	--	27	40	137
3.	Biotechnology	102	70	--	7	--	--	22	102	303
4.	Chemical Engg.	189	63	--	58	--	--	25	43	378
5.	Chemistry	--	--	60	--	--	--	--	155	215
6.	Civil Engg.	170	82	--	163	--	--	35	95	545
7.	Comp. Sc.& Engg.	105	72	--	95	--	--	100	56	428
8.	Electrical Engg.	197	234	--	109	--	--	101	80	721
9.	Engg, Design	--	118	--	--	--	--	10	12	140
10.	Hum. & Soc. Sc.	--	--	--	--	--	84	--	38	122
11.	Management Studies	--	--	--	--	127	--	29	70	226
12.	Mathematics	--	--	56	17	--	--	--	45	118
13.	Mechanical Engg.	232	236	--	159	--	--	90	168	885
14.	Met. & Mat. Engg	93	47	--	34	--	--	19	54	247
15.	Ocean Engg.	79	26	--	34	--	--	20	27	186
16.	Physics	57	--	50	12	--	--	--	95	214
	Total	1308	1038	166	762	127	84	516	1119	5120

The above total includes the following:

Foreign Nationals	9	QIP	M.Tech Ph.D.	18 79	97
OBC	228	Sponsored	M.Tech M.S.	39 01	40
Scheduled Castes	560	Project	M.S. Ph.D.	67 134	201
Scheduled Tribes	186	External Registration	M.S. Ph.D.	53 143	196
Physically Handicapped	17	Registration Kept Alive	M.S. Ph.D.	13 27	40
Women students	721	User-oriented Programme (M.Tech)			87
Defence Officers (M.Tech)	51	Part -Time Programme (Ph.D)			16

OBC/SC/ST Students on roll:

Sl.No	Programme	OBC	SC	ST
1.	B.Tech	35	221	88
2.	Dual Degree	25	154	52
3.	M.Tech	19	82	37
4.	M.Sc.	11	13	02
5.	M.B.A	2	17	0
6.	M.A.	1	15	5
6.	M.S	42	7	1
7	Ph.D	93	51	1
Total		228	560	186

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	2008	2007	2006	2005	2004 & earlier batch	Total
1.	Aerospace Engineering	24	18	21	17	4	84
2.	Biotechnology	26	22	26	26	2	102
3.	Chemical Engineering	53	47	41	46	2	189
4.	Civil Engineering	41	39	40	46	4	170
5.	Computer Sc. & Engg.	25	21	28	28	3	105
6.	Electrical Engineering	40	43	50	60	4	197
7.	Engineering Physics	22	14	11	10	0	57
8.	Mechanical Engineering	63	54	54	58	3	232
9.	Met. & Mat. Engineering	23	22	26	21	1	93
10.	Naval Architecture	24	19	19	15	2	79
Total		341	299	316	327	25	1308

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

Sl. No.	Branch	2008	2007	2006	2005	2004	2003 & others	Total
1.	Aerospace Engineering	9 (5)	9(5)	11	12	12	--	53(10)
2.	Biotechnology	13	12	12	17	16	--	70
3.	Chemical Engineering	13	13	11	13	13	--	63
4.	Infrastructural Civil Engg.	22 (6)	18(4)	16	13	13	--	82(10)
5.	Computer Science & Engg.	20	17	11	12	12	--	72
6.	Micro Elec. & VLSI Design	19	16	16	18	20	2	91
7.	Communication Engg.	18	17	17	17	15	1	85
8.	Power Sys.& Power Electronics	11(5)	9(4)	11	10	17	--	58(9)
9.	Engineering Design	43	26	24	25	0	--	118
10.	Energy Technology	16	14	16	14	16	--	76
11.	Intelligent Manufacturing	18	14	17	15	18	--	82
12.	Product Design	16	15	17	15	15	--	78
13.	Metallurgical & Materials Engg.	8	9	9	8	13	--	47
14.	Naval Arch. & Ocean Engg.	6 (4)	4(4)	6	4	6	--	26(8)
	Total	232 (20)	193(17)	194	193	186	3	1001 + (37)

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

TABLE 5 - M.Sc students on roll

Sl. No.	Branch	2008	2007 & others	Total
1.	Chemistry	32	28	60
2.	Mathematics	27	29	56
3.	Physics	27	23	50
	Total	86	80	166

TABLE 6 - M.Tech students on roll

Sl. No.	Department \ Discipline \ Batch	2008	2007 & others	Total
1.	Aerospace Engineering	20	21	41
2.	Applied Mechanics:	14	19	33
3.	Biotechnology	7	0	7
4.	Chemical Engineering	30	28	58
5.	Civil Engineering:			
	CE 1 - Building Technology	7	11	18
	CE 2 - Environmental Engineering	4	7	11
	CE 3 - Geotechnical Engineering	5	7	12
	CE 4 - Hydraulic & Water Resource Engg.	6	6	12
	CE 5 - Structural Engineering	21	20	41
	CE 6 - Transportation Engineering	6	4	10
	CE 7 - Construction Technology & Mgmt.	30	29	59
6.	CS 1 - Computer Science & Engineering	53	42	95

7.	Electrical Engineering:			
	EE 1 - Communication Systems	25	32	57
	EE 2 - Power Systems and Power Electronics	7	9	16
	EE 3 - Micro Electronics and VLSI Design	13	16	29
	EE-4 – control and Instrumentation System	7	0	7
8.	Mathematics:			
	Industrial Maths & Scientific Computing	10	7	17
9.	Mechanical Engineering:			
	ME 1 - Thermal Engineering	29	35	64
	ME 2 - Design	27	25	52
	ME 3 - Manufacturing Engineering	12	14	26
10.	ME 4 - Automotive Engine Technology	10	7	17
12.	MM - Metallurgical & Materials Engg.	17	17	34
13.	OE - Ocean Engineering	19	15	34
14.	Physics:			
	PH - Solid State Technology	6	6	12
Total		385	377	762

TABLE 7 – M.B.A. students on roll

Sl. No.	Branch	2008	2007	Total
1.	Management Studies	65	62	127

TABLE 8 – M.A. students on roll

Sl. No.	Branch	2008	2007	2006	Total
1.	Humanities and Social Sciences	29	28	27	84

TABLE 9 – M.S scholars on roll

Sl. No.	Branch	Jan 2009	2008	2007	2006	2005 & others	Total
1.	Aerospace Engg.	10	17	4	3	4	38
2.	Applied Mechanics	6	10	7	3	1	27
3.	Biotechnology	4	6	3	8	1	22
4.	Chemical Engg	5	6	7	5	2	25
5.	Civil Engg.	4	11	6	5	9	35
6.	Comp. Sc. & Engg.	9	24	19	24	24	100
7.	Electrical Engg.	7	22	22	25	25	101
8.	Engineering Design	--	5	5	--	--	10
9.	Management Studies	6	6	6	5	6	29
10.	Mechanical Engg.	12	21	23	20	14	90
11.	Met. & Mat. Engg.	4	4	3	7	1	19
12.	Ocean Engg.	--	6	5	5	4	20
	Total	67	138	110	110	91	516

TABLE 10 – Ph.D scholars on roll

Sl. No.	Branch	Jan 2009	2008	2007	2006	2005	2004 & others	Total
1.	Aerospace Engg.	1	12	13	3	7	3	39
2.	Applied Mechanics	3	10	6	11	4	6	40
3.	Biotechnology	17	28	18	10	22	7	102
4.	Chemical Engg	2	14	7	8	8	4	43
5.	Chemistry	14	26	22	22	23	48	155
6.	Civil Engg.	4	12	19	19	22	19	95
7.	Comp. Sc. & Engg.	9	7	5	10	13	12	56
8.	Electrical Engg.	6	16	14	13	18	13	80
9.	Engineering Design	3	5	4	--	--	--	12
10	Hum. & Soc. Sci.	2	6	4	6	10	10	38
11	Management Studies	8	12	8	11	11	20	70
12	Mathematics	3	8	3	6	6	19	45
13	Mechanical Engg.	12	17	24	35	28	52	168
14	Met. & Mat. Engg.	8	4	10	12	9	11	54
15	Ocean Engg.	4	3	4	3	6	7	27
16	Physics	3	13	25	17	11	26	95
	Total	99	193	186	186	198	257	1119

In addition to the above, ... CSIR Research Associates and 28 preparatory Course students were on the rolls.

3.3 Courses Offered:

In the academic year 2008-09, 1115 courses were offered of which 520 courses in July–Nov. 2008 and 595 courses in Jan–May 2009. 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 2008				No. of courses offered in Jan – May 2009			
		Core	Elect.	Lab.	Total	Core	Elect.	Lab	Total
1	Aerospace Engineering	13	9	4	26	6	18	3	27
2	Applied Mechanics	7	3	2	12	10	6	3	19
3	Biotechnology	9	13	3	25	5	13	2	20
4	Chemical Engineering	9	15	2	26	10	19	2	31
5	Chemistry	12	3	5	19	7	14	2	23
6	Civil Engineering	28	21	5	54	26	32	7	65
7	Computer Sci. & Engg.	12	9	6	27	7	23	4	34
8	Electrical Engineering	27	12	7	46	18	34	11	63
9	Hum. & Soc. Science	11	29	--	40	19	33	2	54
10	Management Studies	11	36	--	39	15	35	1	51
11	Mathematics	18	8	1	26	5	23	2	30
12	Mechanical Engineering	33	31	6	69	33	26	8	67
13	Met. & Mat. Engineering	12	15	6	33	10	18	7	35
14	Ocean Engineering	13	12	3	28	9	14	4	27

15	Physics	13	12	8	33	14	16	6	36
16	Engineering Design	10	3	4	17	5	5	3	13
Total		238	228	62	520	199	329	67	595

3.4 Convocation:

The 45th Convocation was held on 25th July 2008. Air Chief Marshal Fali Homi Major, Chief of the Air Staff, delivered the Convocation address. 1367 candidates were awarded various degrees. 974 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	18	8	8	--	--	13	7	--	54
2.	Applied Mechanics	--	--	--	--	--	12	5	3	20
3.	Biotechnology	36	9	9	--	--	12	6	2	74
4.	Chemical Engineering	46	12	12	--	--	22	5	12	109
5.	Chemistry	--	--	--	--	29	--	--	20	49
6.	Civil Engineering	37	11	11	--	--	80	11	16	166
7.	Computer Sc. & Engg.	34	13	13	--	--	47	27	10	144
8.	Electrical Engineering	59	38	38	--	--	48	27	14	224
9.	Humanities & Social Sciences	--	--	--	--	--	--	--	4	4
10.	Management Studies	--	--	--	61	--	--	3	11	75
11.	Mathematics	--	--	--	--	31	10	--	12	53
12.	Mechanical Engineering	78	21	21	--	--	74	13	31	238
13.	Metallurgical & Materials Engg	23	5	5	--	--	16	5	7	61
14.	Ocean Engineering	19	3	3	--	--	7	1	5	38
15.	Physics	8	--	--	--	25	7	--	18	58
Total		358	120	120	61	85	348	110	165	1367

With this Convocation, the total number of degrees awarded so far by the Institute is 32166, the details of which are given below:

S.No.	Programme	No.
1	Ph.D.	2971
2	M.S.	2220
3	M.Tech	10684
4	M.Sc.	2383
5	M.B.A.	287
6	Dual Degree (B.Tech & M.Tech)	552
7	B.Tech	12684
8	B.Sc(Tech)	20
9	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 45th Convocation:

- President of India Prize ... Vibhav Bukkapatnam, B.Tech, Computer Science Engineering
- Governor's Prize ... E Porko, B.Tech, Naval Architecture and Ocean Engineering

□ Other Prizes:

Sl.No.	Donor	Department	Name of student
Doctor of Philosophy – Ph.D.			
1.	Prof V Ramamurti Award	Applied Mechanics	Ramji M
2.	Prof. Werner Prize	Chemistry	Vijai Shankar B
3.	Prof C N Pillai Prize	Chemistry	Arkasish Bndyopadhyay Mahalingam S M [Joint Winners]
4.	Prof Langmuir Prize	Chemistry	Saieswari A
5.	GE Ecomagination Excellence Award	Civil Engineering	Sabumon P C
6.	Shree Gaayathree Devi Award	Civil Engineering	Pramada S K
5.	Prof A L Lashkar Prize	Physics	Basanta Bhaduri S Narayana Jmmalamadaka [Joint Winners]
7.	Sudharshan Bhat Memorial Prize	Metal. & Materials Eng	Jatin Bhatt B Rajasekaran [Joint Winners]
8.	Bhagalakshmi and Krishna Ayengar Award	Electrical Engineering	Geetha T T Ushar Sharma [Joint Winners]
Master of Technology – M.Tech.			
1.	Air India Prize	Aerospace Engineering	D M K K Venkateswara Rao
2.	Institute Merit Prize	Biotechnology	Manepalli Himabindu
3.	Indira Sivasailam Merit Prize	Applied Mechanics	Shashidar
4.	Sushruta Award	Applied Mechanics	Sudhakar Tummala
5.	Prof B V A Rao Endowment Prize	Applied Mechanics	Yezhil Arasu A
6.	Usha Kothandaraman Memorial Prize		
7.	Dr K Subba Raju Memorial Prize	Chemical Engineering	Dara Satyadileep
8.	Valli Anantharamakrishnan Merit Prize	Civil Engineering	Dinesh Kumar
9.	K Devarajan Memorial Prize	Civil Engg. – Transportation Engg.	Shailendra Grover
10.	L & T Endowment Prize	Civil Engg. - Construction Technology and Management	Ramanathan P L
11.	CMC Prize	Computer Science & Engg.	Chandra Sekar S Hari S [Joint Winners]
12.	Prof H N Mahabala Endowment Prize	Computer Science & Engg	Gatta Suresh Babu Reena Nair [Joint Winners]
13.	Siemens Prize	Electrical Engineering	Dileep M K
14.	Prof Achim Bopp Endowment Prize	Electrical Engineering	Ragampudi Kumara Veerabhadra Rao
15.	Prof Helmut Neunzert Endowment Prize	Industrial Mathematics & Scientific Computing	Pawan Kumar Sharma

16.	Prof B Sengupto Prize	Mechanical Engineering	Sukamal Adhikary
17.	Dr S Vaidyanathan Memorial Prize		
18.	S Anantharamakrishnan Merit Prize	Mechanical Engineering	Kodeeswaran M
19.	Prof Ramamohana Rao Memorial Prize	Mechanical Engineering	Jithu Jose Michael Kodeeswaran M [Joint Winners]
20.	Delphi-TVS Diesel Systems Ltd. Prize	Mechanical Engg. - Automotive Engine Tech.	Balasubramanian T L
21.	Sudharshan Bhatt Memorial Prize	Metallurg. & Mat. Engg	Nagaraj Vinayagam G
22.	American Bureau of Shipping Prize	Ocean Engineering	Jineesh George
23.	Institute Merit Prize	Physics-Solid State Technology	Deepak Venkateswaran
Master of Science – M.Sc			
1.	Dr. S R Ramadas 60 th Birthday Commemoration Award and Ratna Rao Memorial Prize	Chemistry	Krishnendu Saha
3.	Mira Paul Memorial Prize	Mathematics	Balakrishnan R
4.	Prof Chilukury Rama Sastry Memorial Prize	Physics	Neethu S
Master of Business Administration - M.B.A.			
1.	Coka Parthasarathy Prize	Management Studies	Balaraman R
2.	K V Arunkumar Memorial Prize	Management Studies	M Sathyanarayanan
Dual Degree - B.Tech. & M.Tech.			
1.	Dr. V Mohan Raman Prize	Aerospace Engineering	Varun Hiremath
2.	Institute Merit Prize	Biotechnology	Arnab Mukherjee
3.	Institute Merit Prize for CE	Civil Engineering	Varun Agarwal
4.	B Ravichandran Memorial Prize	Chemical Engineering	Karhikeyan R
	Institute Merit Prize – Dual Degree	Computer Science & Engineering	Kirtane Varad Anil
	Aluni Assaciation Prize		
7.	Prof Achim Bopp Endowment Prize	Electrical Engineering	V Hari Prasath
8.	Philips India Prize	Electrical Engineering	Abhay T S
9.	Prof G V N Rayudu Memorial Prize	Mechanical Engineering	Venkatasubmanian V
10.	Mico- Bosch Prize		
11.	S Anantharamakrishnan Memorial Prize	Metallurg. & Materials Engg	Abishek Kashinath
12.	Institute Merit Prize	Naval Architecture & Ocean Engineering	Ravishankar Menon
Bachelor of Technology - B.Tech.			
1.	President of India Prize	Computer Science Engineering	Vibhav Bukkapatanam
2.	Bharat Ratna M Visvesvaraya Memorial Prize		
	B Ravichandran Memorial Prize		
3.	Banco Foundation Prize	Mechanical Engineering	Srilakshmi Lingamneni
4.	Governor's Prize	Naval Architecture & Ocean Engineering	E Porko
5.	Motorola Prize	Electrical Engineering	Naresh Krishnaswamy
6.	Siemens Prize	Electrical Engineering	Samuel David Peri

7.	Dr Shankar Dayal Sharma Prize	Electrical Engineering	Sahil R Kini
8.	HAL Prize	Aerospace Engineering	Ananth Sridharan
9.	Larsen & Toubro ECC Endowment Prize	Civil Engineering	Sivaprakash Garlapati
10.	Institute Merit Prize	Biotechnology	K Krishna Praneeth
11.	Institute Merit Prize	Engineering Physics	Harshavardhan Vathsangam
12.	Sivasailam Merit Prize	Mechanical Engineering	Vinay Shankar B K
12.	Dr Dhandapani Memorial Prize	Metallurg. & Materials Engg	Verma Divyanshu Brijmohan
13.	American Bureau of Shipping Prize	Naval Architecture and Ocean Engineering	Ankita Deepak Jain
14.	C A Sastry Endowment Prize	Chemical Engineering	Dharik Sanchan Mallapragada
15.	Reliance Heat Transfer Pvt. Ltd. Prize		

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

On the basis of performance during the academic year 2008-09, the following students were awarded Merit Prizes on the 49th Institute Day held on 17.4.2008 at the Central Lecture Theatre (CLT). Dr. E Sreedharan, MD, DMRC was a Chief Guest.

I. Institute Merit Prizes:

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

Aerospace Engineering	AE04B029	S Harun Tilak
Biotechnology	BT04B019	K Krishna Praneeth
Civil Engineering	CE04B038	Siriki Hemanth
Computer Science & Engineering	CS04B027	Vibhav Bukkapatnam
Engineering Physics	EP04B001	Abhishek Agrawal
Mechanical Engineering	ME04B059	Tirunagari Ranjith Rao
Naval Architecture	NA04B005	Ankita Deepak Jain

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

Aerospace Engineering	AE03B032	Varun Hiremath
Biotechnology	BT03B041	Arnab Mukherjee
	CH03B053	N Navaneetha Krishnan
Chemical Engineering	CH03B050	Karthikeyan R
		[Joint Winners]
Civil Engineering	CE03B060	Sutrala Tejaswi
Compute Science & Engineering	CS03B010	Jayaraj Alavelli
Electrical Engineering	EE03B091	Kumar Appaiah
Electrical Engineering	EE03B030	Karthik T J
Electrical Engineering	EE03B095	Govardhan G
Mechanical Engineering	ME03B105	T N Karthik
Mechanical Engineering	ME03B096	Rajeev Raghu
Mechanical Engineering	ME03B090	Venkatasubramanian V
Metallurgical & Materials Engineering	MT03B036	Abishek Kashinath
Naval Architecture	NA03B023	Ravishankar V K

DEPARTMENT LEVEL PRIZES

I. Institute Merit Prizes:

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

Aerospace Engineering	AE05B024	Mohith M
Biotechnology	BT05B007	Gairik Sachdeva
Chemical Engineering	CH05B051	Ankit Bhatnagar
Civil Engineering	CE05B055	Palukuri v S Seshanka
Computer Science & Engg.	CS05B020	N Srivatsan
Electrical Engineering	EE05B078	Arvind K R
Engineering Design	ED05B006	Deepan Raj Prabakar
Engineering Physics	EP05B007	S Sriram
Mechanical Engineering	ME05B003	Ananya Sunil Shah
Metallurgical & Materials Engineering	MM05B013	Nikhil D Kamath
Naval Architecture	NA05B017	V Swetha

B.Tech (First Four Semesters)

Sri Raghavendra Memorial Prize ME05B003 Ananya Sunil Shah

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

Rajalaskhmi Krishnamurthy English EP05B010 K Nirmal Raj
Prize

MBA (1st and 2nd Semesters)

Management Studies MS06A008 Balaraman R

M.Tech (First Two Semesters)

Aerospace Engineering	AE06M004	Kamalesh Kumar Magarde
Applied Mechanics	AM06M016	Yezhil Arasu A
Biotechnology	BT06M006	L Lakshmi Narayanan
Chemical Engineering	CH06M004	Dara Satyadileep
Civil Engineering		
Civil Engineering	CE06M116	Vaibhav Kapoor (CTM)
Compute Science & Engineering	CS06M014	Hari S
Electrical Engineering	EE06M038	Jayaraj Joseph
Mathematics	MA06M007	Pawan Kumar Sharma
Mechanical Engineering	ME06M087	Sukamal Adhikary
Automotive Engine Technology	AT06M001	Balasubramanian T L
Metallurgical & Materials Engineering	MM06M008	Nagaraj Vinayagam G
Ocean Engineering	OE06M006	Jineesh George
Physics	PH06M001	Deepak Venkatesh Varan

M.Sc. (First Two Semesters)

Chemistry	CY06C024	Rishikesh Narayan
Mathematics	MA06C024	Shah Maulik Pradipkumar

II. Donors Prizes:

B.Tech (First Six Semester)

Dr S Chandrasekharan Memorial Prize	ME04B055	Srilakshmi Lingamneni
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B.Tech / Dual Degree (1st & 2nd Semesters)

	CS06B038	Swarun Kumar
Sri S Subramanian Prize	CS06B039	Komal Prajapati

B.Tech / Dual Degree (3rd, 4th & 7th Semesters)

K Srinivasan & Indira Srinivasan Prize (Cash Prize of Rs.5,000/- with a certificate and Silver Medal)	MM04B009	Ashok Gurumurthy
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B.Tech / Dual Degree (5th & 6th Semesters)

Sri Ramasarma V Kolluri Memorial Prize	EE04B047 EE04B112	Samuel David Perli Sai Prasad R [Joint Winners]
Ratna Award	MM04B021	Sahil R Kini
Dr R K Viswanath Memorial Prize	CH04B059	Jikku M Thomas

Dual Degree (1st to 9th Semesters)

Prof V Radhakrishnan Endowment Award	ME03B113	Amit Deshwal
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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)	NA03B011	Ravi Kumar
ClassNK-100 Award – Second Prize (Cash award of Rs.5,000/- with a silver medal)	NA03B012	Samarth Mohanty
48 th Indian Pharmaceutical Congress Prize	BT03B005	Anurag Agarwal

M.Sc (upto 3rd Semester)

LVKV Sarma Prize	MA06C005	Balakrishnan R
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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	MA06M007	Pawan Kumar Sharma
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M.Tech (Best Project)

Lucas–TVS Limited Prize	AT05M001	Abay Madhukar Wakankar
Bhagyalakshmi & Krishna Ayengar Award (Cash Prize of Rs.15,000/- for faculty having guided the project work of Sri Ambily Mathew, M.Tech)		Dr S Ramaprabhu, PH Dr A Veeraragavan, CE Dr V Jayashankar, EE

M.S (Best Thesis)

Sri K Sreeharsha Memorial Prize	CE02S008	Jyothi Krishnan
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M.S (Best Project)

Prof C S Krishnamurthy Endowment Prize	ME03B047	Rajeev Reddy Madadi
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B.Tech / Dual Degree (3rd and 4th Semesters)

Rajalaskhmi Krishnamurthy English Prize	EP05B010	K Nirmal Raj
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M.Tech (First Two Semesters)

Prof N Venkatarayulu Memorial Prize	ME06M016	Prasanna S
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M.Sc. (First Two Semesters)

Chilukuri Ramasastrri Memorial Prize (A Silver Medal & Cash Award of Rs.1,500/-)	PH06C014	Neethu S
R Padmanabhan Memorial Prize	CY06C022	Rjib Biswas
CFD Award (Silver Medal & Cash Award of Rs.5,000/-)	MA02D002	G Chandhini

Dr Y V S S Sanyasiraju

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 2007.

1	EE07B040	Tripuraneni Varun	16	EE07B024	Naga Bharath Daka
2	EE07B042	Yogeshwar Narayanan N	17	CS07B026	Challapali K Raghavendra
3	CS07B007	Kaladi Hrushikesh Reddy	18	EP07B002	Adapa Bharath Reddy
4	CS07B019	Venkatesh Gummadi	19	EE07B005	Arun K J
5	CS07B002	Akhilesh S V R	20	EE07B006	Arun Thomas
6	EE07B003	Anmol Krishen Kachroo	21	EE07B014	Eknath Varma Manthena
7	CS07B014	Rahul Reddy K	22	EE07B002	Anirudh Kulkarni
8	CS07B004	Garimella Jagannadh Kashyap	23	CS07B031	Pravar D Mahajan
9	EE07B025	Nikhil Bandale	24	EE07B004	Annu Hareesh Babu
10	CS07B001	Advait N Alai	25	CS07B038	Kashyap R Purnaik
11	CS07B020	Yashwanth T	26	CS07B037	Bhargav P N
12	CS07B010	Nikunj Aggarwal	27	EE07B032	Sadhu Venkata Subhash Chandra
13	EE07B021	Madakasira Manjunath	28	EE07B033	Sameed H
14	CS07B012	Phani Kishan A	29	CS07B022	Adhiraj N Alai
15	EE07B013	Dinesh J			

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	AS556	Dynamical Systems Stability and Bifurcations
2	AS568	High Temperature Gas Dynamics
3.	AS598	Contact Mechanics and Tribology
4.	AS604	A second course in Turbulent Flows and their Computations

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	24	18	21	17	4	84
Dual Degree	9	9	11	12	12	53
M.Tech.	20	21	--	--	--	41
M.S.	10	17	4	3	4	38
Ph.D.	1	12	13	3	10	39
Total	64	77	49	35	30	255

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
(i)	Conference:			
1.	Chenthil Kumar	Ph.D.	Fluid Mechanics & Fluid Power	Dec 11-13, 2008, Bangalore
2.	C. Palani Kumar	M.S.		
3.	M. Ponnuswamy	M.Tech		
4	Sumit Verma	Ph.D.	International Workshop on advances in processing of solid propellant rocket motors	Oct 10-23, 2008 HEMRL Pune

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.	Mohith M	AE05B024	Institute Merit Prize	IITM
2.	Kamalesh Kumar Magarde	AE06M004	Institute Merit Prize	IITM

4.1.3 Faculty and their activities :

Faculty

Sl. No.	Name and Qualification	Major Area of Specialization
1.	Gokhale S. S., Ph.D. (Univ. of Illinois, USA) Director, VNIT Nagpur	Aircraft and missile propulsion, computational methods, simulation and optimization, computer aided instructions
2.	Job Kurian, Ph.D., (IIT Madras)	Gas Dynamics, Combustion, Shock tube flows and measurements
3.	Santhakumar S., Ph.D., IIT Madras	Aerodynamics, flight mechanics, instrumentation
4.	Tulapurkara E.G., Ph.D., IIT Madras – Emeritus Fellowship	Aerodynamics, Fluid mechanics, turbulent flows, CFD
5.	Ramakrishna M., Ph.D., Univ. of Texas at Arlington	Fluid Mechanics, numerical methods, computer solutions
6.	Sriram P., Ph.D. Georgia Inst. Of Technology	Structural mechanics, fatigue & fracture, Parallel computing
7.	Bhaskar K., Ph.D., (IIT Madras)	Structural mechanics, Plants & Shells, composite structures
8.	Sujith R.I., Ph.D., Georgia Inst. Of Technology	Acoustics and combustion Instability Optical Flow Diagnostics
9.	Panchapakesan N.R, Ph.D Cornell University, USA	Fluid Mechanics, Stability and Transition of Fluid Flows, Turbulence.
10.	Chakravarthy., S.R. Ph.D., Georgia Inst. Of Technology	Propulsion, Combustion & Fluid Mechanics
11.	R. Velmurugan., Ph.D. , IIT Delhi	Composite Structures Analysis and Design, Impact Mechanics, 3-D Composites
12.	Luoyi Tao, Ph.D. University of Pittsburgh	Continuum mechanics and its applications (fluids, solids, multiphase flows, etc.)
13.	Rajan S.C, M.Tech. IIT Madras	Aerodynamics, Theory and Computation of Vortex Dominated Flows
14.	H.S.N. Murthy, Ph.D Purdue University	Fatigue and Fracture, Non-destructive evaluation, Tribology, Advanced Materials., Elasticity
15.	Amit Kumar, Ph.D Case Western Reserve Univ.	Combustion, Propulsion, fine research, CFD

- | | | |
|-----|--|--|
| 16. | 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 |
| 17. | P.A. Ramakrishna, Ph.D.,
Indian Institute of Science, | Combustion, Propulsion & Fuel Cells |
| 18. | Nandan Kumar Sinha, Ph.D.
IIT Bombay | Non linear dynamics, Bifurcation Theory and Continuation methods, Flight Dynamics and Controls |
| 19. | T.M. Muruganandam Ph.D.,
Georgia Institute of Technology | Combustion, Blowout dynamics, Optical diagnostics, Spectroscopic methods, Vortex breakdown, Dynamics of mode shifting |
| 20. | Dr. Sunetra Sarkar, Ph.D.
Indian Institute of Science | Unsteady Aerodynamics, Biomimetic Flows, Particle Techniques |
| 21 | Dr. A. Sameen, Ph.D
Indian Institute of Science
Bangalore | Thermal Convection, Hydrodynamic Stability and Transition
Free Shear Flows, Direct Numeric Simulations of Navier-Stokes Equation, Turbulent flows |

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	Period
(i)	Workshop		
1	Dr. R. Velmurugan	attended a two days workshop on RTA-70, organized by National Aerospace Engineering, Bangalore	26-27 May 2008
2	Dr. R.Velmurugan	Delivered two Guest Lectures in the STTP-QIP course on Nano Technology in the Dept. of Physics, IIT Madras	June 2008
3	Dr. R. Velmurugan	Attended the International Workshop on Advances in Processing of Solid Propellant Rocket Motors at HEMRL, Pune	22 nd and 23 rd October 2008.
4	Dr. S.R. Chakravarthy	Attended and delivered an invited talk at ASL, Hyderabad on 'Missile Propulsion Technologies'	30 th October 2008.
5	Dr. Sunetra Sarkar	Delivered an invited lecture at Indo-US MAV workshop held in NAL, ADE, Bangalore, Nov 13-14, 2008.	13-14 November 2008
6	Dr. Sunetra Sarkar	Indo US MAV Workshop at NAL/ADE Bangalore	14-16 November 2008
7	Dr. P.A. Ramakrishna	International Workshop on advances in processing of solid propellant rocket motors	Oct 22-23, 2008 HEMRL Pune
8	Dr. P.A. Ramakrishna	32 nd International Symposium on Combustion	Aug 1-9, 2008 McGill Univ, Canada
(ii)	Seminar:		
1	Dr. Job Kurian	Attended the meeting of the Research Board of Indian Institute of Space Technology (IIST), Trivandrum on 11th Feb 09.	11 th Feb 09

2	Dr. S.R. Chakravarthy	Delivered a lecture titled 'Aerospace Propulsion & Combustion' in STTP for Engineering College teachers at Saintgits College of Engineering, Kottayam	20th June 2008
3	Dr. Job Kurian	Inaugurated and delivered keynote address at STTP for Engineering college teachers on Aerospace Technology at Saintgits College of Engineering, Kottayam	20th June 2008
4	Dr. S.R. Chakravarthy	Delivered a talk on 'Nano-propellants: Present and Future' in the workshop on Nano-Technologies in Missile Propulsion" held in the Missile Complex, Hyderabad	November 28, 2008.
(iv) Conference			
1	Dr. R. Velmurugan	Presented a paper titled " Energy absorption studies of high strength steel tubes under static and dynamic loading", during the International Conference on advances in Mechanical Engineering.	IISc Bangalore between July, 2-4, 2008
2	Prof. E.G. Tulapurkara	Attended the 35th National Conference on Fluid Mechanics and Fluid Power FMFP 2008 at PESIT Bangalore	11 th December 2008
3	Dr. Amit Kumar	Attended the 35th National Conference on Fluid Mechanics and Fluid Power FMFP 2008 at PESIT Bangalore	11 th December 2008
4	Dr. T.M. Muruganandam		
5	Dr. Nandan Kumar Sinha	Attended the International Conference on Vibration Problems held in IIT Kharagpur.	19-21 Jan 2009
6	Prof. Job Kurian	Attended the meeting of the Research Board of Indian Institute of Space Technology (IIST) , Trivandrum	11th Feb 09.
(V) Training :			
1	Prof. Job Kurian	Attended Research Council Meeting of the National Aerospace Lab (NAL) Bangalore as External Member	on 28th June 2008
(vi) Short term Course:			
1	Dr. R. Velmurugan	conducted a Short term program on 'FRP Courses for Goa Shipyard'	at IIT Madras between June 2-6, 2008

Special Lectures Delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
1	Dr. S.R. Chakravarthy	Activated Charcoal as a burn rate enhancer in composite propellants	HEMRL, Pune on 13 th September 2007
2	Prof. Job Kurian	Invited talk on 'Research leading to Product Design – An Aerospace Perspective'	Engineering College, Barton Hill, Trivandrum on 19th Feb 09.
3	Dr. N.K. Sinha	Bifurcation Theory & Continuation Methods	Dept. of Mathematics, IIT Madras on 16/2/09

Visits Abroad by Faculty :

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Prof. Job Kurian Dept. of Aerospace Engg.	Montreal Canada	14 th to 19 th April 2008	Participated in the special Aerospace Event in organized by Consortium for Research and Innovation in Aerospace in Quebec.	IIT Madras
2.	Prof. Job Kurian Dept. of Aerospace Engg.	Daejeon Korea	18 th to 22 nd Aug 2008	Delivered an invited talk and presented a paper at the 12 th Asian Congress on Fluid Mechanics	ARDB
3.	Dr. S.R. Chakravarthy Dept. of Aerospace Engg.				
4.	Prof. R.I. Sujith Dept. of Aerospace Engg.	Ecole Polytechni que, France	2.6.08 to 30.6.08	Visited the Technical University of Munich, Germany from for intense collaboration and fruitful discussion about the Indo-German DST-DFG project	IIT Madras.

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award for	Date
1.	Dr T.M. Muruganandam Ms. Aswathy Surendran	A presentation titled 'Corona discharge based control of separation from airfoils at high angles of attack' was presented in the FMFP 2008 Conference at Bangalore on 11 th December 2008 by Dr. T.M. Muruganandam and Ms. Aswathy Surendran. She got the best student presentation award in the conference.			
2.	Prof. Job Kurian	In the 60 th Annual General Meeting held in New Delhi recently Prof. Job Kurian is elected as the Vice President of the Aeronautical society of India. He has been nominated also as the Chairman of the Academics Committee of the Society.			
3.	Dr N.K. Sinha	Marqui's Who's Who in the World in Engg.	Marqui's Who's who America	Recognition	2009

4.1.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
1.	Simulation of flapping Kinematics	Nov 2008 to 2010	AR&DB	14 lakhs	Dr. Sunetra Sarkar
2.	A Lagrangian approach to capture the unsteady aerodynamics of insect like flapping flight	2 years	Asian Office of Aerospace Research & Development (AOARD)	8 lakhs	Dr. Sunetra Sarkar
3.	Optimization of process parameters fro the production of nano materials by wire explosion technique	2 years	DST	25.25	Dr. S.R. Chakravarthy

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
4.	Bi-axial studies of Laminated Composites,	2 years	ISRO-IITM	14.76	Dr R. Velmurugan
5.	Characterization of raw material for wind mill blades	3 months	Suzlon Pvt. Ltd., Pune	2.1	Dr. R. Velmurugan
6.	Experimental Studies on high speed air intakes	2 years	ISRO-IITM Cell	19.896	Dr. T. Muruganandam
7.	Swarnajayanthi Fellowship	5 years	DST	183.66	Dr. R.I. Sujith
8.	Bi-axial studies of Laminated Composites	2 years	ISRO-IITM Cell	14,76	Dr. R. Velmurugan
9.	Characterization of raw material for wind mill blades	3 months	Suzlon Pvt. Ltd., Pune	2.1	Dr. R. Velmurugan
10.	Experimental Studies on high speed air intakes	2 years	ISRO-IITM Cell	19.896	Dr. T.M. Muruganandam
11.	Investigation of the onset of acoustic instability in turbulent combustion systems (Phase-II)	1 year	Deutsche Forschungsgemeinschaft (DFG)	18,91,540/-	Dr. S.R. Chakravarthy Dr. R.I. Sujith
12.	Numerical Simulation of flapping wing aerodynamics	2 years	Aeronautics R&D Board	13,02,500/-	Dr. Sunetra Sarkar
13.	Spin Characterization and Trajectory Simulations for Generic Nonlinear Aircraft Model	1 year	Aeronautical Development Agency, Bangalore	4,48,800/-	Dr. N.K. Sinha
14.	Development of Computational Models for Predictive Analysis of Three-Dimensional Dynamic Stall in Horizontal Axis Wind Turbine Rotor Blades	2.5 years	Vestas Wind Systems A/S, Denmark	Euros 39,927	Dr. K.V.N. Gopal
15.	Numerical simulation of Flapping wings	2 years	ARDB	14/-	Dr. Sunetra Sarkar
16.	A Lagrangian solver to simulate bio-mimetic propulsion	1 year	AOARD (Asian Office of Aerospace Research & Development)	8/-	Dr. Sunetra Sarkar
17.	Coking Studies in Kerosene	2 years	ISRO	3.73/-	Dr. Amit Kumar
18.	Computational studies on regression rate enhancement in Hybrid rocket motor	2 years	AR&DB	12.36/-	Dr. Amit Kumar Dr. P.A. Ramakrishna
19.	Experimental Studies on hybrid rocket motors	2 years	ARDB	17.19	Dr. P.A. Ramakrishna Dr. Amit Kumar
20.	Development of an autonomous aerial vehicle capable of indoor navigation	8 months	ICSR	2 lakhs	Dr. H.S.N. Murthy Dr. P.A. Ramakrishna
21.	Enhancement of computational infrastructure for aerodynamics and aero thermal research	2 years	ARDB	46.35	Dr.N.R. Panchapakesan Dr. Job Kurian
22.	Development of an autonomous aerial vehicle capable of indoor navigation	8 months	ICSR	2.00	Dr. H.S.N. Murthy

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-ordinators
23	Creation of infra structure for the synthesis of metallic nano particles by wire explosion technique	4 months	HEMRL	8.73	Dr. S.R. Chakravarthy Dr. R. Sarathi
24	Investigation of mixing in confined co-flowing subsonic jets by acoustic excitation	2 years	ARDB	17.50	Dr. S.R. Chakravarthy Dr.N.R. Panchapakesan
25.	Studies on friction coefficient in contact interface under fretting conditions	2 years	ARDB	19.78	Dr .H.S.N. Murthy

Industrial Consultancy:

S. No.	Name of the Faculty	Title	Industry	Amount (in lakhs)
1.	Dr. R. Velmurugan	Water absorption characteristics of glass fiber composites	GOA Fiber Glass, Goa	1.20/-
2	Dr N.K. Sinha	Performance and Stability Calculations for a conceptual 4 seater Aircraft	RPI Ltd.	2.5 lakhs

RBIC:

Sl. No.	Name of Faculty	Title	Duration	Industry	Amount (in lakhs)
1.	Dr. S.R. Chakravarthy / Dr. N.R. Panchapakesan	Investigation of multiple scales in separated shear layers	2 years	ARDB	17.08/-
2.	Dr. Sunetra Sarkar	Studies on debris pattern & consequence analysis	1 year	ITR Chandipur	7.62

Retainer Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (in lakhs)
1.	Dr. P.A. Ramakrishna	Development of an atomizer for the manufacture of aluminum powder	Sri Kaliswari Metal Works, Sivakasi	6.5 lakhs

Research Publications:

Total No. of papers published in Refereed National Journals	:	Nil
Total No. of papers published in Refereed International Journals	:	14
Total No. of papers presented in National Conference	:	2
Total No. of papers presented in International Conferences	:	Nil

Refereed International Journals

1. N.K. Gupta, N. Mohamed Sheriff and R. Velmurugan , "Experimental and theoretical studies on buckling of thin spherical shells under axial loads", *International Journal of Mechanical Sciences, Volume 50, Issue 3, March 2008, Pages 422-432.*
2. J.A.S. Witteveen, G.J.A. Loeven, S. Sarkar, H. Bijl, Probabilistic Collocation for period-1 limit cycle oscillations, *J. Sound Vib.* 311(1-2) (2008) 421-439.
3. S. Kshirsagar and K. Bhaskar, Accurate and elegant free vibration and buckling studies of orthotropic rectangular plates using untruncated infinite series, *Jl. of Sound and Vibration*, 314, 2008, 837-850
4. R. Velmurugan, Experimental studies on the vibration control of epoxy clay nano composites, *Journal of Aerospace Sciences and Technologies*, 49-5960(1), 2008.
5. S. Kshirsagar and K. Bhaskar, Accurate and elegant free vibration and buckling studies of orthotropic rectangular plates using untruncated infinite series, *Jl. of Sound and Vibration*, 314, 2008, 837-850
6. R. Velmurugan, Experimental studies on the vibration control of epoxy clay nano composites, *Journal of Aerospace Sciences and Technologies*, 49-5960(1),2008.
7. S. Kshirsagar and K. Bhaskar, Accurate Free Vibration analysis of clamped Unsymmetric Cross-ply / Antisymmetric Angle-ply/Functionally Graded Rectangular Plates by Superposition of Untruncated Infinite Series, *journal of Reinforced Plastics and Composites*, 2008;27 1189-1209
8. R. Velmurugan et.al, 'Study of Mechanical properties of GFRP with fly ash as filler', 775-790 11, (2008), *Int. J. of Plastic Technology.*
9. S.Sarkar, J.A.S. Witteveen, A. Loeven, H. Bijl, Effect of uncertainty on the Bifurcation behavior of pitching airfoil stall flutter, *Journal of Fluids and Structures*
10. Mohammed Ali & Job Kurian 'Ramp cavities for flame stabilization' *Journal of Propulsion and Power*, May-June 2008.
11. Navaneethan, M., Srinivas, V., Chakravarthy, S. R., "Coupling of Leading Edge Flames in the Combustion Zone of Composite Solid Propellants," *Combustion and Flame*, Vol. 153, No. 4, June 2008, pp. 574-592.
12. R Velmurugan et.al, "Production and mechanical properties of Sic particle reinforced 2618 aluminium alloy composites", *Journal of Materials Science*, 7047, 43(22), 2008.
13. Jayaraman, K., Anand, K.V., Bhatt, D.S., Chakravarthy, S.R., and Sarathi, R. Production, characterization, and combustion of nano-aluminium in composite solid propellants, *Journal of Propulsion and Power*, Vol. 25, No. 2, March-April 2009.
14. P.A. Ramakrishna, "Importance of lateral momentum equation to the modeling of sandwich propellant combustion", *Proceedings of the Combustion Institute*, 32, pp 2139-2146

In Proceedings of National Conference

1. 1.Saha, P., Biswas, G., Chaitanya, G.S. and Tulapurkara, E.G. "Large eddy simulation of turbulent flow and heat transfer in a rectangular channel with built-in winglet-type vortex generators" *Proc. 35th National Conference on Fluid mechanics and Fluid Power*, Bangalore 11-13, Dec.2008, pp.213-220.
2. 2. Maheswara Reddy, N., Tulapurkara E.G., and Ganesan, V. "Aerodynamic analysis of flow inside an aeroengine afterburner" *Proc. 35th National Conference on Fluid Mechanics and Fluid Power*, Bangalore, 11-13, Dec.2008, pp.733-738.

In Proceedings of International Conference

Distinguished Visitors to the Department:

	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
1.	Prof . Peter J. Schmid Laboratoire d'Hydrodynamique, (LadHyX) Ecole Polytechnique, France	17/4/08	Delivered a lecture titled 'Hydrodynamic Stability'

Other Activities:

Lecture Programme on Aerospace Technology for Higher Secondary School Students organised by Chennai Branch of The Aeronautical Society of India, Children's Club Society, Chennai and the Department of Aerospace Engineering, IIT Madras was held during 1st to 16th May 2008 in the Seminar Hall of Aerospace Engineering Department, IIT Madras. Lectures were given by faculty members covering wide range of topics in the field of Aeronautics.

Prof. P. Sriram and Dr. S.R. Chakravarthy gave a talk in radio on the successful launch of the Chandrayaan mission during December 2008.

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. degrees 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 discipline/branch introduced:

The Department has recently introduced a Dual Degree Programme with the Departments of Aerospace Engg, Civil Engg, Electrical Engg and Ocean Engg. The Department offers specializations in the areas of Bio-Medical Engg, Fluid Mechanics and Solid Mechanics. Based on the students' choice and performance records as well as availability of seats for each of the specialization at the end of 7th semester. At the end of successful completion of 5 years, the students will be offered a B.Tech degree in AE/CE/EE/NA and M.Tech degree in Applied Mechanics with appropriate specialization.

New lab(s) established:

Active Materials Structures & Systems Laboratory (AMSS Lab)

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Tech.	14	19	--	--	--	33
M.S.	6	10	7	3	1	27
Ph.D.	3	10	6	11	10	40
Total	23	39	13	14	11	100

Endowment prize instituted:

1. Shushruta Award for best M.Tech student in Biomedical Group

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
India					
1.	R.Raghurajan	AM06S012	Interquadrennial conference of the International congress on Fracture (IQCICF 2008)	3-7 Aug 2008 Bangalore	Institute
2.	Benolina Neethi Simon	AM06D013	Interquadrennial conference of the International congress on Fracture (IQCICF 2008)	3-7 Aug 2008 Bangalore	Institute
3.	Mohammad Ghouse Pasha	AM07S002	Indo-Russian workshop on 'Topical problems in Solid Mechanics'	11-14 Nov 2008 BITS, Goa	Institute
4.	Mr Sridhar Muddada	AM07S009	National conference on Fluid Mechanics and Fluid Power	7 – 10 Dec. 2008, PESIT, Bangalore	Institute
5.	P. Venkateswara Rao	AM08D001	IUTAM	Bangalore	Project
6.	K. Jayabal	AM06D	IUTAM	Bangalore	Project
7.	N. Shajil	AM08D003	IUTAM	Bangalore	Project
8.	Maniprakash	AM07M005	IUTAM	Bangalore	Project
9.	S. Balaji		IUTAM	Bangalore	Personal
10.	M. Rajendran M.Tech II year	AM07M012	Introduction to Abaqus Scripting, Abaqus Engg India (Pvt) Ltd, Chennai	February 16-19, 2009. Bangalore	ISRO Project
11.	Ms. R. Malathi	AM02D012	National Conference on Biomechanics, IIT Roorkee	6th – 9th March 2009	Personal
12.	Mr. Bhatt Bhargav	AM07S008	National Conference on Biomechanics, IIT Roorkee	6th – 9th March 2009	Institute
13.	Mr. K. Srinivasan	AM07D005	National Conference on Biomechanics, IIT Roorkee	6th – 9th March 2009	Institute
14.	Y.Sudhakar	AM07S004	12 th AeSI CFD symposium	10-12, August, 2009	Institute

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.	Yezhil Arasu A	AM06M016	Institute Merit Prize	IITM

4.2.3 Faculty and their activities:

Faculty:

Name and Qualifications		Major area of specialization
Professor:		
Prof. K. Ramesh	[Head]	Digital photoelasticity, Fracture Mechanics
Prof. C. Lakshmana Rao		Fracture mechanics, Modeling of materials, Buckling control, Piezo - polymers
Prof. J. Lakshmaninarasimhan		Fluid Mechanics, Aerodynamics
Prof. J. Raamachandran		Solid Mechanics, Experimental Stress Analysis, Linear & Nonlinear Vibrations, Plates & Shells, Boundary Element Method, Bio-mechanics
Prof. R. Palaninathan		Structural Mechanics, Composites, FEM, Thermal Structures
Prof. M. Ramasubba Reddy		Biosignal and Image Processing, Bio Instrumentation
Prof. M.S. Sivakumar		Smart Materials & Structures, Plasticity

Associate Professor:

Assistant Professor:

Dr. Anuradha Banerjee		Fracture Mechanics, Composites
Dr. A. Arockiarajan		Smart Materials, Finite Elements Methods, Constitutive Modeling
Dr. Arul Prakash		Large Eddy Simulation (LES) and Related Techniques, CFD and Thermal Hydraulics.
Dr. A. Baburaj Puthanveetil		Turbulent convection, Interfacial phenomena
Dr. M. Manivannan		Haptics, Medical simulation
Dr. B.S.V. Prasad Patnaik		Flow Control, CFD, FEM
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
Dr. S. Vengadesan		Fluid Mechanics, Turbulent flows and modeling, CFD

Adjunct Faculty:

Dr. V.B.N. Murthy	Plastic Surgery, Diabetic foot
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Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1	Dr. B.S.V.Prasad Patnaik Dr.S.Vengadesan	Workshop on 'BioFluid Dynamics	IIT Madras Dec. 7-9, 2008

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. B.S.V.Prasad Patnaik	Introduction to Boundary Layers and Turbulence in the Atmosphere	Summer School on Atomospheric Science IIT Madras	7 May 2008
2	Dr. S. Vengadesan	CFD Workshop	PES, Bangalore	June 30-July 4, 2008.
3	Dr. A.P. Baburaj	International Conference on Advances in Mechanical Engineering	IISc, Bangalore	2 - 4 July 2008
4	Dr. N. Sujatha	Applications of lasers in sensing and measurements	IIT Madras	14-19 July 2008
5	Dr. S. Vengadesan	10 th AQSI CFO to 12 th AeSI CFD	NAL, Bangalore	11-12 August 2008
6	Dr. M. Ramasubba Reddy	National Workshop on Scientific Computing in Biomedical Engineering (SCOMBME 08)	Hindustan College of Sci & Tech, Mathura	30-31 August 2008
7	Dr. M. Manivannan	ICORD 2009	Bangalore	9 January 2008
8	Dr. M. Ramasubba Reddy	Symposium on Medical Instrumentation 2009	College of Engineering, Pune	31 st Jan and 1 st Feb.
9	Dr. C. Lakshmana Rao	Advanced course on Fatigue and Fracture Behaviour of Materials, Components and Structures (ACFF'09)	SERC, Chennai	11-13, February 2009.
10	Dr. M. Ramasubba Reddy	National Conference on Biomechanics	IIT Roorkee	6th – 9th March 2009
11	Dr. M.S. Sivakumar	Introduction to Smart Systems materials.	National Conference in Mechanical Science, National Engg. College, Kavilpatti	13th March 2009
12	Dr. A. Arockiarajan	Modelling and theoretical studies on piezoelectric Materials	National Conference in Mechanical Science, National Engg. College, Kavilpatti	13th March 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. Sayan Gupta	Advanced treatment of uncertainty quantification in structural systems	BARC Bombay	13-16 May 2008

2.	Dr. Prasad Patnaik BSV	Split schmes for solving Navier-Stokes equations	PES college of Engineering, Bangalore	3rd July 2008
3.	Dr. M. Ramasubba Reddy	Inagural address for the workshop on "Recent Trends and Emerging Scenario in Biomedical Engineering"	Satyabama University, Chennai	August 4, 2008
4.	Dr. M. Ramasubba Reddy	Understanding of Medical Imaging systems	Technical Teachers Training Institute, Chennai	August 6, 2008
5.	Dr. M. Ramasubba Reddy	Guest lecture on Medical Image and signal Processing	KCG College of Engineering, Chennai	August 18, 2008
6.	Dr. M. Ramasubba Reddy	Key note address for National conference on Signals, systems and communication	SKR Engineering College, Chennai	August 22, 2008
7.	Dr. M. Ramasubba Reddy	Faculty Development Program	Model Engg College, Cochin	21 Nov. 2008
8.	Dr. M. Ramasubba Reddy	Faculty Development Program	Anna University, Chennai	27 Nov. 2008
9.	Dr. M. Ramasubba Reddy	Key note address in DSP and Biomedical Signal Processing	SSN College of Engineering, Chennai	24th Dec. 2008
10.	Dr. M. Manivannan	Haptics in Biomedical Engg	Defence Biomedical Engg & Electromedical laboratory, Bangalore	Jan. 9, 2008
11.	Dr.C.Lakshmana Rao	Recent advances in computational fracture mechanics	SERC, Chennai	Feb. 13, 2009
12.	Dr.C.Lakshmana Rao	Buckling control of structures using PZT actuators	IIT Kanpur	March 2, 2009

Visits abroad by faculty:

SI. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. A. Arockiarajan	Dortmund University of Technology, Germany	June 21 – July 20, 2008.	Visiting Professor	Dortmund University of Technology, Germany

Honours and Awards obtained by faculty:

SI. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
ii. Awards:					
1.	Dr. K. Ramesh	Distinguished Alumni Award (DAA)	NIT Trichy	Academic Excellence	3 May 2008

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr.M.S. Sivakumar (Ed.), IIT Madras	Smart Devices : Modeling of Material Systems, AIP Conference Proceedings Volume 1029,	Springer	Dr. Vidyashankar Buravalla (Ed.) Indian Sci Lab Dr.Arun R.Srinivasa(Ed.) Texas A&M University, USA
2.	Dr. K. Ramesh	e-book on Engineering Fracture Mechanics,	IIT Madras	NIL
3.	Dr. M.S.Sivakumar	"Model for piezo-ceramics", Encyclopedia of Structural Health Monitoring, 2008	John Wiley & Sons Ltd	K. Jayabal
4	Dr. M. Ramasubba Reddy	A Chapter in Medical Physics and Biomedical Engineering - "A Simulation Study on the effect of Ionic Mechanism underlying Arrhythmias"	Springer-Verlag, Germany	Ms. R.Malathi

Monographs:				
1.	Dr. K. Ramesh	Springer handbook of Experimental Solid Mechanics – contributed a chapter on Photoelasticity	SEM and Springer	Sharpe (Ed.)

Journal Editorial Boards/ Membership:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name / Board
1.	Dr. K. Ramesh	Editorial Board	Journal of Strain Analysis for Engineering Design, I Mech E' Journal, UK

New facilities added or major equipment procured:

Sl.No	Name of Equipment	Value (Rs. In lakhs)
1	Agilent DSO 5014A LXI 100 MHz, 4 Ch Oscilloscope	2.49 lakhs
2	LDS Electrodynamic shaker and amplifier	4.16 lakhs

4.2.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
1	LES investigation of interference effect due to bluff body at moderate Reynolds number	April'06 – June 09	CSIR	7.00	Dr.S.Vengadesan

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
2	Finite Element Simulation of BioFluid Flows	Dec.'06 – Nov.'09	DST	16.0	Dr.S.Vengadesan Ms.M.Chitra, Women Scientist Prof. TS, ME
3	Evaluation of turbulence model for prediction of hydrodynamic properties in TVC	Dec'08 – Nov'10	AR & DB	10.00	Dr.S.Vengadesan
4	Performance of newly developed turbulence model for low speed and high speed underwater vehicles	Jan'09- Dec.'11	NRB	28.0	Dr.S.Vengadesan Prof.SK Bhattacharyya, OE
5	Isoclinic unwrapping and colour adaption in digital photoelasticity	Mar '07 – Sept '09	ISRO	7.74	Dr. K. Ramesh
6	Stress state dependence ductile fracture model	2008-2010	ISRO-IITM	10.75	Dr.Anuradha Banerjee
7	Numerical simulation of coupled Navier-Stokes Cahn Hilliard solver for binary phase separation under chaotic mixing	2008-2011	CSIR	11.01	Dr.B.S.V.Prasad Patnaik

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lakhs)
1	Dr. S. Vengadesan	CFD Analysis for flow and distribution in the passages of PEM Fuel Cell Stack	M/s CFCT Chennai	Rs.4 Lakhs
2.	Dr.B.S.V.Prasad Patnaik Prof.B.V.S.S.S.Prasad	Experiment, analysis and survey of profiles for air pre-heaters	M/s. BHEL, Ranipet	Rs.5 Lakhs

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lakhs)
1	Dr. R. Palaninathan	Thermostructural analysis of metallic thermal protection systems	VSSC	12.31 lakhs

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	--	4
Total No. of papers published in Refereed International Journals	--	22
Total No. of papers presented in National Conferences	--	8
Total No. of papers presented in International conferences:	--	11

In Refereed National Journals:

SI.No.	Name of the faculty	Title of the paper	Name of the Journal
1	Dr. K. Ramesh M. Ramji	Stress Separation in Digital Photo-elasticity Part A- Photo-elastic Data unwrapping and Smoothing	Journal of Aerospace Sciences & Technologies, Vol.60 (1), pp 5-15, 2008
2	Dr. K. Ramesh M.Ramji	Stress Separation in Digital Photo-elasticity Part B- Whole Field Evaluation of Stress Components	Journal of Aerospace Sciences & Technologies, Vol.60 (1), pp 16-25, 2008
3	Dr. K. Ramesh M. Ramji E. Nithila K. Devvrath	Assessment of autonomous phase unwrapping of isochromatic phase maps in digital photo-elasticity	Sadhana, Vol.33 Part 1, pp 27-44, 2008.
4	Dr. K.Ramesh K.Ashokan	Quality Assisted Three Fringe Photoelasticity for Autonomous Evaluation of Total Fringe Order	Journal of Aerospace Sciences & Technologies, 60(2), 139-145,2008

In Refereed International Journals:

SI.No.	Name of the faculty	Title of the paper	Name of the Journal
1	Dr. A.P. Baburaj Jaywant J. Arakeri	Convection due to an unstable density difference across a membrane	Fluid Mechanics, 2008
2	Dr. M.S.Sivakumar Dr. A.Arockiarajan K. Jayabal	A micromechanical model for polycrystal ferroelectrics with grain boundary effects	Computer Modeling in Engineering Sciences, Vol.27, No.1-2, pp. 111-124, 2008 (Impact Factor : 2.0)
3	Dr. A. Arockiarajan Mr. S. Skatulla Mr. C. Sansour	A nonlinear generalized continuum approach for electro-elasticity including scale effects	International Journal on "Mechanics and Physics of Solids" 57,137-160,2009
4	Dr. M.S. Sivakumar Dr. A. Arockiarajan Mr. K. Jayabal	Multiaxial behaviour of ferroelectric single and polycrystals with pressure dependent boundary effects	International Journal on "Computational Materials Science"44,1222-1230, 2009
5	Dr. M. Manivannan Dr. V.B. Narayanamurthy R. Periyasamy	Correlation between Two Point Discrimination with Other Measures of Sensory Loss in Diabetic Mellitus Patients	International Journal of Diabetes in Developing Countries, 2008, 28(3), 71-78
6	Dr. M. Manivannan Dr. V.B. Narayanamurthy R. Periyasamy	Vibration Perception Threshold and the Law of Mobility in Diabetic Mellitus Patients	Primary Care Diabetes 3, (2009) 17-21
7	Dr. M. Manivannan Dr. V.B. Narayanamurthy R. Periyasamy	Changes in the Two Point Discrimination in Diabetic Mellitus Patients	Journal of Brachial Plexus and Peripheral Nerve Injury, 2008, 3:3
8	Dr. K. Ramesh K. Ashokan	Finite element simulation of isoclinic and isochromatic phasemaps for use in digital photoelasticity	Experimental Techniques, 33(1), 38-44, 2009

Sl.No.	Name of the faculty	Title of the paper	Name of the Journal
9	Dr. K. Ramesh K.Ashokan	An adaptive scanning scheme for effective whole field stress separation in digital photoelasticity	Optics and Laser Technology, 41, 25-31, 2009
10	Dr. B.S.V. Patnaik Dr. P. Ashwin Dr. C.D. Wright	Fast simulation of phase-change processes in chalcogenide alloys using a Gillespie-type cellular automata approach	J Applied Physics, 104, 084101, 2008.
11	Dr. Sayan Gupta, Pieter van Gelder	Probability distribution of peaks for nonlinear combination of vector Gaussian loads	Journal of Vibrations and Acoustics, Transactions of ASME, 2008.
12	Dr. S.Vengadesan A.Lankadasu	Interference effect of two equal size square cylinders in tandem arrangement: with planer shear flow'	Int. Jl. for Numer. Methods in Fluids, pp.1- 17 pages, Vol.57, 1005-1021, 2008.
13	Dr. S.Vengadesan G.Seeta Ratnam	Performance of Two Equation Turbulence Models For Prediction of Flow and Heat Transfer Over A Wall Mounted Cube'	Int. Jl. of Heat and Mass Transfer, Vol.51, n 11-12, pp. 2836 – 2846, June 2008.
14	Dr. S. Vengadesan P.Selvaganesh	Cold flow analysis of Trapped Vortex Combustor using two equation turbulence model',	Aeronautical Jl, Vol. 112, No.1136, Oct, 08.
15	Dr. S.Vengadesan A.Lankadasu	Onset of vortex shedding in planar shear flow past a square cylinder'	Int. Jl. for Heat and Fluid Flow, Vol. 29, pp.1054-1059, 2008.
16	Dr. S. Vengadesan Dr.T.Sundararajan K. Chitra P. Nithiarasu	An investigation of pulsatile flow in a model cavo-pulmonary vascular system	International Journal on Communications in Numerical Methods in Engineering
17	Dr. K. Ramesh M. Ramji	Whole field evaluation of stress components in digital photoelasticity – Issues, Implementation and application	Optics and Lasers in Engineering, 257-271, 46(3). 2008
18	Dr. C. Lakshmana Rao K. Chinnaraj M. Sathya Prasad	Experimental analysis & quasi-static numerical idealization of dynamic stresses on a heavy truck chassis frame assembly	Applied Mechanics & Materials, Vol.13-14(2008), pp 271-280
19	Dr. M.S.Sivakumar Dr. A. Arockiarajan K. Jayabal D.Srikrishna T.S.Abhinandan	A thermodynamically consistent model with evolving domain structures in ferroelectrics	International Journal of Engineering Science
20	Dr. R. Palaninathan Dr. R. Velmurugan A. Sathivel P. Ragothma Rao	Production and mechanical properties of SiCp particle reinforced 2618 aluminium alloy composites	Journal of material science, V.43, pp. 7047-7056
21	Dr. M. Ramasubba Reddy R. Malathi	Arrhythmia studies using computational model of ventricular tissue	Biophysical Journal, 2008, V. 94, 2995

22	Dr. M. Ramasubba Reddy R. Malathi	Ventricular reentrant arrhythmia due to regional differences – A computational Study	Biophysical Journal, 2009, V.96, 665
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In Proceedings of National Conferences:

SI.No.	Name of the faculty	Title of the paper	Institution	Period
1	Dr. S.Vengadesan Y.Sudhakar	Computation of viscous flow past moving bodies: Use of immersed boundary method'	12th AeSI CFD Symposium, Bangalore	August, 2008.
2	Dr. S.Vengadesan Dr. S.K.Bhattacharyya Virag Mishra	Evaluation of performance of nonlinear k- ϵ turbulence model for axisymmetric bodies at angle of attack',	Proc. of 34th National Conference on FMFP, pp. B6-1 – B6-9,	December 2008
3	Dr. R. Palaninathan Dr. R. Velmurugan A. Sakthivel P. Ragothama Rao	Processing and effect of particulate reinforcement on tensile, fatigue and impact behaviour of AA2618/Al2O3p composites, pp 327-331	Bangalore	4-5 December, 2008
4	Dr. B.S.V. Patnaik	Vortex shedding control of flow past a circular cylinder	National conference on Fluid Mechanics and Fluid Power	7-10 December 2008
6	Dr. M. Ramasubba Reddy Mr. Bhatt Bhargav Pushpdant	Theoretical Analysis of induced potentials due to blood flow under the static magnetic field of MRI.	National Conference on Biomechanics, IIT Roorkee	6th – 9th March 2009
7	Dr. M. Ramasubba Reddy Mr. K. Srinivasan	Selection of Optimal wavelet for EEG Compression for real-time applications	National Conference on Biomechanics, IIT Roorkee	6th – 9th March 2009
8	Dr. A. Arockiarajan	Modelling and theoretical studies on PIEZO Electric Materials	National Conference in Mechanical Science, National Engg. College, Kavilpatti	13th March 2009

In Proceedings of International Conferences:

SI.No.	Name of the faculty	Title of the paper	Institution	Period
1.	Dr. R. Palaninathan V. Sivakumar	Finite element analysis of segment joint sealing efficiency in solid rocket booster	Banga	

SI.No.	Name of the faculty	Title of the paper	Institution	Period
2.	Dr. A.P. Baburaj	International Conference on Advances in Mechanical Engineering	IISc, Bangalore	2 - 4 July 2008
3.	Dr.C.Lakshmana Rao	Buckling control of aluminium shallow shells using lead zirconium titanate (PZT) actuator	IISc, Bangalore	24-26 July 2008
4.	Dr. M. Manivannan S. Mahesh T. Anandan	Design of Pulse Sensor for Siddha Based Disease Diagnosis	IISc Bangalore	7-9 Jan 2009
5.	Dr. M. Manivannan P. Rajasekar	Hybrid Model for Haptic Rendering in Virtual Tissue Cutting	IISc Bangalore	7-9 Jan 2009
6.	Dr. M. Manivannan N. Siddharth Suresh Devasahayam George Mathew	Design of a Do-It-Yourself based Laparoscopic Simulator	Long Beach, CA	19-22 Jan 2009
7.	Dr. A. Arockiarajan S. S. Karulla C. Sansour	On the modeling and decomposition of gradient enhanced electro-mechanically coupled deformation	XXII International Congress on Theoretical Applied Mechanics, Adelaide, Australia	24-30, August, 2008
8.	Dr. M. Ramasubba Reddy Ms. R. Malathi	Effect of Sodium Channel on the initiation of spiral waves – A computational study,	Computers in Cardiology, Italy	Sept. 2008
9.	Dr. M.S.Sivakumar Dr. A.Arockiarajan	Multi-axial behaviour of ferroelectrics with two types of micro-macro mechanical models	IUTAM, Bangalore	10-13, Dec. 2008
10.	Dr. M.S.Sivakumar Dr. A.Arockiarajan A. Menzel K. Jayabal	Micro-mechanically motivated finite element model for ferroelectric ceramics	GAMM, Poland	9-12, Feb. 2009
11.	Dr. M. Ramasubba Reddy Ms. R. Malathi	Ventricular reentrant arrhythmia due to regional differences – A computational Study	53 rd Annual Meeting of <i>Biophysical Society, Boston</i>	March, 2009

Distinguished Visitors to the Department:

SI.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. Arun R. Srinivasa	Jan – May 2008	Visiting Professor
2.	Dr. M.P. Gururajan, Northwestern Univ, USA	May 28, 2008	Guest Lecture
3.	Dr. Narayana Raju,	May 28, 2008	Guest Lecture

SI.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
4.	Dr. Debraj Ghosh	August 8, 2008	Guest Lecture
5.	Dr. K. Ravi Chandar	August 11, 2008	Guest Lecture
6.	Prof. Alireza Baghai-Wadji, Australia	Sept 9, 2008	Guest Lecture
7.	Ashok Kumar Nallathambi, Scientific Co-worker, Germany	Oct . 6, 2008.	Guest Lecture
8.	Dr. Sonjoy Das, California, USA	Oct. 17, 2008	Guest Lecture
9.	Dr. Murugaiyan Sivasankar, Bangalore	Oct. 18, 2008	Guest Lecture
10.	Dr. A.R. Phani, Nano-RAM Technologies Bangalore	November 26, 2008	Guest Lecture
11.	Dr. Sanjeev K. Khanna University of Missouri USA	December 15, 2008.	Guest Lecture
12.	Mr. Abhijit Sarkar, IISc, Bangalore	January 22, 2008	Guest Lecture
13.	Dr. Sitikantha Roy, University of Colorado, Boulder	January 29, 2008.	Guest Lecture
14.	Prof. Bob Svendsen Prof. Andreas Menzel Dortmund Institute of Technology,	December – January , 2009.	Research Collaborative visit between IITM Applied Mech & Dortmund Applied Mech

Other Activities of the Department/Centre:

1	Dr. M.Manivannan	Orientation Programme on M.Tech (Clinical Engg) & Ph.D (Biomedical Devices and Technology), Sree Chitra Tirunal Institute of Medical Science and Technology, Trivandrum, 7 – 8 July 2008
2	Dr. K. Ramesh	XIII Academic Council Meeting Sri Chandra-Sekharendra Saraswathi Viswa Mahavidyalaya, Kanchipuram, 30th July 2008.
3	Dr. R. Palaninathan	Expert Member of Selection Committee VSSC, Trivananthapuram, August 18, 2008
4	Dr. R. Palaninathan	Expert Member of Selection Committee VSSC, Trivananthapuram , November 26-27, 2008
5	Prof. K. Ramesh	Member of Selection Committee, I.I.Sc., Bangalore, on 27.02.2009.
6	Dr. M. Manivannan	Technology transferred to Industry: Design of a Do-It-Yourself VR based Laparoscopic Simulator to a company in Chennai
7	Dr. Sayan Gupta	Ph.D. Thesis Examiner, IISc Bangalore
8	Dr. M. Ramasubba Reddy	Expert member in the Faculty selection board, Osmania University, Hyderabad
9	Dr. Ramasubba Reddy	Reviewed Three Ph.D. and one M.S. theses of other Univ's
10	Dr. M. Ramasubba Reddy	Member of Board of Academic Studies of JNTU, Hyd. And Avinashilingum Univ., Coimbatore.

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 four 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 24 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. We are in the process of setting up a "Center of Excellence" in "Bioprocess Engineering" and a DST funded "National Facility to identify potential drug targets through cellular dynamics".

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.	26	22	26	26	2	102
Dual Degree	13	12	12	17	16	70
M.Tech.	7	-	-	-	-	7
M.S.	4	6	3	8	1	22
Ph.D.	17	28	18	10	29	102
Total	67	68	59	61	48	303

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	Pavithra S (work Presented by Dr Sheila Mohan)	BT08D017	20 th Annual Fanconi Anemia Research Fund Scientific Symposium	4 th Oct, 2008. Eugene, USA	FARF
2	Prasanna V (Work presented by Dr Sheila Mohan)	BT08D005	20 th Annual Fanconi Anemia Research Fund Scientific Symposium	4 th Oct, 2008. Eugene, USA	FARF
3	Prabhakar, P. K	BT06D001	2nd International Conference on Advanced Technologies & Treatments for Diabetes	25-28 th Feb, 2009. Athens, Greece.	CSIR and IIT Madras.

4	Trishul Artham	BT05D001	International Biodegradation and Biodegradation Symposium (IBBS-14)	5-11 th Oct 2008. Messina, Italy.	IIM, IITMAA, CCSTDS.
5	S. Stolyarova [collaborator of Prof. Anju Chadha]	-	Proc. of IEEE Sensors 2008, Lecce, Italy, October 26-29 2008	Oct. 26-29, 2008. Lecce, Italy	Project
6	Renny Edwin Fernandez	-	Tenth World congress on Biosensors, Shanghai, China, May 14-16, 2008	May 14- 16, 2008. Shanghai, China.	IITM
7	Bijesh Biswal	BT04D007	Second AACR Centennial Conference on Translational Cancer Medicine	July 20-23, 2008. Monterey, CA, USA	CSIR
8	Abhipsa Sarangi	BT05D002	14 th International Conference on the Heavy Metals in the Environment.	Nov. 16-23, 2008 Taipei	IIT Madras
9	Sirisha Potala	BT05D028	Second AACR Centennial Conference on Translational Cancer Medicine	July 20-23, 2008; Monterey, CA, USA	Self
10	Sashi Bala Prasad	BT05D016	ChemBio tech'08	Dec 19-20, 2008 NUS, Singapore	NUS, Singapore
11	Pritish Sarkar	BT05D003	ChemBio tech'08	Dec 19-20, 2008 NUS, Singapore	NUS, Singapore
12	Pritish Sarkar	BT05D003	International Conference on Chemical Engineering 2008	31 st December 2008-1 st January 2009. Bangladesh University of Engineering and Technology	IITM
India					
1	A. Sai Krishna	BT05D017	National Symposium on Cellular and Molecular Biophysics	Jan 22-24, 2009 CCMB, Hyderabad	Project
2	Sripriya	Postdoctoral fellowship	77 th Annual meeting of the Society of Biological Chemists (India)	Dec.18-20, 2008 IIT Madras	DBT
3	Maitreyi, S	BT07D005	Emerging Challenges and Approaches in Cancer Biology	Feb. 21-24, 2009; IISc, Bangalore	-
4	Prabhavathy Devan	BT07D024	Emerging Challenges and Approaches in Cancer Biology	Feb. 21-24, 2009; IISc, Bangalore	-

5	Rao Srinivasa Rao	BT05S001	Emerging Challenges and Approaches in Cancer Biology	Feb. 21-24, 2009; IISc, Bangalore	-
6	Dilip Kumar Bishi	BT08D023	1st International Stem Cell Summit India 2008(ISCSI 2008) 77th Annual Meeting of Society of Biological Chemists(India)	Nov.14-16, 2008, IITM Dec 18-20, 2008, IITM	Self Self
7	Bijesh Biswal	BT04D007	1st International Stem Cell Summit India 2008(ISCSI 2008) 77th annual meeting of the Society of Biological Chemists International conference on functional materials	Nov 14-16, 2008, IITM Dec 18-20, 2008, IITM Nov 27-29, 2008, IITM	CSIR CSIR CSIR
8	Akshay	BT05D021	1st International Stem Cell Summit India 2008(ISCSI 2008) International Conference on Nano medicine and recent advances in ophthalmic research	Nov. 14-16, 2008, IITM Sept. 3-5, 2008	CSIR CSIR
9	Sreejit P	BT05D011	1st International Stem Cell Summit India 2008(ISCSI 2008) Molecular Medicine 2009	Nov. 14-16, 2008, IITM Jan. 18-20,2009, IITM	ICMR ICMR
10	Mrudula	BT05D012	1st International Stem Cell Summit India 2008(ISCSI 2008) Molecular Medicine 2009	Nov. 14-16, 2008, IITM Jan. 18-20,2009, IITM	ICMR ICMR
11	Devilakshmi		1st International Stem Cell Summit India 2008 Molecular Medicine 2009 International Conference on Nano-medicine and recent advances in ophthalmic research	Nov. 14-16,2008, IITM Jan. 18-20,2009 Sept. 3-5, 2008	Project Project Project
12	Prasanna V	BT08D005	1st International Stem Cell Summit India 2008 Molecular Medicine 2009	Nov. 14-16,2008, IITM Jan. 18-20,2009, IITM	Self Self

13	Pavithra S	BT08D017	1st International Stem Cell Summit India 2008(ISCSI 2008)	Nov. 14-16, 2008, IITM	Self
			Molecular Medicine 2009	Jan. 18-20,2009	Self
14	Sirisha Potala	BT08D005	1st International Stem Cell Summit India 2008	Nov.14-16, 2008, IITM	Self
15	Santhosh Mathapathi	BT08D001	6th Winter Symposium on 'Cardiovascular Sciences: from Cellular Biology to Clinical Disease	Jan 10-12,2008, CMC, Vellore	Self
16	Prabhakar, P. K	BT06D001	International Conference on the Interface of Chemistry-Biology in Biomedical Research.	22-24 th Feb, 2008. BITS PILANI.	IIT Madras
			36th Annual Scientific Meeting of Research Society for the Study of Diabetes in India.	21-23 rd Nov, 2008. International Convention Center, Hyderabad.	IIT Madras.
			3rd Diabetes India International Conference	5-7 th Dec, 2008. Bangalore.	Self
17	Arkatkar, A.	Project associate	MACRO, Recent advances in Polymeric Materials.	9-11 th Mar, 2009. IIT Madras.	Project
18	Ravikumar G., R. Ravi	-	Recent Advances on Biofuel Technology for the Development of Rural people	26-28 th Sept. 2008, Kongunadu Arts and Science College, Coimbatore, Tamilnadu	IITM
19	Sabbsani Rajasekhara Reddy	-	Biotechnological Approaches to Alternate Energy	5-6 th Dec. 2008 IIT Madras	Project
20	Ravikumar G., R. Ravi	-	Biotechnological Approaches to Alternate Energy	5-6 th Dec. 2008 IIT Madras	Project
21	D. Titu	BT04D014	Biotechnological Approaches to Alternate Energy	5-6 th Dec. 2008 IIT Madras	Project
22	Kamal Kishore Joshi	-	Society of Biological Chemists	18-20 th Dec. 2008 IIT Madras	Project
23	Nidhi Agarwal	BT07D001	Society of Biological Chemists	18-20 th Dec. 2008 IIT Madras	Project

24	Renny Edwin Fernandez,	-	International conference on Micro Electro Mechanical Systems(ICMEMS), IIT Madras	Jan 3-5, 2009 IIT Madras, Chennai	Project
25	S. Stella	BT05D022	International conference on "Frontiers in Chemical Research"	29-31 st Dec. 2008, Mangalore University	Project
26	Aneesh C.N.A.	BT06D004	Theoretical Chemistry Symposium 2009	Jan. 2009, I.I.Sc. Bangalore	CSIR
27	Jagan O. Mohan	JRF	Theoretical Chemistry Symposium 2009	Jan. 2009, I.I.Sc. Bangalore	DBT
28	V.S.V. Chaitanya	JRF	Society for Biological Chemists (SBC)	Dec. 2008, I.I.T Madras	DBT
29	Bhavani Shankar Sahu	JRF	International Symposium on Genomics, Model organisms and disease	Oct. 1-2, National Centre for Biological Sciences, Bangalore	CSIR
30	Parshuram J Sonawane	JRF	77 th Meeting of the Society of Biological Chemists	Dec. 18-20, 2008 IIT Madras	DBT
31	Binu K Sasi	JRF	77 th Meeting of the Society of Biological Chemists	Dec. 18-20, 2008 IIT Madras	DBT
32	Govinda Lenka	Project Associate	77 th Meeting of the Society of Biological Chemists	Dec. 18-20, 2008 IIT Madras	DBT
33	V. Poornima	BT07D008	Society for Biological Chemists	Dec. 18-20, 2008 IIT Madras	Project
34	Sandeep Shiromani	BT06D002	MICROCON	03-04 March, 2009. Punjab University, Chandigarh	IITM

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

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1	Garik Scahdeva Nelson Vadassery Sayesh Kumar Sri Shailaja Nori Vantharam V Hemanth Giri Rao	BT05B007 BT05B037 BT05B038 BT05B039 BT05B042	Best Foundational Advance. Best New BioBrick Part or Device, Engineered	The International Genetically Engineered Machine Competition (iGEM), MIT, USA
2	Dilip K Bishi	BT08D023	First Prize- Poster presentation	77th Annual Meeting of Society of Biological Chemists(India) 2008

Amal Kanti Bera	Electrophysiology
K. Chandraraj	Biofuels and Bioremediation
Madhulika Dixit	Vascular Biology
Nitish R. Mahapatra	Cardiovascular Genetics, Molecular Medicine
N. Manoj	Structural Biology
R. Baskar	Developmental Genetics
Rajamanickam Murugan	Theoretical Biophysics, Statistical Physics of Biological systems, Computational and systems biology.
Sanjib Senapati	Computational Biophysics, Computational Green Chemistry
Sathyararayanan Gummadi	Bioprocess Engineering, Caffeine Degradation, Phospholipid Translocators
V. Balasubramanian	Ergonomics, Biomedical devices, Biomechanics and Psychophysics
V. Kesavan	Chemical Biology, RNAi interference and Asymmetric Synthesis

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1	D. Karunakaran S. Mahalingam	77 th annual meeting of Society of Biological Chemists (India)	Dec.18-20, 2008
2	Rama S Verma	1st International Stem Cell Summit India 2008(ISCSI 2008)	Nov. 2008
3	Rama S Verma	Molecular Medicine Conference 2009	Jan. 2009
4	Anju Chadha [Convenor]	Biotechnological Approaches to Alternate Energy	5-6 th Dec. 2008
Workshop:			
1	Madhulika Dixit [Co-organizer]	Workshop on techniques in genomics in relation to diabetes and related disorders	Jan. 3-9, 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.	Venkatesh Balasubramanian	Workshop on Future Vehicle Development for Construction Industry	Ashok Leyland, Hosur	April 28-29, 2008
2.	Venkatesh Balasubramanian	National Workshop on Scientific computing on Biomedical Engineering	Agra	August 30-31, 2008
3.	Nitish R. Mahapatra	Workshop on genomics techniques in relation to diabetes and related disorders, sponsored by the Indian Council for Medical Research	Madras Diabetes Research Foundation, Chennai	3 rd – 9 th Jan, 2009
Seminar:				
1	Sanjib Senapati	Theoretical Chemistry Symposium 2009	I.I.Sc. Bangalore	Jan. 19, 2009
Symposia:				
1	A. Gopala Krishna	National Symposium on Cellular and Molecular Biophysics	CCMB, Hyderabad	Jan 22-24, 2009
2	D. Karunakaran	Emerging Challenges and Approaches in Cancer Biology	IISc, Bangalore	Feb 21-24, 2009

3	D. Karunakaran	Emerging Areas in Bioscience and Bioengineering	IIT Bombay, Mumbai	Feb 26-28, 2009
5	Venkatesh Balasubramanian	Current Trends in Biomaterials	SVCE, Chennai	July 18, 2008
6	Venkatesh Balasubramanian	University – Industry Relations: Creating Alliances for Innovation	CII, Mumbai	Jan 17, 2009
7	Anju Chadha	Protein Design and evolution for Biocatalysis	Spain	Oct. 25-30, 2008
8	Sanjib Senapati	Self-assembled Reverse Micelles Entrap Proteins in Native State	Bose Institute, Kolkata	Nov. 29 – Dec. 02, 2008
9	Amal K. Bera	The Young Investigators' Meeting	NCBS, Bangalore	Feb. 24-28, 2009
10	Amal K. Bera	International symposium on cell signaling	Bose Institute, Kolkata	Nov. 24-28, 2008
11	Sanjib Senapati	The Young Investigators' Meeting	NCBS, Bangalore	Feb. 24-28, 2009
12	Nitish R. Mahapatra	2 nd Indian Peptide Society symposium	National Institute of Immunology, New Delhi	Feb. 26-27, 2009
13	Nitish R. Mahapatra	International "Helix and Heart" symposium in the Frontier Conclave	Frontier Lifeline and Dr. K. M. Cherian Heart Foundation, Chennai	Dec. 5, 2008
Conference:				
1.	Venkatesh Balasubramanian	13 th International Conference on Biomedical Engineering	SunTec City, Singapore	December 03-06, 2008
2.	Sanjib Senapati	Protein Society Meeting	San Diego, California, USA	July, 2008
3.	Sanjib Senapati	Society for Biological Chemists (SBC) Meeting	IIT Madras	Dec. 2008
4.	Rama S Verma	International conference on Nano-medicine and recent advances in ophthalmic research	Chennai	September 2008
Short term Course:				
1	Dr Rama S Verma	Training Course on Safety Aspects in the Research Applications of Ionizing Radiation.	Bhabha Atomic Research Centre	October 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	A. Gopala Krishna	G Protein Coupled Receptors: A Historical Perspective	JNTU, Hyderabad	28 th March, 2009
2.	A. Gopala Krishna	Physiological basis of Interaction between Calnuc and G protein alpha subunit	JNTU, Hyderabad	28 th March, 2009
3	D. Karunakaran	Refresher course for college teachers	University of Kerala, Trivandrum	24-06-2008
4	D. Karunakaran	Mechanisms of Curcumin induced apoptosis	Sastra University, Tanjore	01-08-2008
5	D. Karunakaran	Tricks of survival- Lessons from cancer cells	MGR-Janaki College of Arts and Science, Chennai	09-09-2008

6	D. Karunakaran	Molecular biology of cancer	Kumararani Muthaiah College of Arts and Science, Chennai	11-09-2008
7	D. Karunakaran	Strategies to sensitize cancer cells to apoptosis induced by curcumin	KIIT University, Bhubaneswar	Oct. 24, 2008
8	D. Karunakaran	Changes in expression, and/or mutations in TGF beta receptors and Smad 4 in human ovarian tumors	JNU, Delhi	Feb. 14, 2009
9	K.B.Ramachandran	Modeling of Biochemical Process Systems	NIT, Durgapur	31-7-2008
10	K.B.Ramachandran	Stochastic model for thermal sterilization of the medium	NIT, Durgapur	1-8-2008
11	V. Srinivasa Chakravarthy	Towards an integrated model of Basal Ganglia	IBRO-India Workshop, NBRC, Gurgaon.	Jan 12-14, 2009
12	Rama S Verma	Molecular Basis of Microbes	National Biological Association for Students anna University Chennai	29 th March, 2008
13	Rama S Verma	National conference on Medicinal and aromatic plants for Public health (MAPPH-08)	Karunya Univeristy Coimbatore	Sept. 2008
14	Rama S Verma	Emerging Trends in Immunotoxins" at International conference on Emerging Trends in Biological Sciences	KIIT University Bhubaneswar, Orissa	Oct. 2008
15	Rama S Verma	Ethics of Stem cell research" at National Seminar on Bioethical Issues in College Campuses Interdisciplinary approaches and Perspectives	Asian Center for cross Cultural Studies at Panayur, Chennai	Nov., 2008
16	Rama S Verma	Bioethics in Biological research at International conference on Biotechnology: Innovation and Challenges in Agri, food, Biofuel and Health Care (ICBIC 08)	Karunya University, Coimbatore	Dec. 2008
17	Rama S Verma	"Development of Primary Culture of Cardiomyocyte and Differentiation Potential of a Bioengineered Cardiac ECM" at Fourth Singapore- India Joint Symposium on Biological Sciences	University of Madras	Nov. 2008
18	Rama S Verma	" Present Scenario of Bioethics in stem cell research", at Biotechcellence '09	Anna University, Chennai	Feb. 2009
19	Rama S Verma	A career in Biotechnology – What does a student need? at Elyzia 09	Government College of Technology, Coimbatore	Feb. 2009
20	Venkatesh Balasubramanian	Human Factors in Heavy Vehicle Design	Workshop on Future Vehicle Development for Construction Industry, Ashok Leyland, Hosur	April 28-29, 2008.
21	Venkatesh Balasubramanian	Human System Interface – A Rehabilitative Tool	AICTE-ISTE Sponsored Short Term Training Program on Biological System Design and Information Processing, Dindigul	May 5, 2008.

22	Venkatesh Balasubramanian	Human Factors in Design	STTP on Engineering Design and New Product Development, IIT Madras	July 2, 2008.
23	Venkatesh Balasubramanian	Biomechanics of Total Knee Replacement	Current Trends in Biomaterials, SVCE, Chennai	July 18, 2008.
24	Venkatesh Balasubramanian	Multimodal Human System Interface Using Physiological Signals	National Workshop on Scientific computing on Biomedical Engineering, Agra	Aug. 30-31, 2008.
25	Venkatesh Balasubramanian	Developing a Business Strategy	"Program for Senior Managers on Visionary Leaders for Manufacturing" CII Gurgaon	Dec. 21, 2008.
26	Venkatesh Balasubramanian	Industry – Institute Collaborations in India: Case Studies from IIT Madras	"University – Industry Relations: Creating Alliances for Innovation" CII Mumbai	Jan. 17, 2009.
27	G. K. Suraishkumar	Liquid Phase Oxygen Supply	Md. Sathak College	Sept. 2008
28	Anju Chadha	Tranesterification Reactions for Biodiesel production	SRM College	Nov. 28, 2008
29	Madhulika Dixit	Viral Vectors: an essential feature of functional genomics	Madras Diabetes Research Foundation, Chennai	April 9, 2009
30	Sanjib Senapati	Establishing the role of bound water in the HIV-1 Protease flap closing mechanism	I.I.Sc. Bangalore	Jan. 19, 2009
31	Nitish R. Mahapatra	Chromogranin A is a novel susceptibility gene for essential hypertension.	Central Leather Research Institute, Chennai	Dec. 5, 2008
32	Nitish R. Mahapatra	Role of the chromogranin A gene in hypertension	Madras Diabetes Research Foundation, Chennai	3 rd – 9 th Jan, 2009
33	Nitish R. Mahapatra	The naturally occurring peptide catestatin is a novel regulator of cardiovascular functions	National Institute of Immunology, New Delhi	26 th -27 th February, 2009

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	K. Chandraraj	USA	Feb. 2008 to Feb. 2009	Sabbatical	Michigan State University
2	G. K. Suraishkumar	USA	Dec. 2008	Indo-US project	Indo-US project
3	Mukesh Doble	USA	July 14-17, 2008	Present a paper at 2008 International Conference on Bioinformatics & Computational Biology Monte Carlo Resort, Las Vegas, Nevada	IIT Madras

4	Mukesh Doble	Singapore	Nov. 4-8, 2008	Present a paper at MP3 conference, NTU, Singapore	IIT Madras
5	Anju Chadha	Israel	24 th June-1 st July, 2008	For Indo-Israel project on Silicon based Biosensors	DST
6	Anju Chadha	Spain	25-30 th Oct. 2008	Protein Design and evolution for Biocatalysis	IITM
7	Sanjib Senapati	USA	May – July 2008	Collaborative Research	BOYSCAST Fellowship, DST

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Honours:					
1	D.Karunakaran	Expert member for NAC accreditation committee, AICTE	AICTE, New Delhi	Committee member	2008
2	D.Karunakaran	Governing Body Member	Amala Cancer Centre, Thrissur	member	2008
3	G. K. Suraishkumar	Expert member, National Accreditation Committee, AICTE	AICTE, New Delhi	Committee member	2008
4	G. K. Suraishkumar	Member, Academic Committee	Sree Chitra Tirunal Institute for Medical Sciences & Technology, Trivandrum	Committee member	2008
5	G. K. Suraishkumar	Selection Committee Member, Scientist Selections	IGCAR, Kalpakkam	Committee Member	2008
6	G. K. Suraishkumar	Expert, Curriculum Committee	SASTRA University, Thanjavur	Committee Member	2008
7	Anju Chadha	Invited to write an autobiographical sketch for the book on 100 women Scientists of India, Lilavati's Daughters	Indian Academy of Sciences, Bangalore	-	2008
8	K.B. Ramachandran	Chairman, DBT Task Force on Biotech Product and Process Development	DBT, GOI	Chairman	2008
9	K.B. Ramachandran	Chairman, Scientific advisory committee DBT-ICT Centre for Energy Biosciences, ICT, Mumbai	DBT, GOI	Chairman	2008
10	K.B. Ramachandran	Director,	BrainWave Biosolutions Limited, Chennai	Director	2008
11	K.B. Ramachandran	Member, Scientific advisory committee	Richcore Life Sciences Pvt. Ltd, Bangalore	Committee member	2008
ii. Awards:					
1	Dr Rama S Verma	Genomic Pioneer Award	The Human Genome Organization	The contribution for the field of Genomics	September 2008

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1	V. Srinivasa Chakravarthy	Complex-valued Hopfield Neural Network: Dynamics and Applications, In <i>Complex-Valued Neural Networks: Utilizing High-Dimensional Parameters,</i>	IGI Global	Tohru Nitta (Ed.)

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	Rama S. Verma	Associate Editor	Australian Journal of Basic and applied Sciences
2	Mukesh Doble	Member	Chemical Engineering, McGraw Hill, USA
4	Mukesh Doble	Member	Open Enzyme Journal
5	Mukesh Doble	Member	Open Petroleum Journal
6	Madhulika Dixit	Member	Molecular and Cellular Biochemistry
7	Nitish R. Mahapatra	Member	International Journal of Biosciences and Technology

4.3.4 Design and Development Activities:**Brief and specific details of Process/Instruments/Equipment/ Software designed and developed:**

Developed Handwritten Character recognition software in three languages: Telugu, Hindi and Kannada

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	Two table top high speed centrifuges	4.0 each
2.	Flowcytometer	36.0
3.	Luminometer	8.0
4.	CO ₂ Incubator	4.78
5.	Inverted Fluorescent Microscope	12.5
6.	Non refrigerated Table Top Centrifuge	3.05
8.	FPLC	12.0
9.	- 80 C Deep Freezer	4.5
10.	Nomarski-Differential interference contrast set up for the existing microscopes	5.0
11.	Electrical Cell Impedance System	8.0

Patents:**Patents filed:**

Sl. No.	Name of faculty	Topic of patent
1	Anju Chadha	Process for the Preparation of Optically Pure Amino Acids Using Biocatalytic Deracemisation Reaction

4.3.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Ocular Albinism 1: Overexpression, Characterization & Mechanism of Activation of a Novel G-protein Coupled Receptor (GPCR).	2006-2009	CSIR	15.0	A. Gopala Krishna
2.	Mechanism of Signal transduction by Ocular Albinism type 1 protein (OA1).	2006-2009	DST	20.0	A. Gopala Krishna
3.	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
4.	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 (Phy)
5	Structure function relationship of Acid sensing ion channel	2007-10	DST	45.92	Amal Kanti Bera
6	Role of gap junctions in ischemic heart disease	2007-10	DBT	68.12	Amal Kanti Bera Nitish R. Mahapatra
7	Functional and structural analysis of the GABAA receptor gamma subunit during channel activation and benzodiazepine potentiation	2008-11	CSIR	22.76	Amal Kanti Bera
8	Modulation of VDAC of mitochondria by BCL-2 proteins	2008-2011	DRDO	24.21	Amal Kanti Bera
9	A study on the transforming growth factor- β signaling intermediate, Smad3, in human cervical cancer	2005-2008	DST	22.65	D. Karunakaran
10	A Study on the Activators and Targets of NF- κ B in Human Cancer Cells	2006-2009	DBT	43.35	D. Karunakaran
11	Programme support in cancer biology	2008-2011	DBT	356.81	D. Karunakaran S. Mahalingam Sanjib Senapati V. Kesavan Nitish R Mahapatra
12	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
13	Biogas production from non-edible oil cakes for power generation in rural areas	2007-2009	IIT-Alumni	8.50	K.B. Ramachandran T.S. Chandra
14	Design and physic-chemical studies of thermoreversible gels: Towards controlled release of substrates	2009-2012	DBT	38.888	K. Chandraraj A.K. Mishra,(CY)
15	National Facility to identify drug targets through functional cell dynamics	2008-2010	DST	585.00	S. Mahalingam
16	Role of Nucleolar GTPases on cell proliferation during tumorigenesis	2008-2013	DAE	100.00	S. Mahalingam
17	Role of cellular Kinase MAPK on HIV pathogenesis	2007-2010	DBT	93.00	S. Mahalingam
18	Structure-functional studies on GNL3L	2007-2010	DBT	88.00	S. Mahalingam
19	Development of surrogate virus system to understand HIV pathogenesis	2007-2010	DBT	47.00	S. Mahalingam
20	HCV-HIV coinfection: Immune , virus interaction and pathogenesis	2009-2012	Indo-German ICMR	82.00	S. Mahalingam

21	Parkinson's disease: Development of computational model based on handwriting and speech for prediction and treatment	April 2007 – April 2009	DST	11.08	VS Chakravarthy
22	Studies of assessing the differentiation potential of adult stem cells into cardiomyocytes.	2007-2010	DBT	31.02	Rama S Verma
23	Efficacy of Retinoblastoma.	2007-2010	DBT	24.05	Rama S Verma
24	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 (CY)
25	To study the effect of SiRNA on the EpCAM expression of Y&(Ratinoblastoma cell line and its correlation with invasion and migration properties of cell line	2007-2010	DST	22.39	Rama S Verma Dr. Krishnakumar (Sankara Nethralaya)
26	Studies on proliferation and differentiation of stem cells and cancer cells under microgravity	2009-2012	DRDO	25.00	Rama S Verma
27	Digital Monitoring of Soldier Posture and Weapon Position	2008-2009	Army Technology Board	18.0	V. Balasubramanian
28	Sperm cell specification in flowering plants	2006-2009	DBT	35.0	R. Baskar
29	Cell fate determination in cellular slime molds	2008-2011	CSIR	15.0	R. Baskar & V. Kesavan
30	Genetic dissection of pattern formation in the cellular slime mold <i>Polysphondylium</i>	2009-2012	DST	40.0	R. Baskar & V. Kesavan
31	Reactive Oxygen Species and Chlorine based Inactivation of Microbes in Drinking Water	2008-2010	Indo-US Science and Technology Forum	USD 30,000	G. K. Suraishkumar (IITM) and Jeanne VanBriesen (Carnegie Mellon University)
32	Biosurfactants and enhanced Biodegradation of polymers	2007-2010	DST	31.85	Mukesh Doble
33	Potential TB drug.....marine actinomycetes	2008-2010	DST	4.75	Mukesh Doble
34	Performance of polymers in marine environment	2008-2010	NRB	34.58	Mukesh Doble
35	Understanding adhesion and characterization of barnacles	2008-2010	NRB	28.13	PI-Dr Ravi, Metallurgy; CoPI-Mukesh Doble
36	Biocompatibility studies on nanoparticle coated polymer surfaces	2008-2011	BRNS, BARC, Mumabi	17.13	Mukesh Doble
37	Understanding deracemisation: Purification of the enzymes involved in <i>C. parapsilosis</i> ATCC7330.	2008-2011	DST	37.00	Anju Chadha
38	Rapid Monitoring of Transesterification and Assessing Biodiesel Fuel Quality by Estimation of Glycerol	Until April 2009	DST	20.55	Anju Chadha
39	Biocatalytic Production of a precursor of L-Carnitine: Process Development and Optimisation Studies	Until April 2009	DBT	25.70	Anju Chadha S N Gummadi
40	Applications of the Biosensor developed in-House	Until November 2009	DBT	36.18	Anju Chadha Enakshi Bhattacharya (EE)
41	Functional Characterization and Rejuvenation of Diabetes-associated dysfunctional circulating Endothelial Progenitor Cells (EPCs) for Therapeutic Neovasularization.	2007-2010	DBT	27.0	Madhulika Dixit

42	"Characterization of Gab1 (Grb2-associated binder protein-1) for Therapeutic Neovascularization: Study of compromised collateral vessel growth in Diabetic Macrovascular Complications."	2008-2011	DBT	26.9	Madhulika Dixit
43	"Regulation of endothelial barrier function by chronic hyperinsulinemia and lipotoxicity: Implications in diabetic vasculopathy	2008-2011	DST	33.63	Madhulika Dixit D. Karunakaran
44	Molecular and Functional Characterization of EPCs in PCOS: A Preliminary Study	2008-2009	AHERF	6.0	Madhulika Dixit
45	Exploring the basis of drug resistance of HIV-1 protease mutants: Useful insights for rational drug design	2007-2010	DST	19.97	Sanjib Senapati
46	The properties of protein hydration water and their connection to protein motions	2007-2010	DST	20.38	Sanjib Senapati
47	Exploring the basis of differential binding of inhibitors to active and inactive CDK2	2008-2011	DBT	30.22	Sanjib Senapati D. Karunakaran V. Kesavan
48	Molecular characterization of functional polymorphisms in mouse HMG-CoA Reductase gene	2008-2011	CSIR	19.76	Nitish R. Mahapatra
49	Polymorphisms in the physiological anti-hypertensive peptide catestatin in an Indian population	2008-2011	DBT	43.86	Nitish R. Mahapatra

Industrial Consultancy 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

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	V.S. Chakravarthy (Co-PI)	Development of Automatic Defect Recognition (ADR) System for Real Time Radioscopy (RTR) of Hancock Valve Welds	BHEL, Trichy	14.9
2	Mukesh Doble	Biodegradation of poly propylene	RIL, Mumbai	22.00
3	Anju Chadha, PI; [Mukesh Doble and Sathyanarayan N. Gummadi; Co-PI]	Biotransformations for the Nutraceutical industry	EID Parry, Life Sciences Division	20.49

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	K.B. Ramachandran	Biotransformation/ bioprocessing technologies for the manufacture of Cephalosporin derivatives.	Orchid Chemicals and Pharmaceuticals Ltd	4.20
2.	K.B. Ramachandran	Enzyme production, purification, characterization and immobilization	Thirumalai Chemicals Limited	4.05

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
1.	Madhulika Dixit	Collaborative project	Apollo hospitals education and research foundation

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	...	8
Total No. of papers published in Refereed International Journals	...	57
Total No. of papers presented in National Conferences	...	9
Total No. of papers presented in International conferences	...	45

Details:

In Refereed National Journals:

1. Karunagaran D, SriPriya P, and Prabhakar BN. (2008) MicroRNAs: Novel and potential candidates for cancer therapy, *ICFAI Journal of Biotechnology* 2, 38-51
2. *In silico* analysis of functionally important residues in folate receptors Kalidoss Ramamoorthy, Sirisha Potala, and Rama Shanker Verma *Bioinformatics*. 2007; 2(4): 157–162. Published online 2007 December 28. PMID: PMC2255074
3. Validation of Multiplex PCR strategy for simultaneous detection and Identification of methicillin resistance staphylococcus Aureus S Rallapalli, S Verghese and Verma R S (2008) *Indian Journal on Medical Microbiology* 26 (4) 360-363.
4. "Molecular typing of colonizing Streptococcus agalactiae strains by Enterobacterial Repetitive Intergenic Consensus PCR (ERIC-PCR) in a Chennai based hospital Dilip kumer Bishi, Ilu Vargheese and Rama S. Verma (2008) " *Indian journal of Microbiology* 48: 291-296.
5. M Damodiran, R Senthil kumar, P M Sivakumar, Mukesh Doble and Paramasivan T Perumal, 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, *J. Chem. Sci.*2009, 121, 65-73
6. J. Arutselvi, M.Sudhakar, Ambika Arkatkar ,Mukesh Doble, Sumit Bhaduri and Parasu Veera Uppara, Biodegradation of Polyethylene and Polypropylene ,*Indian J. Biotechnol*, 7, Jan 2008, 9-22.
7. Rathnakumar K, Dixit M. The Gabs in cell Physiology. (2008) *The Icfai university Journal of Biotechnology*. Vol 2, No.4, 7-18.
8. Nathan AA, Dixit M. (2009) Prospects of a progenitor cell: A special focus on endothelial progenitor cells. *The Icfai university Journal of Biotechnology*, Vol 3, No.1, 7-18.

In Refereed International Journals:

1. The repertoire of G protein-coupled receptors in the sea squirt *Ciona intestinalis*. Kamesh N, Aradhyam GK, Manoj N. *BMC Evol Biol*. 2008 May 1;8:129.
2. Over-expression of recombinant human phospholipids scramblase 1 in *E. coli* and its purification from inclusion bodies. Santosh Kumar Sahu, A. Gopala Krishna, Sathyanarayana N. Gummadi. *Biotechnol Lett* (2008) 30:2131–2137.
3. Ion-binding properties of Calnuc, Ca(2+) versus Mg(2+)- Calnuc adopts additional and unusual Ca(2+)-binding sites upon interaction with G-protein. Kanuru M, Samuel JJ, Balivada LM, Aradhyam GK. *FEBS Journal* 276 (2009) 2529–2546.

4. Paul BT, Babu MS, Santhoshkumar TR, Karunakaran D, Selvam GS, Brown K, Woo T, Sharma S, Naicker S, Murugesan R. (2009) Biophysical evaluation of two red-shifted hypochlorin B derivatives as novel PDT agents *J Photochem Photobiol B*. 94, 38-44
5. Vadlani PV, Ramachandran KB. Evaluation of UASB reactor performance during start-up operation using synthetic mixed-acid waste. (2008) *Bioresour Technol*. 99:8231-8236.
6. Vadlani PV, Ramachandran KB., Evaluation of influent medium composition and concentration in a batch reactor for effective startup of UASB reactors (2008). *J.Environmental Engineering (ASCE)* 134(12), 1023-1028.
7. Sulaiman Al-Zuhair, Ramachandran KB, Hasan M, Effect of enzyme molecules covering of oil-water interfacial area on the Kinetic of oil hydrolysis, (2008) *Chemical Engineering Journal*, 3, 540-548.
8. Annuar MSM, Tan IPK, Ibrahim, S., Ramachandran, KB A kinetic model for growth and biosynthesis of medium-chain-length poly(3-Hydroxyalkanoates) in *Pseudomonas putida* Brazilian Journal of Chemical Engineering (2008), 25(2), 217-228.
9. Gobinath R, Chandraraj K. Immobilization of malto-oligosaccharide forming α -amylase from *Bacillus subtilis* KCC103: properties and application in starch hydrolysis. (2008) *J Chem Technol Biotechnol*. 83:1511-1517.
10. Gobinath R, Chandraraj K. Optimization of medium and process parameters for a constitutive α -amylase production from a catabolite derepressed *Bacillus subtilis* KCC103. (2008) *J Chem Technol Biotechnol*. 83:654-61.
11. Abhipsa S, Chandraraj K. Comparison of in vitro Cr(VI) reduction by CFEs of chromate resistant bacteria isolated from chromate contaminated soil. (2008) *Bioresour Technol*. 99, 4130-4137.
12. Gobinath R, Chandraraj K. α -Amylase production from catabolite derepressed *Bacillus subtilis* KCC103 utilizing sugarcane bagasse hydrolysate. (2008) *Bioresour Technol*, 99:3044-3050.
13. Elangovan R, Ligy Philip, Chandraraj K. Biosorption of hexavalent and trivalent chromium by palm flower (*Borassus aethiopum*). (2008) *Chem Engg J*, 141:99-111.
14. Senthilkumar SR, Dempsey M, Chandraraj K, Gunasekaran P. Optimization of biobleaching of paper pulp in an expanded bed bioreactor with immobilized alkali stable xylanase by using response surface methodology. (2008) *Bioresour Technol*, 99:7781-7787.
15. Pandey RC, Datta D, Mukerjee R, Srinivasan A, Mahalingam S, Sawaya BE. (2009). HIV-1 Vpr: a closer look at the multifunctional protein from the structural perspective. *Curr. HIV Res*. 7(2):114-128.
16. Srinivasan A, Ayyavoo V, Mahalingam S, Kannan A, Boyd A, Datta D, Kalyanaraman VS, Cristillo A, Collman RG, Morellet N, Sawaya BE, Murali R. (2008) A comprehensive analysis of the naturally occurring polymorphisms in HIV-1 Vpr: potential impact on CTL epitopes. *Virol J*. 5: 1-17.
17. An improved protocol for primary culture of cardiomyocyte from neonatal mice. P. Sreejit1, Suresh Kumar1 and Rama S. Verma *In Vitro Cellular & Developmental Biology - Animal*. 2008 Mar-Apr; 44 (3-4):45-50.
18. R. Kalidoss and R. S. Verma (2008) Convergence pattern studies of folate receptor, *Bioinformation* 3(4), 168-172.
19. Sirisha potala, Sanjeeb Sahoo and Rama S. Verma (2008) "Targeted therapy of cancer using Diphtheria toxin derived immunotoxins" *Drug discovery Today Review* 13, 17/18,807-815.
20. S. Guhathakurta, V. Balasubramanian, B. Ananthakrishnan, S. Veerappan, R. Balasundari, B.V.R. Tata, K.M. Cherian, "Thrombogenicity studies of three different variants of processed bovine pericardium," *ITBM-RBM*, Vol 29, Issue 4, 223-230, 2008.
21. V. Balasubramanian and S. Sharma, "Biomechanical Analysis of Main Gun Loader in an Armored Combat Vehicle," *International Journal of Industrial and Systems Engineering*, Vol. 4, No.1 pp. 46 – 59, 2009.
22. V. Balasubramanian, K. Adalarasu and R. Regulapati, "Influence of a Dynamic Standing Posture on Standing Fatigue and Comfort during Shop-Floor Duties," *Human Factors and Ergonomics in Manufacturing*, Vol 18, No. 6, 666-677, 2008.
23. V. Balasubramanian and J. Srinivasan, Surface EMG based muscle activity analysis for aerobic cyclist *Journal of Bodywork and Movement Therapies*, Volume 13, Issue 1, Pages 34 – 42, 2009.
24. Sarkar P, Ghosh K, Suraishkumar GK. High hydrogen peroxide concentration in the feed-zone affects bioreactor cell productivity with liquid phase oxygen supply strategy (2008) *Bioproc. Biosyst. Eng*. 31:357-367.
25. Anup S, Sivakumar SM, Suraishkumar GK. Influence of relative strength of constituents on the overall strength and toughness of bone (2008) *J. Mechanics Med. Biol*. 8:527-539.

26. Mukhopadhyay M, Noronha SB, Suraishkumar GK. Copper biosorption in a column of pretreated biosorption by *Aspergillus niger* biomass (2008). *Chemical Eng J.* 144:386-390.
27. Ponnurengam Malliappan Sivakumar, Sobana Priya and Mukesh Doble, Synthesis, Biological Evaluation, Mechanism of Action and Quantitative Structure–Activity Relationship Studies of Chalcones as Antibacterial Agents, *Chem. Biol. Drug. Des.* 2009, 73, 403-415.
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30. Ambika Arkatkar, J. Arutchelvi, Sumit Bhaduri, Parasu Veera Uppara, Mukesh Doble, Degradation of unpretreated and thermally pretreated polypropylene by soil consortia, *International Biodeterioration & Biodegradation* Volume 63, Issue 1, 2009, 106-111.
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32. D Pavithra and Mukesh Doble, Biofilm formation, bacterial adhesion and host response on polymeric implants issues and prevention, *Biomed. Mater.* 3 (2008) 03 4003.
33. Mukesh Doble, Nilesh Makadi, Sanjay Khatori and Suresh Kumar, Analysis of explanted ePTFE cardiovascular grafts (modified BT shunt), *Biomed. Mater.* 3 (2008) 03 4118 .
34. Mukesh Doble, Green Chemical reactors, *Chemical Engineering Progress*, 104, (2008)33-42.
35. P.M. Sivakumar, S.K. Geetha Babu, Vaibhav Sharma and Mukesh Doble, QSAR and docking studies on propenone derivatives with dual COX and 5-LOX inhibitory activity, *Letters in Organic Chemistry*, 5, Number 7, 2008, 544-554.
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37. Sivakumar, P. M., Geetha Babu, S. K., Doble, M., Impact of Topological and Electronic Descriptors in the QSAR of Pyrazine Containing Thiazolines and Thiazolidinones as Antitubercular and Antibacterial Agents, *Chem. Biol. Drug. Des.* 2008,
38. A.Puratchikody, G.Nagalakshmi, Mukesh Doble, Experimental & QSAR studies on antimicrobial activity of benzimidazole derivatives, *chemical & Pharma Bulletin* , 56 (3) 2008.
39. P. M. Sivakumar, Mukesh Doble, Quantitative Structure Activity Relationships for Commercially available Inhibitors of COX-2, *Medicinal Chemistry*, 2008, 4, 110-115.
40. Trishul Artham, M. sudhakar, Mukesh Doble, V.R. Umadevi, R.R. Viduthalai, K. Suresh Kumar, P. Sriyutha Murthy and R. Venkatesan, Effect of sbofouling on stability of polycarbonate in sea water, *The open Macromolecules Journal*, 2008, 2, 43- 53.
41. Arun Mathew, Ganesh Pandian, Enakshi Bhattacharya, 1, and Anju Chadha, Novel applications of silicon and porous silicon based EISCAP biosensors, *Phys. Status Solidi A*, 1– 5 (2009) / DOI 10.1002/pssa.200881084.
42. P. Vidya and Anju Chadha; The Role of Different Anions in Ionic Liquids on *Pseudomonas cepacia* Lipase Catalyzed Transesterification and Hydrolysis." *Journal of Molecular Catalysis B: Enzymatic*, 2009, 57, 145-148.
43. Renny Edwin Fernandez, Hareesh Vemulachedu, Enakshi Bhattacharya and Anju Chadha; Comparison of a Potentiometric and Micromechanical Triglyceride Biosensor, *Biosensors and Bioelectronics*, Volume 24, Issue 5, 1 January 2009, Pages 1276-1280.
44. D. Titu and Anju Chadha; Enantiomerically pure allylic alcohols: preparation by *Candida parapsilosis* 7330 mediated deracemisation, *Tet. Asymm.* 2008, 19, 1698-1701.
45. Hareesh Vemulachedu, Renny Edwin Fernandez, Enakshi Bhattacharya and Anju Chadha,
46. Miniaturization of EISCAP sensor for triglyceride detection, *J. Materials Science: Materials in Medicine*, 2008, doi: 10.1007/s10856-008-3534-y.
47. Renny Edwin Fernandez, Enakshi Bhattacharya and Anju Chadha, Covalent immobilization of *Pseudomonas cepacia* Lipase on semiconducting materials, *Appl. Surface Science*, 2008, 254, 4512-4519.
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49. T. Vajjyanthi and Anju Chadha, Asymmetric reduction of aryl imines using *Candida parapsilosis* ATCC 7330, *Tet.Asymm.*, 2008, Volume 19, 2008, 93-96 [Also see T. Vajjyanthi, A. Chadha, Biocatalytic Reduction of Aryl Imines, *Synfacts*, 2008, 4, 425.
50. Zuang D, Pu Q, Ceacareanu B, Chang Y, Dixit M and Hassid A. (2008) *Am. J. Physiol Circ physiol.* 295(1): H163-H173.
51. Gurpreet Singh and Sanjib Senapati, "Molecular Dynamics Simulations of Ligand-Induced Flap Closing in HIV-1 Protease Approach X-ray Resolution: Establishing the Role of Bound Water in the Flap Closing Mechanism", *Biochemistry* 47, 10657 (2008).
52. V. Torbeev, H. Raghuraman, K. Mandal, Sanjib Senapati, and S. B. H. Kent, "Dynamics of "Flap" Structures in Three HIV-1 Protease/Inhibitor Complexes Probed by Total Chemical Synthesis and Pulse-EPR Spectroscopy", *J. Am. Chem. Soc.* 131, 884 (2009).

53. B. Ram Prasad and Sanjib Senapati, "Explaining the differential solubility of flue gas components in ionic liquids from first-principle calculations", *J. Phys. Chem. B* 113, 4739 (2009).
54. Mahapatra NR. 2008. Catestatin is a novel endogenous peptide that regulates cardiac function and blood pressure. *Cardiovasc Res* 80:330-338.
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56. Mahapatra NR, Taupenot L, Courel M, Mahata SK, O'Connor DT. 2008. The trans-Golgi proteins SCLIP and SCG10 interact with chromogranin A to regulate neuroendocrine secretion. *Biochemistry* 47: 7167-7178.
57. Chen Y, Rao F, Rodriguez-Flores JL, Mahapatra NR, Mahata M, Wen G, Salem RM, Shih PA, Das M, Schork NJ, Ziegler MG, Hamilton BA, Mahata SK, O'Connor DT. 2008. Common genetic variants in the chromogranin A promoter alter autonomic activity and blood pressure. *Kidney Int* 74:115-125.

In Proceedings of International Conferences:

1. Abhipsa S, Chandraraj K. Effect of heavy metals on growth and Cr(VI) reduction by chromate resistant *Leucobacter* sp. KCH4. (2008) Proc. 14th International Conference on the Heavy Metals in the Environment, Taipei. Nov. 16-23. pp. 236-239.

Distinguished Visitors to the Department:

Sl.No	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Dr. Karim Fahmy	4 th Jan to 16 th Jan, 2009	Collaboration
2	Ajit Varki	February 1-4, 2008	Visit under Distinguished Professor category
3	Dr. Anthony Robbins, U. Otago, Dunedin, Newzealand.	16/2/2009	Discuss possible collaboration

Other Activities of the Department/Centre:

Prof. Anju Chadha, Member Secretary of the IEC since 2007.

Results obtained in research work (from M.S. & Ph.D thesis) of the scholar/faculty (last year sample enclosed from Director's Speech)

1. T. Vaijanthi [PhD]: Biocatalytic Preparation of Optically Active Organic Intermediates using *Candida parapsilosis* ATCC 7330; Degree Awarded in July, 2008
2. Senthil Kumar Baskaran [MS]: Bio-Diesel production from *Pongamia* Oil by a *Candida* species lipase: Its Purification and Characterisation; Degree Awarded in July, 2008
3. Vaibhav Sharma [MS]: Understanding *Candida parapsilosis* ATCC 7330 mediated Deracemisation of α - and β -hydroxy esters: Target and Structure based Studies; Co-guide: Prof. Mukesh Doble; provisional Degree Awarded.

Inter disciplinary group achievements of the Departments.

1. Applied for funding to DBT for an interdisciplinary effort on Parkinson's disease. The work involves 8 PIs and 2 Observers from 5 different institutes spread over the country.
2. Faculty for institutional Nano sciences courses
3. One grant From CSIR with collaboration with Dr Muraleedharan, Chemistry Department.

Socially relevant activities carried out by the Department

Science popularization:

Translated the following short books by Asimov into Telugu:
How we found out about SOLAR POWER by Isaac Asimov
How we found out about ATMOSPHERE by Isaac Asimov
How we found out about PHOTOSYNTHESIS by Isaac Asimov
How we found out about OUR HUMAN ROOTS by Isaac Asimov
How we found out about DINOSAURS by Isaac Asimov
How we found out about BEGINNING OF LIFE by Isaac Asimov
How we found out about VITAMINS by Isaac Asimov

The above books are printed by Manchi Pustakam Publishers.

International collaboration achievements by the Department

Faculty visit

1. Venkatesh Balasubramanian Tokyo and Osaka, Japan Member of the Indian Delegation to Japan to develop a curriculum for Visionary Leaders for Manufacturing.
2. Venkatesh Balasubramanian Singapore Attend and present paper in the 13th International Conference on Biomedical Engineering (ICBME2008)

Activities Initiated

1. Collaboration with Dr. Soumya Ghosh initiated. Dr. Ghosh studies task-dependent changes in neural activity of cat motor cortex. We are currently developing spiking neural models to explain the experimental data from Dr. Ghosh's lab. (Dr. Soumya Ghosh, Clinical Assoc. Prof., Centre for Neuromuscular and Neurological Disorders, University of Western Australia ANRI, QEII Medical Centre, Nedlands, WA 6009).
2. Dr P Russo, Temple University as he is a visiting faculty in one of the Hospitals in Chennai (In Microgravity Grant)

Major infrastructure development made in the Department

1. Established Radiation and Isotope facility in the department.

4.4 DEPARTMENT OF CHEMICAL ENGINEERING

4.4.1 Introduction:

The Department of Chemical Engineering was established in 1959. The department is organized into six research groups with supporting laboratory facilities: Transfer operations, Reaction Engineering and Thermodynamics, Process Dynamics and Control, Particle Science and Polymer Engineering, Biochemical Engineering and Environmental Engineering.

4.4.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	• CH625	Analysis of Rotary Reactors

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	53	47	41	46	2	189
Dual Degree	13	13	11	13	13	63
M.Tech.	30	28	--	--	--	58
M.S.	5	6	7	5	2	25
Ph.D.	2	14	7	8	12	43
Total	103	108	66	72	29	378

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

Sl. No.	Name of the Student	Programme	Name of the Conference/ Seminar / Symposia	Date and Venue
Conference:				
1	B.Ashraf Ali (Ph.D)	National Conference	Tomography and Velocity Imaging in Multiphase reactors	17 th -30 th July 2009 Coimbatore.
2.	K.Ram Sathish (Ph.D)	Chemference 2008	Visualization of Heat Flow and Thermal Mixing with Discrete Heat sources. Heatline approach	2 nd July -7 th July 2008 IIT Kanpur.
3.	P.Kanakasabai (Ph.D)	International Conference	Advances in Polymer Technology	25 th September to 27 th September 2008 Cochin Kerala.
4.	Selvanathan (Ph.D)	Conferenc	Industrial measurements and Automation	5 th January 2009 to 6 th January 2009 MIT Campus Chennai.
5.	P.Vijay (Ph.D)	Conference	Macro 2009 Recent Advances in Polymeric materials.	9 th March 2009 to 11 th March 2009. IIT Madras.
6.	Ch.Sivakumar (Ph.D)	workshop	Indo- German workshop on Micro reaction Technology	9 th February 2009 NLC Pune.

7.	K.Sreenath (M.S)	workshop	In-German workshop on Micro Reaction Technology	9 th February 2009 NLC Pune
8.	B.Ashraf Ali (Ph.D)	workshop	Tools of theoretical physics & the problems of turbulence	13 th February to 23 rd February 2009. Kolkatta.
9.	Sivaji Seepance (Ph.D)	Conference	2 nd National conference on CFD applications in power and industrial Sectors.	28 th January 2009 to 30 th January 2009 BHEL Hydrabad.
10.	Ramsathish (Ph.D)	Conference	2 nd National conference on CFD applications in power and industrial Sectors.	28 th January 2009 to 30 th January 2009 BHEL Hydrabad.
11	C.Vijyakumar (Ph.D)	workshop	CHEMFLUENCE 09 ASPEN WORKSHOP	March 4 th to 6 th March 2009. A.C. College of Tech Anna University Chennai-25.

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

Sl.No	Name of the Student/Scholar	Roll Number	Name of Prize	Name of Donor
1.	Ankit Bhatnagar	CH05B051	Institute Merit Prize	IITM
2.	Dara Satyadileep	CH06M004	Institute Merit Prize	IITM

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	Computational fluid dynamics

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.

Scientific Officers / Engineers:

Dr. K. Krishnamurthy

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

Workshop:			
1.	Dr.Arun K Tangirala	AICTE Sponsored QIP and CEP workshop on Wavelet Transforms: Theory and Applications	7 th and 12 th July 2008
2.	Dr.S.Pushpavanam	Transport Phenomena in Hydrophilic Materials.	8 th to 11 th December 2008

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.Niket S Kaisare	Lecture in Technology Appreciation Programme on Optimisation	28 th April 2008 IC&SR, IIT Madras
3.	Dr.Niket S.Kaisare	Efficient design of stand-alone & thermally coupled cat. microreactor	Lecture at Indo-German workshop ,pune, India. March 4 th 2009

4	Dr. Sreenivas Jayanti	To attend the foundation stone laying ceremony for IIT Hyderabad	Hydrabad 27 th February 2009
5	Dr.Ramnarayanan	India-EUFTA in R&D Service	Stakeholder consultation of India EU FTA Bangalore. 16 th February 2009
6	Dr. Shankar Narasimhan	Leakage Detection and Health Monitoring system for KWA Drinking water Distribution Network	CDAC Trivandrum 10 th to 13 th February 2009.
7	Dr. Sreenivas Jayanti	National Conference on CFD Application in power Industry Sectors.	Hydrabad 28 th January 2009.
8	Dr. Kannan	Visit to IGCAR for technical discussion.	Kalpakkam 23 rd January 2009.
9	Dr.V S R Rao	To Attend TIMA – 2009 Conference and to chair the session	MIT Campus, Anna University 6 th January 2009.
10	Dr. D V S Murthy	To be a judge in Student Syposium.	Sri Venkateswara College of Engineering Sriperumbudur, 30 th September 2008.
11	Dr. Niket S Kaisare	DST proposal Review/Defence	1 st August 2008
12	Dr. Susy Varughese	To Attend DST review/defence	31 st July 2008
13	Dr. S. Ramanathan	Visiting Cadbury,Dharapuram for Sponsored Research Project meeting	NLC Pune 21 st August 2008.
14	Dr. Kannan	To Meet Secretary Education Department Govt of Tamil Nadu.	Chennai 28 th August 2008
15	Dr.S. Ramanathan	Visit to Chemplast Power Plant For project related work	Mettur 23 rd July 2008
16.	Dr.Shankar Narasimhan	Meeting with TCS DST-DAC meeting	New Delhi 30 th July 2008
17.	Dr.R.Nagarajan	DST project Review IIT Bombay	IIT Bombay 24 th July 2007
18.	Dr.Arun K Tangirala	Lectures on 'System Identification"	NIT Trichy 24 th June 2006
19.	Dr.A.R. Balakrishnan	To attend the selection Committee meeting	IIT Delhi 28 th June 2008
20.	Dr.T.Swaminathan	Selection Committee meeting	VNIT Nagpur 20 th June 2008

Visits abroad by faculty:

Sl. No.	Name of the faculty	Country Visited	Date		Purpose of Visit
			From	To	
1.	Dr. Sreenivas Jayanti	Boston USA	31 st October 2008	6 th November 2008	To present a Paper at the international Conference.
2.	Dr.K.Krishnaiah	Srilanka	9 th January 2008	11 th January 2008	MoU among Institute of Fundamental Studies

3.	Dr.R.Nagarajan	USA and Malaysia	19 th April 2009	3 rd June 2009	17 th International Conference on wear of Materials.
4.	Dr.Nagarajan	Belgium	21 st September 2008	24 th September 2008	International Symposium on Ultra Clean Processing
5.	Dr.Nagarajan	USA California	26 th April 2008	22 nd May 2008	Private visit and Conference
6.	Dr.Tapobarta Panda	Germany Berlin	14 th December 2008	16 th December 2008	Organizing committee Meeting.
7.	Dr.S.Pushpavanam	Belgium	1 st January 2009	27 th March 2009	Scientific Stay at University of Ghent
8.	Dr. Shankar Narasimhan	Canada	4 th April 2008	22 nd May 2008	IFAC Conference on Advanced Control of Industrial Processes.
9.	Dr.T.Swaminathan	Australia	26 th November 2008	28 th November 2008	International workshop on Sonochemistry for Environmental Remediation
10.	Dr.Sreenivas Jaynati	Taiwan Taipei	24 th May 2009	27 th may 2009	Asia-Pacific Conference On Combustion 2009
11.	Dr. Niket S Kaisare	Indonesia Bali	1 st July 2008	13 th July 2008	Private Visit
12.	Dr. Susy Varughese	University of New south wales Australia	16 th November 2008	21 st November 2008	Collaborative research activities.
13.	Dr. Arun K Tangirala	International Symposium at Canada	4 th May 2008	7 th May 2008	To attend and Present Papers

3.5. a) Visits abroad by staff.					
1.	Mrs. Luvis	Isrel & Jordan	14 th May 2009 to 22 nd May 2009		Pilgrimage to Holy Land
2.	Mrs. Luvis	Chaina	9 th May 2008 to 4 th November 2008		Private Visit

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

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

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	Electrogenerated Chemiluminescence in integrated chemical systems using modified electrodes	06/2008-06/2011	Council of Scientific and Industrial Research, India	12.36	Ramnarayanan. R
2	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)
3	Titanium compounds of interest in electrochemical Titanium production	03/2009-03/2012	Defense Research and Development Organization, India	14.97	Ramnarayanan. R
4	Study of fermentation and drying of cocoa beans	08/07/2008 – 07.08.2009	Cadbury India Ltd	9.6	T.Panda
5	Renovation of the Undergraduate Lab	08.08.2008 – 07.08.2009	Chevron Products Corporation	42.89	HoD
6	Renovation of the Undergraduate Lab	08.08.2008- 07.08.2009	Chevron Products Corporation	42.89	HoD
7.	Hierarchical modeling and transient analysis of thermally integrated catalytic microreactors	08.08.2008- 07.08.2009	Department of Science and Technology	17.0	Niket S.Kaisare

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.Srinivas Jayanthi	Sub-Editor	International Journal of Heat and Mass Transfer
4.	Dr.T.Panda	Member	The Open Biotechnology journal Bentham Science Publishers
5.	Dr.T.Panda	Member	The Open Journal of Enzyme Inhibition , Bentham Science Publishers.

Research Publications:

Total No. of papers published in Refereed National Journals	...	1	
Total No. of papers published in Refereed International Journals	...	73	
Total No. of papers presented in National Conferences	...	0	
Total No. of papers presented in International conferences	...	3	

In Refereed International Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1	B. AshrafAli, Ch. Siva Kumar, and S. Pushpavanam..	Analysis of liquid circulation in a rectangular tank with a gas source at a corner	CHEMICAL ENGINEERING JOURNAL, 144(3): 442-452, NOV 1 2008
2	J. Athilakshmi, S. Ramanathan, and Dillip Kumar Chand..	Facile synthesis of palladium nanoclusters and their catalytic activity in Sonogashira coupling reactions	TETRAHEDRON LETTERS, 49(36): 5286-5288, SEP 12 2008
3	P. Balasubramanian and S. Pushpavanam..	Model discrimination in hydro-cracking of vacuum gas oil using discrete lumped kinetics	FUEL, 87(8-9): 1660-1672, JUL 2008.
4	Tanmay Basak and S. Roy.	Role of 'Bejan's heatlines' in heat flow visualization and optimal thermal mixing for differentially heated square enclosures	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 51(13-14):3486-3503, JUL 1 2008
5	Tanmay Basak, S. Roy, and G. Aravind	Analysis of heat recovery and thermal transport within entrapped fluid based on heatline approach	.. CHEMICAL ENGINEERING SCIENCE, 64(8): 1673-1686, APR 15 2009.
6	Tanmay Basak, S. Roy, and S. Krishna Babu.	Natural convection and flow simulation in differentially heated isosceles triangular enclosures filled with porous medium.	CHEMICAL ENGINEERING SCIENCE, 63(13): 3328-3340, JUL 2008
7	Tanmay Basak, S. Roy, S. Krishna Babu, and A. R. Balakrishnan	Finite element analysis of natural convection flow in a isosceles triangular enclosure due to uniform and non-uniform heating at the side walls.	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 51(17-18):4496-4505, AUG 2008.
8	Tanmay Basak, S. Roy, S. Krishna Babu,	Pop. Finite element simulations of natural convection flow in an isosceles triangular enclosure filled with a porous medium: Effects of various thermal boundary conditions.	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 51(11-12): 2733-2741, JUN 2008

8.	Development of nonplatinum cathode catalysts for direct methanol fuel cells	30.04.2008- 07.08.2009.	Department of Science & Technology	20.36	Raghuram Chetty
9.	Strengthening of research/Post graduate teaching facilities in the Department of Chemical Engineering (FIST	30.4.2009 -29.4.2014	Department of Science & Technology	27.50	HoD

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1	Ramanathan S	Environmental impact of Replacing diesel sets with coal fired unit	Chemplast Sanmar Limited	500000
2	Sridharakumar Narasimhan	Process simulation study for refrigerated liquid propane butane unloading	Technology Consultants	544000
3	Sreenivas Jayanti	Studies of dispersion of VCM in nitrogen	Chemplast Sanmar Limited	33708
4.	Sreenivas Jayanti	CFD Training Programme	Bharat Heavy Electricals Ltd, Ranipet	77248
5.	Pushpavanam S	Modeling Coal gasification	Bharat Petroleum Corporation Ltd.	5081000
6.	Sai P S T	Seal pot design standards development for circulating fluidized bed boilers	Bharat Heavy Electricals Ltd Trichy.	850000
7	Kannan A	Tea Extraction studies in Vending Machines	Tata Tea Ltd	788767
8.	Sreenivas Jayanti	CFD analysis of gas particulate flow through an electrostatic precipitator	Bharat Heavy Electricals Ltd Ranipet	337080
9.	Sreenivas Jayanti	Bharat Heavy Electricals Limited	Bharat Heavy Electicals Limited Trichy	134832
10.	Nagarajan R	Enhancement of atomization in effervescent atomizers Using ultrasonics	Indian Space Research Organisation	456000

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

9	Tanmay Basak, S. Roy, and E. Natarajan.	Analysis of Steady Convective Heating for Molten Materials Processing within Trapezoidal Enclosures.	INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, 47(22):8652-8666, NOV 19 2008
10	Tanmay Basak, S. Roy, Pawan Kumar Sharma,	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, APR 2009.
11	Tanmay Basak, S. Roy, Pawan Kumar Sharma, .	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, MAY 2009
12	Tanmay Basak, S. Roy, Amit Singh, .	Finite element simulation of natural convection flow in a trapezoidal enclosure filled with porous medium due to uniform and non-uniform heating Pop.	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 52(1-2):70-78, JAN 15 2009.
13	Tanmay Basak, Sujoy Kumar Samanta, and Avinash Jindamwar	A novel concept on discrete samples for efficient microwave processing of materials.	CHEMICAL ENGINEERING SCIENCE, 63(12): 3292-3308, JUN 2008.
14	Madhuchhanda Bhattacharya and Tanmay Basak..	Analysis on the onset of microwave induced convection within a horizontal water layer	JOURNAL OF PHYSICS D-APPLIED PHYSICS, 41(15), AUG 7 2008
15	Madhuchhanda Bhattacharya and Tanmay Basak.	Linear stability analysis for the onset of convection during microwave heating of oil confined within horizontal plates.	JOURNAL OF APPLIED PHYSICS, 105(2), JAN 15, 2009
16	Sourav Chatterjee, Tanmay Basak, and Sarit K. Das.	Onset of natural convection in a rotating fluid layer with non-uniform volumetric heat sources.	INTERNATIONAL JOURNAL OF THERMAL SCIENCES, 47(6): 730-741, JUN 2008
17	Raghuram Chetty, Wei Xia, Shankhamala Kundu, Michael Bron, Thomas Reinecke, Wolfgang Schuhmann, and Martin Muhler	Effect of Reduction Temperature on the Preparation and Characterization of Pt-Ru Nanoparticles on Multiwalled Carbon Nanotubes.	LANGMUIR, 25(6): 3853-3860, MAR 17 2009
18	Rahul A. Damodar and T. Swaminathan..	Performance evaluation of a continuous flow immobilized rotating tube photocatalytic reactor (IRTPR) immobilized with TiO ₂ catalyst for azo dye degradation	CHEMICAL ENGINEERING JOURNAL, 144(1): 59-66, OCT 1 2008
19	Anjali P. Deshpande, Sachin C. Patwardhan, and Shankar S. Narasimhan.	Intelligent state estimation for fault tolerant nonlinear predictive control.	JOURNAL OF PROCESS CONTROL, 19(2): 187-204, FEB 2009
20	Sankaran Durairaj and Tanmay Basak.	A new microwave processing strategy for food-ceramic composite layer confined within ceramic plates	FOOD RESEARCH INTERNATIONAL, 42(2):254-270, MAR 2009.
21	Sankaran Durairaj and Tanmay Basak..	Analysis of pulsed microwave processing of polymer slabs supported with ceramic plates	CHEMICAL ENGINEERING SCIENCE, 64(7):1488-1502, APR 1 2009
22	C. Eswarajah, Anshul Gupta, R. Nagarajan, M. Rajavel, and K. Nandakumar	Minimization of fines generation in size reduction of coals by impact crusher.	FUEL PROCESSING TECHNOLOGY, 89(7):704-714, JUL 2008. Mar. [23

23	C. Eswaraiyah, S. S. Narayanan, and S. Jayanti	A reduced efficiency approach-based process model for a circulating air classifier	CHEMICAL ENGINEERING AND PROCESSING, 47(9-10):1887-1900, SEP 2008
24	Ankur Gigras and S. Pushpavanam..	Early induction of secondary vortices for micromixing enhancement	MICROFLUIDICS AND NANOFUIDICS, 5(1):89-99, JUL 2008.
25	K. R. Gopi and R. Nagarajan..	Advances in Nanoalumina Ceramic Particle Fabrication Using Sonofragmentation	IEEE TRANSACTIONS ON NANOTECHNOLOGY, 7(5):532-537, SEP 2008
26	M. Harini and Abhijit P. Deshpande. -	Rheology of poly(sodium acrylate) hydrogels during cross-linking with and without cellulose microfibrils.	JOURNAL OF RHEOLOGY, 53(1):31-47, JAN-FEB 2009
27	M. Harini, S. Sriram, Abhijit P. Deshpande, and S. Pushpavanam..	Variation of spatial and temporal characteristics of reactive flow in a periodically driven cavity: Gelation of sodium acrylate	PHYSICAL REVIEW E, 78(3, Part 1), SEP 2008.
28	Niket S. Kaisare, Georgios D. Stefanidis, and Dionisios G. Vlachios	Comparison of ignition strategies for catalytic microburners	PROCEEDINGS OF THE COMBUSTION INSTITUTE, 32(Part 2):3027-3034, 2009
29	Ram Satish Kaluri, Tanmay Basak, and 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
29	A. Kannan and P. Ch. Gourisankar Sandaka.	Heat transfer analysis of canned food sterilization in a still retort.	JOURNAL OF FOOD ENGINEERING, 88(2):213-228, SEP 2008
30	D. Kareemulla and S. Jayanti..	Comprehensive one-dimensional, semianalytical, mathematical model for liquid-feed polymer electrolyte membrane direct methanol fuel cells	JOURNAL OF POWER SOURCES, 188(2, Sp. Iss. SI): 367-378, MAR 15 2009
31	Rahul B. Karyappa and Upendra Natarajan. Monte Carlo	Simulations of Chain Dimensions and Conformational Properties of Various Poly(n-alkyl methacrylates) in Solution.	JOURNAL OF MACROMOLECULAR SCIENCE PART B-PHYSICS, 47(6):1075-1086, 2008
32	D. Jaya Krishna, Tanmay Basak, and Sarit K. Das	Non-Darcy buoyancy driven flows in a fluid saturated porous medium: the use of asymptotic computational fluid dynamics (ACFD) approach	HEAT AND MASS TRANSFER, 44(9):1117-1125, JUL 2008. [35] D
33	D. Jaya Krishna, Tanmay Basak, and Sarit K. Das..	Natural convection in a heat generating hydrodynamically and thermally anisotropic non-Darcy porous medium	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 51(19-20):4691-4703, SEP 2008.
34	Jaya Krishna, Tanmay Basak, and Sarit K. Das	Numerical study of lid-driven flow in orthogonal and skewed porous cavity	COMMUNICATIONS IN NUMERICAL METHODS IN ENGINEERING, 24(10):815-831, OCT 2008
35	M. Vasudeva Kumar, A. Kienle, K. P. Zeyer, and S. Pushpavanam	Nonlinear analysis of the effect of maintenance in continuous cell cultures.	MATHEMATICS AND COMPUTERS IN SIMULATION, 79(3):728-748, DEC 1 2008.

36	S. Mohan Kumar, Shankar Narasimhan, and S. Murty Bhallamudi	State estimation in water distribution networks using graph-theoretic reduction strategy	JOURNAL OF WATER RESOURCES PLANNING AND MANAGEMENT - ASCE, 134(5):395-403, SEP-OCT 2008.
37	Vino j Kurian, Mahesh N. Varma, and A. Kannan	Numerical studies on laminar natural convection inside inclined cylinders of unity aspect ratio.	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 52(3-4):822-838, JAN 31 2009
38	R. Manivannan and S. Ramanathan..	Role of abrasives in high selectivity STI CMP slurries	MICROELECTRONIC ENGINEERING, 85(8):1748-1753, AUG 2008.
39	R. Manivannan and S. Ramanathan..	The effect of hydrogen peroxide on polishing removal rate in CMP with various abrasives	APPLIED SURFACE SCIENCE, 255(6):3764-3768, JAN 1 2009.
40	Seema Manuja, Shankar Narasimhan, and Sachin C. Patwardhan.	Unknown input modeling and robust fault diagnosis using black box observers	JOURNAL OF PROCESS CONTROL, 19(1): 25-37, JAN 2009.
41	Seema Manuja, Shankar Narasimhan, and Sachin Patwardhan	Fault diagnosis and fault tolerant control using reduced order models	CANADIAN JOURNAL OF CHEMICAL ENGINEERING, 86(4):791-803, AUG 2008.
42	R. Vetri Murugan and R. Nagarajan..	Pulsed ultrasonic mixing: An experimental study	CHEMICAL ENGINEERING RESEARCH & DESIGN, 86(5A):454-460, MAY 2008
43	Shankar Narasimhan and Raghunathan Rengaswamy.	Untitled Reply.	AIChE JOURNAL, 55(4):1080, APR 2009.
44	Sridharakumar Narasimhan, Raghunathan Rengaswamy, and Rajanikanth Vadigepalli	Structural Properties of Gene Regulatory Networks: Definitions and Connections	IEEE-ACM TRANSACTIONS ON COMPUTATIONAL BIOLOGY AND BIOINFORMATICS, 6(1):158-170, JAN-MAR 2009.
45	K. Ganesh Palappan and P. S. T. Sai.	Studies on segregation of binary mixture of solids in a continuous fast fluidized bed - Part I. Effect of particle density.	CHEMICAL ENGINEERING JOURNAL, 138(1-3):358-366, MAY 1 2008
46	K. Ganesh Palappan and P. S. T. Sai.	Studies on segregation of binary mixture of solids in continuous fast fluidized bed - Part II. Effect of particle size.	CHEMICAL ENGINEERING JOURNAL, 139(2):330-338, JUN 1 2008
47	K. Ganesh Palappan and P. S. T. Sai	Studies on segregation of binary mixture of solids in continuous fast fluidized bed Part III. Quantification of performance of the segregator	CHEMICAL ENGINEERING JOURNAL, 145(1):100-111, DEC 1 2008.
48	Rajashekhar Pendyala, Sreenivas Jayanti, and A. R. Balakrishnan	Convective heat transfer in single-phase flow in a vertical tube subjected to axial low frequency oscillations	HEAT AND MASS TRANSFER, 44(7):857-864, MAY 2008.
49	K. B. Shyam Prasad and S. Jayanti	Effect of channel-to-channel cross-flow on local boiling in serpentine flows	JOURNAL OF POWER SOURCES, 180(1):227-231, MAY 15 2008.

50	V. Arun Prasad Raja, Tanmay Basak, and Sarit Kumar Das	Thermal performance of a multi-block heat exchanger designed on the basis of Bejan's constructal theory	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 51(13-14):3582-3594, JUL 1 2008
51	J. Ramarathnam and A. K. Tangirala	On the use of Poisson wavelet transform for system identification	JOURNAL OF PROCESS CONTROL, 19(1):48-57, JAN 2009.
52	A. Seshagiri Rao and M. Chidambaram	Analytical design of modified Smith predictor in a two-degrees-of-freedom control scheme for second order unstable processes with time delay.	ISA TRANSACTIONS, 47(4):407-419, OCT 2008.
53	A. Seshagiri Rao, V. S. R. Rao, and M. Chidambaram	Direct synthesis-based controller design for integrating processes with time delay.	JOURNAL OF THE FRANKLIN INSTITUTE-ENGINEERING AND APPLIED MATHEMATICS, 346(1):38-56, FEB 2009. 5
54	Koteswara Rao, Rayees Imam, Karthik Ramanathan, and S. Pushpavanam..	Sensitivity Analysis and Kinetic Parameter Estimation in a Three Way Catalytic Converter	INDUSTRIAL & ENGINEERING CHEMISTRY RESEARCH, 48(8):3779-3790, APR 15 2009.
55	R. Ravi.	Transformations for a generalized McCabe-Thiele method: A retrospective and a new perspective.	INTERNATIONAL COMMUNICATIONS IN HEAT AND MASS TRANSFER, 35(7): 860-866, AUG 2008
56	Sujoy Kumar Samanta and Tanmay Basak.	Theoretical analysis of efficient microwave processing of oil-water emulsions attached with various ceramic plates.	FOOD RESEARCH INTERNATIONAL, 41(4):386-403, 2008
57	Sujoy Kumar Samanta and Tanmay 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, FEB 2009
58	Sujoy Kumar Samanta, Tanmay Basak, and Bhaskar Sengupta..	Theoretical analysis on microwave heating of oil-water emulsions supported on ceramic, metallic or composite plates.	INTERNATIONAL JOURNAL OF HEAT AND MASS TRANSFER, 51(25-26):6136-6156, DEC 2008
59	Sivaji Seepana and Sreenivas Jayanti.	Flame structure and NO generation in oxy-fuel combustion at high pressures.	ENERGY CONVERSION AND MANAGEMENT, 50(4):1116-1123, APR 2009
60	N. Selvaraju and S. Pushpavanam.	Adsorption characteristics on sand and brick beds.	CHEMICAL ENGINEERING JOURNAL, 147(2-3):130-138, APR 15 2009.
61	Vidyasagar Shilapuram, K. Krishnaiah, and P. S. T. Sai.	Comparison of macroscopic flow properties obtained by three methods of operation in a liquid-solid circulating fluidized bed.	CHEMICAL ENGINEERING AND PROCESSING, 48(1):259-267, JAN 2009
62	R. Sindhuja, A. R. Balakrishnan, and S. Srinivasa Murthy.	Critical heat flux of R-407C in up flow boiling in a vertical pipe	APPLIED THERMAL ENGINEERING, 28(8-9):1058-1065, JUN 2008

63	S. Sriram, Abhijit P. Deshpande, and S. Pushpavanam..	Characterization of visco elastic uid ow in a periodically driven cavity: Flow structure, frequency response, and phase lag	POLYMER ENGINEERING AND SCIENCE, 48(9):1693–1706, SEP 2008.
64	Georgios D. Stefanidis, Niket S. Kaisare, and Dionisios G. Vlachos..	Modeling ignition in catalytic microreactors	CHEMICAL ENGINEERING & TECHNOLOGY, 31(8):1170–1175, AUG 2008
65	Georgios D. Stefanidis, Dionisios G. Vlachos, Niket S. Kaisare, and Matteo Maestri..	Methane Steam Reforming at Microscales: Operation Strategies for Variable Power Output at Millisecond Contact Times	AICHE JOURNAL, 55(1):180–191, JAN 2009.
66	A. Subramani and S. Jayanti..	Equilibrium considerations in aerosol formation during sodium combustion	NUCLEAR ENGINEERING AND DESIGN, 238(10):2739–2745, OCT 2008.
67	M. Subramanian and Aravamudan Kannan	E ect of dissolved oxygen concentration and light intensity on photocatalytic degradation of phenol.	KOREAN JOURNAL OF CHEMICAL ENGINEERING, 25(6):1300–1308, NOV 2008
68	Thilakavathi, Tanmay Basak, and Tapobrata Panda.	Modeling of esterase production from Saccharomyces cerevisiae	JOURNAL OF MICROBIOLOGY AND BIOTECHNOLOGY, 18(5):889–896, MAY 2008
69	Shivendra Upadhyay, Vishwanath Mallikarjunan, Vaideesh K. Subbara j, and Susy Varughese..	Swelling and di usion characteristics of polar and nonpolar polymers in asphalt	JOURNAL OF APPLIED POLYMER SCIENCE, 109(1):135–143, JUL 5 2008
70	G. Vasu and A. K. Tangirala..	Control-orientated thermal mo del for proton-exchange membrane fuel cell systems	JOURNAL OF POWER SOURCES, 183(1):98–108, AUG 15 2008
71	S. Vidyasagar, K. Krishnaiah, and P. S. T. Sai..	Hydrodynamics of a liquid-solid circulating uidized bed: E ect of dynamic leak	CHEMICAL ENGINEERING JOURNAL, 138(1-3):425–435, MAY 1 2008.
72	S. Vidyasagar, K. Krishnaiah, and P. S. T. Sai..	Hydrodynamics of a liquid-solid circulating uidized bed: E ect of dynamic leak	CHEMICAL ENGINEERING JOURNAL, 138(1-3):425–435, MAY 1 2008.
73	Rohit Vijay, Abhijit P. Deshpande, and Susy Varughese.	Nonlinear rheological modeling of asphalt using White-Metzher model with structural parameter variation based asphaltene structural build-up and breakage.	APPLIED RHEOLOGY, 18(2), 2008.

In National Refereed Journals

1	Shishir K Behera, Eldon R Rane and D V S Murthy	Effect of Hydraulic retention time and initial nitrate concentration on the performance of an unflow anoxic bioreactor: A factorial design study	Vol. 50, No.1, Indian chemical Engineer, Jan-Mar 2008, PP 27-53
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In Proceedings of International Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1.	Kaisare N. S., G. D. Stefanidis and D. G. Vlachos,	"Ignition Strategies for Catalytic Microdevices," <i>IMRET,</i>	<i>10:10th International Conference on Microreactor Technologies, , New Orleans., LA.</i>	April 2008
2	Stefanidis G. D., N. S. Kaisare, M. Maestri, E. Tronconi and D. G. Vlachos, ,.	"Design Principles of Multifunctional Microdevices for Hydrogen Production Via Short Contact Time Steam Reforming," <i>IMRET</i>	<i>10: 10th International Conference on Microreactor Technologies</i>	April 2008, New Orleans, LA
3.	Kaisare N. S., G. D. Stefanidis and D. G. Vlachos, , McGill Univesity,	"Comparison of Ignition Strategies for Catalytic Microdevices,"	<i>Combustion Insitute Symposium</i>	August 2008, Canada,

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr.Srivatsan	7 th May 2008	To give a Seminar talk
2.	Dr.Shailaja Sharma Shell Industries	19 th August 2008	- do -
3.	Dr.Dipankar Banyopadhyay IIT Kanpur	6 th November 2008	- do -
4.	Prof.Alan Hatton Chemical Engineering Dept. MIT USA	6 th November 2008	- do -
5.	Prof.R.Krishna rVan,t Hoff Institute for molecular Sciences university of Amsterdam Netherlands	10 th November 2008	- do -
6.	President from Clarkson Univesity	November2008	MOU agreement with IITMadras
7	Mr. Todd Wilhite Safety specialist from Chevron Corporation	November 2008	To assess the safety of UG/PG Labs.
8.	Prof.Mahendra K.Sunkara Director Univ.of Louisville	12 th December 2008	To Give Seminar talk
9.	Prof.Rajagopalan Srinivasan National University of Singapore	2 nd January 2009	- do -
10.	Prof.Arunan Nadarajah Toledo, Ohio	1 st January 2009	- do -
11.	Dr. prabhakar A Tamirsa Sr.Scientist Minneapolis.	9 th January 2009	- do -

Other Activities:

1. Janani Kannan and Ramnarayanan R., "Electrical characterization of thin films of ruthenium cis-bis-bipyridinium dichloride", poster accepted to Division of Inorganic Chemistry, 235th ACS National Meeting, New Orleans, LA, April 6-10, 2008.
2. Member, Board of Studies, Central Electrochemical Research Institute, Karaikudi, India, April 17, 2008-
3. MoU between WRGrace and IITMadras, 24 April 2008-
4. Meeting with Intellectual Ventures, Bangalore for patent licensing, 12 February 2009
5. Part of India-EU Free Trade Agreement meeting, Bangalore on 16 February 2009

Inter disciplinary group achievements of the Department

One research paper published as part of the interdisciplinary research Group on complex systems (Dr.Susy Varughese& Dr.Abhijit Deshpande)

International Collaboration achievements by the department

Faculty Visit
Ramnarayanan. R

European Union Framework Program grant application for materials and physical chemistry at the nanoscale, 21 April 2008

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 to 1961 and was established as an independent department in 1961 with Dr. V. Srinivasan as the Head-in-charge. Prof. M. V. C. Sastry assumed charge as the first Head of the department in November 1961. He was instrumental in building the department and was responsible for the special instruments lab (established in 1970; later known as RSIC and presently known as SAIF), applied chemistry building (completed in 1973), and the Materials Science Research Centre (established in 1974 with Prof. Sastry as the Head and Prof. V. Srinivasan as the Associate Head).

The department offers a four semester master's (M. Sc.) and the doctorate degree programs (typically five years in duration) in chemistry. As on date 765 students have graduated with M.Sc. degree and 566 students with Ph.D. degree. It is also involved in teaching various aspects of chemistry at the preparatory (chemistry to prepare students from the weaker section for the B.Tech programme as well as for the JEE) and B. Tech. (core as well as minor stream courses in chemistry) programmes offered in the institute. Presently, it is very well equipped with modern instrumentation facilities and is actively engaged in performing quality teaching and research in frontier areas.

The major areas of teaching are:

B.Tech and M.Tech Degree Courses

Chemistry I, Chemistry II, Molecular Architecture and Evolution of Functions, Structure and Energetics of Biomolecules, Dynamics of Chemical and Biological Systems, Nuclear Magnetic Resonance Imaging as well as a part of the Ecology and Environment.

M.Sc. Degree

Inorganic and Analytical Chemistry Courses

Analytical Chemistry, Concepts in Inorganic Chemistry, Chemistry of Main Group Elements, Chemistry of Transition Metals, Bioinorganic Chemistry, Solid-State Chemistry

Organic and Bioorganic Chemistry Courses

Stereochemistry, Reaction Mechanism and Aromaticity, Advanced Organic Chemistry of Multiple Bonds, Introductory Biochemistry, Synthetic Methodology in Organic Chemistry

Physical and Interfacial Chemistry Courses

Equilibrium and Statistical Thermodynamics, Chemical Kinetics, Electrochemistry – Reversible and Irreversible Processes

Theoretical Chemistry and Spectroscopy

Principles of Quantum Mechanics, Quantum Chemistry and Group Theory, Principles of Molecular and Magnetic Resonance Spectroscopy.

M.Sc. and Ph.D. Degrees

An intersectional course on Spectroscopy – Applications in Organic and Inorganic Chemistry and a variety of elective courses in "Concepts, Applications and Interfaces" are also offered. At the Ph.D. level a number of courses at the 700 level are offered based on requirements. In addition, few lectures in Research Methodology are mandatory for the research scholars besides hands on training in safety.

4.5.2 Academic Programmes:

New Courses introduced and updated:

Sl. No.	Course No.	Title
CY 409		Introduction to Nanochemistry
CY 6XX		Nanochemistry – A Chemical Approach to Nanomaterials
CY 625		Magnetic Resonance Imaging (CY 625)
CY 305		Molecular Architecture and Functions (syllabus updated and revised)
CY 408		Dynamics of Molecular and Biomolecular Systems (syllabus updated and revised)

New lab(s) established:

During the financial year 2008-2009 a number of research laboratories were renovated. These include the UG wet-Chemistry Lab, Computational Chemistry Lab, Sophisticated Instruments Lab (for instruments purchased under FIST and Capacity Expansion Programme such as AFM, UV-Visible Spectrometers, FT-IR Spectrometers, Fluorescence Spectrometers, DSC, TGA). Several laboratories for research were renovated and refurbished in addition to the chemistry office. The specific research labs that were renovated and refurbished include the labs of Prof. K. Mangala Sunder Krishnan, Dr. G. Sekar, Prof. A. K. Mishra, Dr. Sanjay Kumar, Dr. P. Bhyrappa, Prof. M. V. Sangaranarayanan, Dr. Amrendra Vijay and Dr. Arti Dua.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Sc.	32	28	--	--	--	60
Ph.D.	14	26	22	22	71	155
Total	46	54	22	22	71	215

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	Mr. S. Asiri Naidu	CY 04 D023	Influence of host Lattice Cations on the CTB of Scheelite Based red phosphors	12.-19.10.08 South Pacific Mid-Pacific Conference center Hilton Hawaiian village	DST, CSIR
2	Mr. F. George Densingh Xavier	CY04D020	American Conference on Theoretical Chemistry	Northwestern University in Evanston, Illinois, USA 19-24.7.2008	
3	Mr. Shubhankar Kumar Bose	CY07D012	Exploration of Metallaboranes of Earlier Transition Metals	Platija d' Aro, Spain 21-25.9.08	

4	Mr. E.S. Shibu	CY07D011	Asia NANO 2008	Bio polis Singapore 3-7.11.2008	
5	Mr. P. R. Sajanlal	CY06D008	Asia NANO 2008	Bio polis Singapore 3-7.11.2008	
6	Mr. K. Babu	CY04D044	Chem. Biotech 08	National Univ. of Singapore 19-20.12.2008	
India					
1	Ms. Christya George	CY06D018	IISc Centenary Symposium on Future Directions in NMR (ICS-FD-NMR 2008)	IISc Bangalore 19-22.10.08	Institute
2	Mr. A.K. Jibin	CY06D001	Indo-Russian Workshop on self Propagating High Temperature Synthesis (SHS)	IISc Bangalore 27-29.11.2008	
3	Mr. J. Joseph	CY06D035	Indo-Russian workshop on self Propagating high Temperature Synthesis (SHS)	IISc Bangalore 27-29.11.2008	
4	Mr. Mohamad Akbar Ali	CY05D021	International Conference of Functional Materials (Controlled Synthesis Discrete Molecular Process and Engineering)	IC&SR Building 27-29.11.2008	
5	Mr. Sumanta Kumar Meher	CY05D040	International Symposium on Materials Chemistry (ISMC- 2008)	Bhabha Atomic Research Centre Mumbai 2-6.12.2008	
6	Mr. Sathya Narayanan A.M	CY05D037	4th Junior National Organic Symposium Trust	Madurai Kamraj Univ. 6-9.12.2008	
7	Mr. B. Sivaraman	CY05D017	4th Junior National Organic Symposium Trust	Madurai Kamraj Univ 6-9.12.2008	
8	Mr. Suheel Kumar Porwal	CY05D030	4th Junior National Organic Symposium Trust	Madurai Kamraj Univ 6-9.12.2008	
9	Mr. Naidu Ajay Babu	CY05D029	4th Junior National Organic Symposium Trust	Madurai Kamraj Univ 6-9.12.2008	
10	Mr. Ravulapally Koteshwar Rao	CY05D018	4th Junior National Organic Symposium Trust	Madurai Kamraj Univ 6-9.12.2008	

11	Mr. A. SenthilMurugan	CY06D014	4th Junior National Organic Symposium Trust	Madurai Kamraj Univ 6-9.12.2008	
12	Mr. B. Kuppan	CY06D022	CATSYMP-19 Symposium	National Chemical Laboratory Pune 18-21.1.2009	
13	Ms. Monalisa Mohapatre	CY06D024	22nd Annual conference of Orissa Chemical Society	Baripada 13 – 2.1.2009	
14	Mr. N. Haridharan	CY05D022	11th Chemical Society of India Royal Chemical Society Conference Meeting	NCL Pune 5 – 8.2.2009	
15	Ms. Amrita Srivastava	CY06D016	Interplay of Chemical and Biological Sciences Impact on Health and Environment (ISCBC-2009)	Delhi 26 – 1.3.2009	
16	Ms. Samanwita Pal	CY04D035	Annual Meeting of National Magnetic Resonance Society, India NMRS 2009	IICT Hyderabad 2 – 5.2.2009	
17	Mr. V. Velkannan	CY05D035	CRIS Symposium	NCL Pune 6-8.4.2008	Project Fund

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. Keshav Kumar	CY06C012	Professor Ramamurthy	Best M. Sc. Dissertation
2	Ms. Richa Sethi	CY06C023	Professor Ramamurthy	Best M. Sc. Dissertation
3	Mr. Vijay Shankar	CY02D010	Prof. & Mrs. Ramamurthy	Best Ph.D. Thesis
4	Mr. Sumanta Kumar	CY05D040	SMCCD	SMCCD Bhabha Atomic Research Centre
5	Ms. Monalisa Mohapatre	CY06D024	Dr. R. K. Nanda Prize	North Prissa University, Baripada
6	Ms. S Amrita	CY06D016	Poster Presentation Award	Organisers of ISCBC-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.	Rishikesh Narayan	CY06C024	Institute Merit Prize	IITM

4.5.3 Faculty and their activities:

Faculty:

Sl.No.	Name and Qualifications	Major area of specialization
Professors:		
1	N. Chandrakumar Ph.D. (IITK)	Magnetic Resonance Imaging & Spectroscopy
2	R. Dhamodharan (Head) Ph.D. (U Mass, USA)	Chemistry of Macromolecules
3	D. Loganathan Ph.D.	Synthetic & Structural Carbohydrate Chemistry, Bio-organic & Medicinal Chemistry and Structural Glycobiology
4	A. K. Mishra Ph.D. (IITK)	Fluorescence Spectroscopy
5	T. Pradeep Ph.D. (IISc, B'lore) Joint with SAIF	Nanomaterials, Spectroscopy, Ion Chemistry
6	M. V. Sangaranarayanan Ph.D (IISc, B'lore)	Electrochemistry
7	S. Sankararaman Ph.D. (Victoria, Canada)	Synthetic and Mechanistic Organic Chemistry
8	M. N. Sudheendra Rao Ph.D. (IISc, B'lore)	Main Group Inorganic Chemistry
9	U. V. Varadaraju Ph.D. (IISc, B'lore) Joint with MSRC	Solid State Chemistry, Materials Science
10	T. K. Varadarajan Ph.D. (IITM)	Catalysis, Chemical Kinetics
11	P. Selvam Ph.D. (IITM)	Catalysis, Solid State Chemistry
12	Archita Patnaik Ph.D. (BHU)	Colloid and Interface Science
13	S. Baskaran Ph.D. (IITK)	Organic Synthesis & Asymmetric Synthesis
14	Indrapal Singh Aidhen. Ph.D. (Univ of Pune)	Synthetic Organic Chemistry
15	K. Mangala Sunder Ph.D. (McGill, Canada)	Theoretical Spectroscopy
16	K. Vidyasagar Ph.D. (IISc, B'lore)	Solid State Chemistry
Associate Professors:		
19	P. Bhyrappa Ph.D. (IISc, B'lore)	Bioinorganic and Supramolecular Chemistry, Materials Chemistry
20	N. Narasimha Murthy Ph.D. (IISc, B'lore)	Bioinorganic chemistry, Inorganic Chemistry, Spectroscopy
21	G. Ranga Rao Ph.D... (IISc, B'lore)	Heterogeneous Catalysis and Surface Science
22	Sanjay Kumar Ph.D. (IIT K)	Theoretical Chemistry, Quantum Chemistry
Assistant Professors:		
23	Santosh J. Gharpure Ph.D. (IISc B'lore)	Organic Synthesis, New Synthetic Methods
24	Dillip Kumar Chand Ph.D. (IIT K)	Supramolecular Chemistry, Inorganic Chemistry
25	Debashis Chakraborty Ph.D. (Göttingen, Germany)	Synthetic Organometallic Chemistry

26	G. Sekar Ph.D. (IIT K)	Enantioselective Organic Synthesis
27	Sundaragopal Ghosh Ph.D. (IIT B)	Organometallic and Metalloborane Chemistry
28	B. Rajakumar Ph.D. (IISc.B'lore)	Atmospheric Chemistry, Gas Phase Kinetics
29	K.M. Muraleedharan Ph.D. (RRL Trivandrum)	Medicinal Chemistry, Bio-organic Chemistry
30	Edamana Prasad Ph.D. (RRL Trivandrum)	Divalent Lanthanide and Dendrimer Chemistry
31	Amrendra Vijay Ph.D. (IISc.B'lore)	Theoretical Physical Chemistry
32	Arti Dua Ph.D. (IISc.B'lore)	Statistical Mechanics of Polymers

Scientific Officer:

33	R. Balachandran Pillai Ph.D. (IIT M)	Catalytic Organic Transformations
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Short-term Courses/ Workshops/ Seminars/ Symposia /Conferences organized by the faculty members:

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Dr. S. Sankararaman	Macro 2009	9.03.09 to 11.3.2009
2.	Dr. Archita Patnaik	FM 2009	27.11.08 to 29.11.08
Workshop:			
1.	Dr. IPS and Dr. SJG	MedChem 2009	02.04.09 to 04.04.09

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
Conference:				
1	Dr. S. Sankararaman	Synthetic and Mechanistic Organic Chemistry and NMR Spectroscopy	Kumamoto University Japan	15-20.9.2008
2	Dr.M.V. Sangaranarayanan	Third National Conference on Thermodynamics of Chemical and Biological Systems	Nagpur University	16-18.10.2008
3	Dr. N. Chandrakumar	Institute Centenary Symposium on Future Directions in NMR	IISc Bangalore	20-22.10.2008
4	Dr. T. Pradeep	Nanoscience and Nanotechnology Asian NANO	Biopolis Singapore	3-7.11.2008
5	Dr. G. Ranga Rao	Indo-Russian workshop on SHS, Materials Research Centre	IISc Bangalore	27-29.11.2008

6	Dr. S. Baskaran	Current Trends in Organic Synthesis	IISc Bangalore	20-22.11.2008
7	Dr. G. Ranga Rao	Molecules and Materials: New	JNCASR Bangalore	3-6.12.2008
8	Dr. G. Ranga Rao	Catalysis for Sustainable Energy and Chemicals	NCL Pune	18-21.1.2009
9	Dr. Sanjay Kumar	DAE – BRNS Symposium	IVAC, New Delhi	11 – 15.2.2009
10	Dr. Dillip Kumar Chand	Recent trends in organometallic compounds & their industrial Application	Bhubaneswar	26-28.2.2009
11	Dr. T. Pradeep	Nano-Bio Conference	Cochin	17 – 18.2.2009
12	Dr. Sundargopal Ghosh	Talk: Title: Metallaborane Beyond Synthesis: Do they receive deserve interest?	IMEBoron Barecolna, Spain	22-26 Sept 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Dr. T. Pradeep	Board meeting	Innonans pvt ltd	5.5.08
2	Dr. T. Pradeep	Board of studies meeting	Anna University Tiruchirappalli	16.5.08
3	Dr. N. Chandrakumar	Selection Committee meeting	IISc Bangalore	14.5.08
4	Dr. Mangala Sunder	E-Learning & Railwire network	Bangalore	20.5.08
5	Dr. Mangala Sunder	ICAR Meeting	Delhi	21.05.08
6	Dr. G. Sekar	Presentation of DST Project to Organic Chemistry	PAC in New Delhi	16.5.08
7	Dr. G. Ranga Rao	MNRE Meeting	Delhi	3.6.2008
8	Dr. M.V Sangaranarayanan	Discussion for Project Proposal	Bharathiar University Coimbatore	31-1.6.08
9	Dr. U. V. Varadaraju	Project Progress Monitoring Committee Meeting	Delhi	8-9.6.08
10	Dr. A.K Mishra	Faculty Selection Interview	NIT Rourkela	6-7.6.08
11	Dr. A.K Mishra	PhD Vivavoice Exam	Madurai Kamaraj Univ	19.6.08
12	Dr. K. Mangala Sunder	Round table on Quality Assurance for Multimedia Materials	Commonwealth multimedia Asia, CEMCA	
13	Dr. K. Mangala Sunder	Conference	Toch Institute of Science & Technology	11.6.08
14	Dr. N.Chandrakumar	Seminar & Interactions	ASTRA ZENECA, Bangalore	18.6.08
15	Dr. T. Pradeep	Selection Committee Meeting	Osmania University, Hyerabad	26.6.08

16	Dr. G. Sekar	Doctoral committee meeting	VIT University, Vellore	11.7.08
17	Dr. G. Ranga Rao	Ph.D. Viva Voice	Indira Gandhi Centre for Atomic Research Kalpakkam	11.7.08
18	Dr. P. Selvam	Selection Committee Meeting	IIP Dehardun	14.7.08
19	Dr. A.K. Mishra	Confidential Meeting on Evaluation of Paper- II, CSIR – NET JAM 2008	CSIR Delhi	28-29.7.08
20	Dr. K. Mangala Sunder	Launch of the Tutored NPTEL Videos Program Through Rail Tel Between Kerala and Nagaland Official ,Govt Event	Thiruvananthapuram IITM Kerala	11-13.7.08
21	Dr. A.K. Mishra	Meeting OEP of NRB	IISC Bangalore	24-25.7.08
22	Dr. T. Pradeep	Thesis Evaluation		22.7.08
23	Dr. T. K. Varadarajan	Board of Studies Meeting		23.7.08
24	Dr. R. Dhamodharan	External Examinar for Ph.D Viva	IIT Bombay	23-24.7.08
25	Dr. S. Sankararaman	DST-PAC Meeting	Pune	31- 1.8.08
26	Dr. T. K. Varadarajan	Selection Committee	Anna University	24.7.08
27	Dr. S. Baskaran	Confidential Meeting Regarding CSIR - NET	CSIR Complex Delhi	25-28.7.08
28	Dr. P. Selvam	Invited Talk National Conference on Recent Trends in Materials Chemistry	GITAM University AP	29.7.08
29	Dr. K. Mangala Sunder	CEMCA meeting	New Delhi	28.7.08
30	Dr. Indrapal Singh. A	Ph.D Viva Voice Exam	IIT Bombay	31-01.8.07
31	Dr. U.V.Varadaraju	IIT Hyderabad	IIT Hyderabad	30-2.8.08
32	Dr. S. Baskaran	Presentation of New Project Proposal Before PAC- Committee	Pune	2-3.8.08
33	Dr. G. Ranga Rao	National Seminar on Nano Science & Technology – Challenges ahead	VEC Chennai	19.08.2008
34	Dr. K. Mangala Sunder	Ministry of IT Project Review Meeting	CDAC Hyderabad	8.08.2008
35	Dr. K. Mangala Sunder	Adobe Academic Summit	Hyderabad	12.08.2008
36	Dr. K. Mangala Sunder	Meeting with IIT Guwati and IIT Roorkee NPTEL Coordinators during 27-29 Aug	Guwahati, Roorkee IIT	27-30.8.08
37	Dr. N. Chandrakumar	Physical Chemistry SRF/RA- National Selection Committee Meeting	CSIR, Delhi	29.8.2008
38	Dr. T. Pradeep	Joint India US Workshop		19-22.8.08
39	Dr. S. Baskaran	CSIR Confidential meeting	CLRI, Chennai	21-22.8.08
40	Dr. N Chandrakumar	DST Swamajayanthi Fellowship Scheme first meeting of expert panel on chemical science	Technology Bhawan New Delhi	8.09.08
41	Dr. K. Mangala Sunder	Member – PRSG meeting on learning for Review of Project. Ministry of IT	New Delhi	29.9.2008

		Expert Committee Member for Family Selection	NIT Nagpur	30.9.2008
42	Dr. S. Sankararaman	NIT Trichy Selection Committee Meeting	Trichy	17.10.2008
43	Dr. N. Chandrakumar	CECRI Research Council Meeting	Karaikudi	17.10.2008
44	Dr. N. Chandrakumar	DST Expert Committee Meeting for NMR & MS	IICT Hyderabad	24.10.2008
45	Dr. T.K. Varadarajan	Ph. D Viva-Voice Examiner	Goa University	20-23.10.2008
46	Dr. G. Ranga Rao	To be part of faculty recruitment committee	Nannayya University, A.P	20-22.10.2008
47	Dr. A. K. Mishra	Meeting of UGC-SAP Advisory Committee	Annamalai University	12.10.2008
48	Dr. K. Mangala Sunder	NPTEL Seminar Adobe Organized Meeting	Bangalore	16.10.2008
49	Dr. R. Dhamodharan	Recent Trends in Polymer Science and Technology	PSG College of Technology Coimbatore	22.11.2008
50	Dr. N. Chandrakumar	International Conference on Electrochemical Power Systems	Thiruvanthapuram	26-28.11.2008
51	Dr. U.V.Varadaraju	Indo-Russian Workshop on SHS	Bangalore	28.11.2008
52	Dr. S.Sankararaman	Natural Dyes Rutag Project	Gandhigram rural Trust Dye hmt Madurai	7.11.2008
53		DST-PAC meeting at NEIST	Jorhat Assam	14.11.2008
54	Dr. Santosh J. Gharpure	DST-PAC/GMW (project monitoring) (Group monitoring workshop)	13-16.11.2008	13-16.11.2008
55	Dr. T. Pradeep	Meeting in JNCASR	Bangalore	18.11.2008
56	Dr. P. Selvam	Assessment Meeting NCL	Pune	17.11.2008
57	Dr. P. Selvam	Porous Carbon as Electro – Catalyst Support for Direct Methanol Fuel Cells	Holy Cross College Tiruchirappalli	5.12.2008
58	Dr. N. Chandrakumar	NMR Spectroscopy and Imaging- Part I Part II	Madurai College	2.1.2009
59	Dr. Indrapal Singh Aiden	National Symposium on recent trends in organic and medicinal chemistry (OMCS)	National Institute of Technology Warangal AP	16.1.2009
60	Dr. P. Selvam	National Conf on Catalysis	NCL Pune	18-21.1.2009
61	Dr. P. Selvam	Indo Russian Workshop on Catalysis	DST New Delhi	19-22.1.2009
62	Dr. T .Pradeep	Nanotechnology the Essentials	Trivandrum	27.1.2009
63	Dr. T. Pradeep	The theme Symposium on Functional Materials with the CSIR	NCL Pune	6 – 7.2.2009

64	Dr. Sundargopal Ghosh	Design and Synthesis of Metallaboranes & their Application in Catalysis.	Institut für Anorganische und Analytische Chemie, Goethe-Universität Frankfurt, Germany,	30 Oct 2008
65	Dr. N. Narasimha Murthy	1. Metal Ions in Biology 2. Organometallic Chemistry – Concepts and Applications in Catalysis	Department of Chemistry, Karnataka University, Dharwad	6-7.3.2009

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	Dr. U.V.Varadaraju	CRISMAT Laboratory, Caen, France	20.6.08-18.7.08	Experiment and discussion	
2	Dr. P. Selvam	Reims & University of Montpellier in France	8.6.08 – 23.6.08	Lecture	
3	Dr. P. Selvam	Portuguese Chemical Society	11.6.08 – 13.6.08	National Meeting	
4	Dr.M.V. Sangaranarayanan	University of Ulm, Germany	2.7.08 to 1.8.08	Alexander von Humboldt Fellowship - extension	
5	Dr. S. Sankararaman	Synthetic and Mechanistic Organic Chemistry and NMR Spectroscopy	15-20.9.2008	Kumamoto University Japan	
6	Dr. Sundargopal Ghosh	GERMANY	May 1 – 26 December 2008	AvH Fellowship	Alexander von Humboldt Foundation

Honors and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Honours:					
1	Dr. T. Pradeep DST Unit on Nanoscience, Department of Chemistry and SAIF	Bhatnagar Prize	CSIR	Chemical Sciences	26.9.2008
ii. Awards:					
1	Dr. N. Chandrakumar	J. C. Bose Fellowship	DST	Sustained Excellence in Research	December 2008

Books, Monographs authored/co-authored:

SI. No.	Name of faculty	Title	Publisher	Author/ Co-author
Monographs:				
1	Dr. S. Sankararaman,	Linear Alkynes – Synthesis by Elimination, <i>Science of Synthesis</i>	(formerly Houben-Weyl), Vol. 43, Chapter 8.1, page 435-468, 2008, Thieme Verlag, Stuttgart.	

4.5.4 Design and Development Activities:**New facilities added or major equipment procured:**

SI. No.	Name of Equipment	Value (Rs. in lakhs)
1	Flash Chromatogram	Rs. 17.7
2	Glove Box, mBraun UniLab, with refrigerator, Germany	Rs. 23.0

4.5.5 Research and Consultancy:**Sponsored Research Projects:**

SI. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Excited State Proton Transfer and Fluorescence Decay Dynamics of Certain ESPT Molecular Probes in lipid di/layer members	3 Years	DST	37.90	Dr. A.K Mishra
2	Electron transfer processes at the interface between two immiscible electrolyte solutions	3 Years	DST	34.75	Dr. M.V Sangaranarayanan
3	Photochemistry and photophysics of functional macromolecules based on PAMAM dendrimers	3 Years	DST	36.46	Dr. Edamana Prasad
4	B-Pyrrole substituted tetraphenyl porphyrins: Synthesis and their properties	3 years	CSIR	39.19	Dr. P. Bhyrappa
5	Synthesis and applications of pore-modified novel nano-porous materials	3 years	DRDO	27.52	Dr. G. Ranga Rao
6	Raft polymerization as a tool towards water soluble block copolymers of polystyrene using novel chain transfer agents (Trithiocarbonates)	3 years	DST	28.37	Dr. R. Dhamodharan

7	Enantioselective total synthesis of anti-HIV michellamines A, B & C and their unnatural isomers by asymmetric ullmann coupling	3 years	DST	39.9-	Dr. G. Sekar
8	2-Deoxy-C-Aryl Nucleosides important molecular probes: New Synthetic Strategy Based on Acylanion Chemistry	3 years	BRNS	18.7	Dr. Indrapal Singh Aidhen
9	Reductive Cleavage of carbon-chlorine bonds in polychlorobiphenyls-A complementary synthetic electrochemical and computational approach	2 yrs	DST	13.19	Dr.M.V. Sangaranarayanan
10	Domino Reaction Based Strategy for the Stereoselective Synthesis of Biologically Active Azacyclic Ring Systems	3 years	DST	39.97	Prof. S. Bhaskaran
11	Text transcription of technical video lectures and creation of searchable video index, metadata and online quizzes	18 months	Google Research	24.91	Dr. K. Mangala Sunder
12	Synthesis of Functionalized Polyethynyl Pyrene and Perylene Derivatives for Applications in Molecular Electronics and Photonics.	3 years	DST, New Delhi	28.75	Dr. S. Sankararaman
13	Functionalization of Hydrocarbons using Metallaboranes as catalyst	3 years	DST	42	Dr. Sundargopal Ghosh
14.	Metalla- carboranes via alkenyl Fischer Carbene Complexes	3 years	CSIR	14	Dr. Sundargopal Ghosh
15	Synthesis & Structural Studies of N-glycoprotein Analogs	March, 2005 – December, 2008	Indo-French Centre for the Promotion of Advanced Research (IFCPR), New Delhi	66.16 Lakhs	D. Loganathan (IIT M) and A. Imberty & S. Perez (CNRS, Grenoble)

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals:	---	01
Total No. of papers published in Refereed International Journals:	---	44
Total No. of papers presented in National Conferences:	---	17
Total No. of papers presented in International conferences:	---	06

Details:

In Refereed National Journals:

1. Nitrogen-containing carbon nanotubes as a possible hydrogen storage medium. Sankaran, M.; Viswanathan, B. National Centre for Catalysis Research, Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Indian Journal of Chemistry, Section A: Inorganic, Bio-inorganic, Physical, Theoretical & Analytical Chemistry (2008), 47A(6), 808-814.

In Refereed International Journals:

Unilamellar composite vesicles and Y-junctions from pristine fullerene C₆₀. Ramakanth, Ila; Shankar, Balachandran Vijai; Patnaik, Archita. Department of Chemistry, Indian Institute of Technology Madras, India. Chemical Communications (Cambridge, United Kingdom) (2008), (35), 4129-4131. Publisher: Royal Society of Chemistry, CODEN: CHCOFS ISSN: 1359-7345. Journal written in English. AN 2008:1137744 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Chiral cones and vesicles from Gemini-type fatty acid-heteroditopic amine mixtures. Shankar, B. Vijai; Patnaik, Archita. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Soft Matter (2008), 4(8), 1713-1717. Publisher: Royal Society of Chemistry, CODEN: SMOABF ISSN: 1744-683X. Journal written in English. AN 2008:873447 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Equilibrium structure and dynamics of (2R, 3R)-(+)-bis(decyloxy)succinic acid at the air-water interface. Shankar, B. Vijai; Patnaik, Archita. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Langmuir (2008), 24(3), 758-766. Publisher: American Chemical Society, CODEN: LANGD5 ISSN: 0743-7463. Journal written in English. CAN 148:222671 AN 2008:24982 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

Characteristics of solubilization and encapsulation of fullerene C₆₀ in non-ionic Triton X-100 micelles. Ramakanth, Ila; Patnaik, Archita. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Carbon (2008), 46(4), 692-698. Publisher: Elsevier Ltd., CODEN: CRBNAH ISSN: 0008-6223. Journal written in English. AN 2008:362835 CAPLUS (Copyright (C) 2008 ACS on SciFinder (R))

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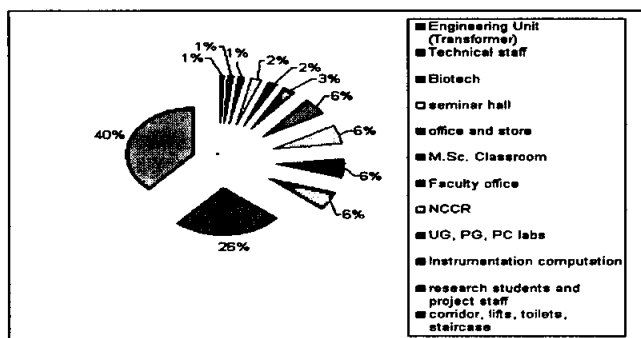
Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Dr.Tanjore S.Balganesh Vice-President, Discovery and Head of Research AstraZeneca India, Bangalore	12.5.08	Seminar Presentation
2	Dr. Sharmila Muthukrishnan Technology Manager, Asian Paints, Mumbai	19.5.08	Seminar Presentation
3	Dr. Manas Ghorai Department of Chemistry, IIT Kanpur	12.6.2008	Seminar Presentation
4	Dr. I.N.N.Namboothiri Department of Chemistry IIT Bombay Powai, Mumbai	8.7.08	Seminar Presentation
5	Dr. Andreas Bender Assistant Professor for Cheminformatics Leiden / Amsterdam Center for Drug Research, University of Leiden The Netherlands	28.8.2008	Seminar Presentation

6	Dr. Andreas Bender Assistant Professor for Cheminformatics Leiden / Amsterdam Center for Drug Research, University of Leiden The Netherlands	29.8.2008	Seminar Presentation
7	Prof. Prasad V. Bharatan National Institute for Pharmaceutical Education & Research Mohali, Punjab	17.10.2008	Seminar Presentation
8	Prof. Dr. Tulsi Mukherjee Director, Chemistry Group BARC, Mumba	25.09.2008	Seminar Presentation
9	Dr. Walter Kockenberger MR Center U Nottingham UK	23.10.2008	Seminar Presentation
10	Dr. Mukund Chorghade	3.11.2008	Seminar Presentation
11	Dr. J.D. Jeyaprakash S. Samuel New Product Development Lam Research Corporation Fremont, California, USA	11.11.2008	Seminar Presentation
12	Dr. Chayan Kanti Nandi Institut Fur Physikalische und Theoretische Chemie, J.W. Goethe Universitat, 60438 Frankfurt Am Main, German	18.11.2008	Seminar Presentation
13	Dr. Gurunathan Laxmikanthan Dept. of Molecular Biology & Biochemistry, Brown University, Providence, Rhode Island, USA	21.11.2008	Seminar Presentation
14	Dr. Vaidyanathan	8.12.2008	Seminar Presentation
15	Prof. Mukundan Thelakkat Applied functional polymer, Department of Macromolecular Chemistry 1, University of Bayreuth, 95440 Bayreuth, Germany	11.12.2008	Seminar Presentation
16	Prof. Timothy S. Fisher Birck Nanotechnology Center and School of Mechanical Engineering, Purdue University (also Adjunct Professor, International Centre for Materials Science, JNCASR, Bangalore)	8.12.2008	Seminar Presentation
17	Dr. B.V.L. Prasad Materials Chemistry Division, National Chemical Laboratory, Pune 411 008	15.12.2008	Seminar Presentation
18	Dr. Martin R.S. McCoustra Professor of Chemical Physics Department of Chemistry School of Engineering and Physical Science Heriot- Watt University Riccarton EDINBURGH, EH14 4AS Scotland	04.02.2009	Seminar Presentation
19	Prof. Notker Roesch Director Catalysis Research Center Technical University, Munchen	05.02.2009	Seminar Presentation

Other Activities of the Department/Centre:

Space Utilization (Total ~ 7202 m² Including common area)

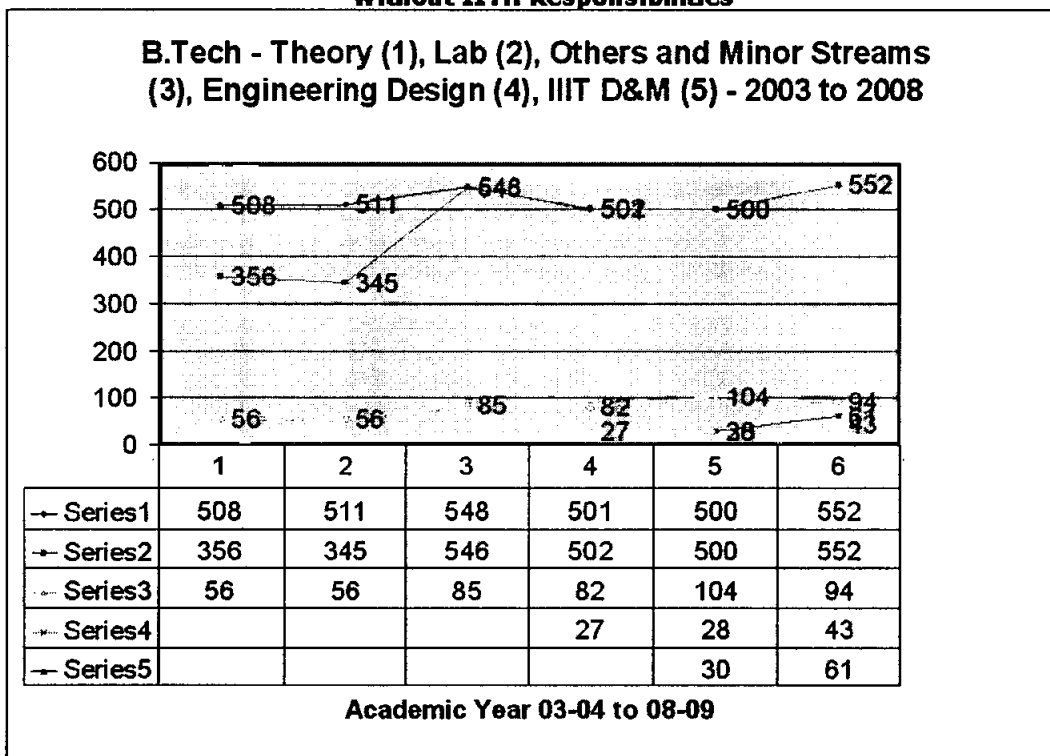


1. Faculty office (436)
2. Research scholars (lab space – 1815)
3. M.Sc classrooms (92) + ChLT (120)
4. UG,PG,PC labs (464.8)
5. Seminar hall (154)
6. Office (154.4)
7. Instrumentation and computation (466)
8. Technical staff (92)
9. Corridor, lifts, toilets, staircase (2615.5 m²)

Ground Floor – 1458.5 m²; First Floor – 1443.4 m²; Second Floor – 1490 m² = 4392 m² (total)
 Space under HoD's control – 3814.2 m²; Space under Biotech – 99.4 m²; Space with NCCR – 409.5 m²
 Space with Engineering Unit – 68.9 m²; Toilets in KCL/NCCR – 48 m²; ChLT – 120 m² (add)

656 I Year Students (Inclusive of IIIT D&M), 47 Minor Stream Students Without IITH Responsibilities

B.Tech - Theory (1), Lab (2), Others and Minor Streams (3), Engineering Design (4), IIIT D&M (5) - 2003 to 2008

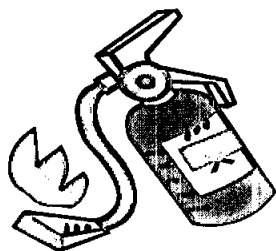


It is planned to offer CY 103 lab course to 407 students in the morning (9-12) and afternoon (2-5) hours of Monday, Tuesday and Wednesday for the next semester of January 2009

September 2008 versus September 1995 - Profile

	September 1996	September 2008
I Year B.Tech Theory and Lab Engineering Design IIT D&M	400 students 10 credits + 1 credit Nil Nil	656 students (552+43+61) 6 credits + 1 credit 3 credits + 0 3 credits + 0
II Year and Higher B.Tech Theory	50 + students (CH) 3 credits (CY 202)	~ 80 students 12 credits (minor stream)
M.Sc. M.Sc. Degrees awarded	52 students 458 (1965-1995)	60 students 48 theory + 12 lab + 12 electives + 1 seminar and comprehensive + 4 project 323 (1996-2008)
Ph.D. Ph.D. Degrees awarded	118 students 340 (1967-1995)	154 students 226 (1996-2008)
PC Theory and Lab	~ 30 12 credits + 2 credits	~ 30 12 credits + 2 credits
Faculty On Roll	30	27 + 2 on leave + 1 IITH
Staff on Roll	32	20 + 1 MAFOI + 2 DDF
Post-Doctoral Fellows	2	~ 10
Project Staff (JRF, etc.)	11	~ 20 + 40 (NCCR)

Socially relevant activities carried out by the Department



Fire safety training of students and staff was completed at a cost of Rs. 37309

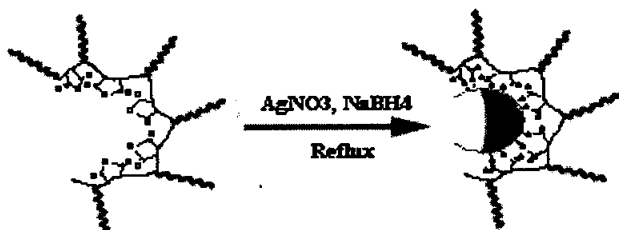
Fire extinguishers were installed at every 10 m distance at a cost of Rs. 82377

Bulk solvent room was cleared and waste suitably disposed off

Condemned items from the department was written off as per procedures

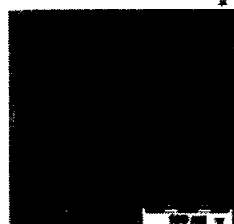
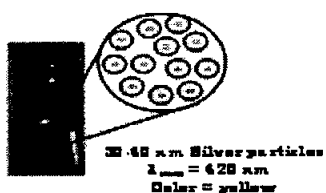
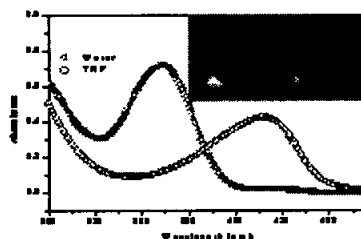
Major infrastructure development made in the Department

MACROMOLECULAR RAPID COMMUNICATIONS
2008, VOL. 23, NUMBER 2, pages 737-742, Impact factor 3.4

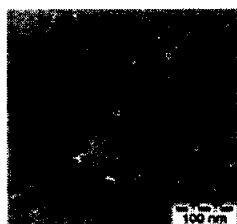


Synthesis of Silver Nanoparticles Using a Novel Graft Copolymer and Enhanced Particle Stability via a "Polymer Brush Effect"

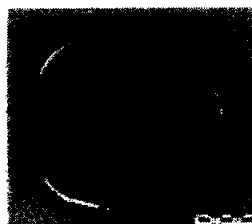
Vivak, A. V. Pradipta, S. M. Dharmadharan, R.



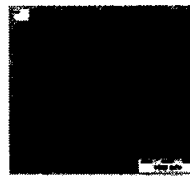
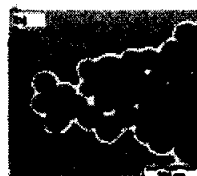
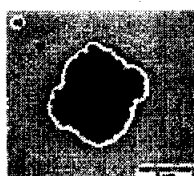
magnetite nanoparticles



PMMA grafted magnetite NPs

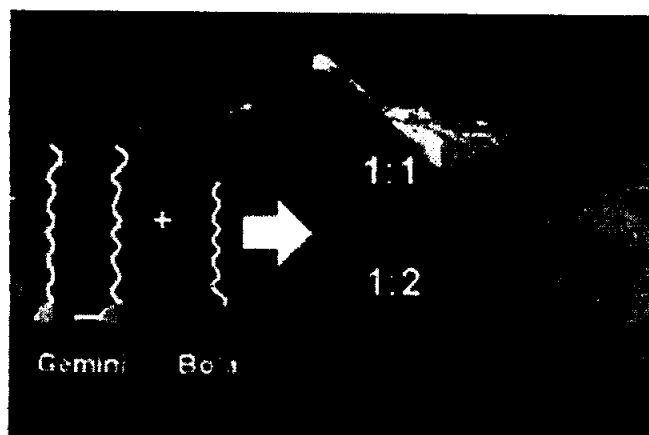


PMMA grafted titania NPs



a) silica nanoparticle (as synthesized) b) after immobilizing initiator, c) and d) after grafting P(EnMA) brush

Raghuraman, G. K., and R. Dharmadharan, *Journal of Nanoparticle Research* 2008, 10, 415-427.

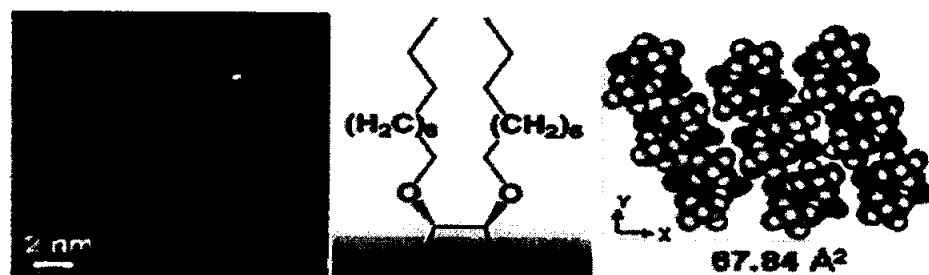


Chiral cones and vesicles from Gemini-type fatty acid-heteroditopic amine mixtures

H. Vijai Shankar and Archita Patraik

Soft Matter, 2008, 4, 1713 - 1717.

Impact Factor 4.4



Equilibrium Structure and Dynamics of (2*R*, 3*R*)-(+)-bis(decylamyl)succinic Acid at the Air-Water Interface

H. Vijai Shankar and Archita Patraik*

Department of Chemistry, Indian Institute of Technology Madras, Chennai 600 036, India

Langmuir, 24 (3), 758 -766, 2008

Impact Factor 4.0

11

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.

New discipline / branch introduced : Nil

New Courses Introduced:

S. No.	Course No.	Title
1	CE 762	Rheology in Civil Engineering Materials
2	CE 764	Elastic and Plastic Stress Analysis
3	CE 595	Characterization of Construction Materials

New lab(s) established: NIL

Students on roll as on March 2009

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	41	39	40	46	4	170
Dual Degree	22	18	16	13	13	82
M.Tech.	79	84	-	-	-	163
M.S.	4	11	6	5	9	35
Ph.D.	4	12	19	19	41	95
Total	150	164	81	83	67	545

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	Cibin Raj	M.Tech.	AGU Berkner Travel Fellowship 2008	27-30 May 2008 Fort Lauderdale, Florida
2	Srinivasa Rao G S	MS	5 th International Conference on "Thin Walled Structures"	June 18-20, 2008 Brisbane, Australia
3	Nithyadharan M	Ph.D.	5 th International Conference on "Thin Walled Structures"	June 18-20, 2008 Brisbane, Australia
4	Nandini P	MS	5 th International Conference on Coupled Instabilities in Metal Structures	June 23-25, 2008 Sydney, Australia
5	Vedagiri P	Ph.D.	4 th International symposium on "Travel Demand Management"	July 16-18, 2008 Austria
6	Vedagiri	Ph.D.	International Conference on Best Practices to Relieve Congestion on Mixed Traffic Urban Streets in Developing Countries'	September 12-14, 2008 IIT Madras
7	Shrinivas S Arkatkar	Ph.D.	20 th European Modelling and Simulation Symposium	September 17-19, 2008 Campora San Giovanni, Italy
8	Mahajan M A	Ph.D.	7 th International Ph.D. Symposium in Civil Engineering	September 11-13, 2008 University of Stuttgart, Germany
9	Yamini Sreevallil	Ph.D.	7 th International Ph.D. Symposium in Civil Engineering	September 11-13, 2008 University of Stuttgart, Germany
10	Gowri A	Ph.D.	International Conference on 'Best Practices to Relieve Congestion on Mixed Traffic Urban Streets in Developing Countries	September 12-14, 2008 IIT Madras
11	Robin Davis	Ph.D.	World Conference on Earthquake Engineering	October 12-17, 2008
12	Vipin Unnithan	M.S.	World Conference on Earthquake Engineering	October 12-17, 2008
13	Anjan Kumar S	Ph.D.	9 th National Conference on Technological Trends	November 21-22, 2008
14	Sri Muruganandam	Ph.D.	International Conference on 'Recent Trends in Environmental Impact Assessment' – NEERI, Nagpur	November 23-25, 2008
15	Priya R	Ph.D.	Proceedings, IIT Bombay Golden Jubilee International Conference and 8 th International workshop on Transportation Planning and Implementation Methodologies for Developing Countries, TPMDC 2008	December 3-6, 2008
16	Anjan Kumar	Ph.D.	Proceedings, IIT Bombay Golden Jubilee International Conference and 8 th International workshop on Transportation Planning and Implementation Methodologies for Developing Countries, TPMDC 2008	December 3-6, 2008

17	Sunitha V	Ph.D.	Proceedings, IIT Bombay Golden Jubilee International Conference and 8 th International workshop on Transportation Planning and Implementation Methodologies for Developing Countries, TPMDC 2008	December 3-6, 2008
18	Pavithra M	Ph.D.	International Congress of Environmental Research (ICER 08), Goa	December 18-20, 2008
19	Bhuvaneswari S	Ph.D.	Proceedings of the Indian Geotechnical Conference (IGC 2008), Bangalore	December 17-19, 2008
20	Rajeevan B	Ph.D.	6 th Structural Engineering Convention, SERC	December 18-20, 2008
21	Pavithra	Ph.D.	Invitation Program for Science and Technological Human Resources under the Japan-East Asia Network of Exchange for students and Youth (JENESYS), Japan	Nov. 30 – Dec. 13, 2008
22	Rahul Tiwari	M.Tech.	Invitation Program for Science and Technological Human Resources under the Japan-East Asia Network of Exchange for students and Youth (JENESYS), Japan	Nov. 30 – Dec. 13, 2008
23	Kalai Selvi R	Ph.D.	National Symposium on Acoustics (NSA 2008)	December 22-25, 2008
24	Jaya V	Ph.D.	Proceedings of Kerala Science Congress, Kollam	January 28-31, 2009
25	Rajeevan B	Ph.D.	Proceedings of National Conference on 'Trends and Challenges in Structural Engineering and Construction Technologies' Central Building Research Institute, Roorkee	February 11-12, 2009
26	Mahajan M A	Ph.D.	Proceedings, Student Symposium on Research in Civil Engineering, IIT Madras	March 5-6, 2009

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	Syed Jalaludeen Shah	Ph.D.	Prof. Leonards Award	Indian Geotechnical Society
2	Anjan Kumar S	Ph.D.	Best Paper Award	College of Engg., Thiruvananthapuram
3	Ashok Kumar M	M.Tech.	Best Paper Award	JNTU College of Engineering, Kakinada
4	Kalai Selvi R	Ph.D.	Best Paper Award	MIRC-Acoustical Society of America

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.	Palukuri V S Seshanka	CE05B055	Institute Merit Prize	IITM
2.	Vaibhav Kapoor	CE06M004	Institute Merit Prize	IITM
3.	Dinesh Kumar	CE06M015	Institute Merit Prize	IITM

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.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. C.V.R. Murty, Ph.D. (California Instt. Of Tech.)	Structural 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.V R Rengaraju, Ph.D. (IISc Bangalore)	Transportation Engineering
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.K.Ananthanarayanan, Ph.D. (IITM)	Building Technology and Construction Mgmt.
Dr.Ligy Philip (Ms.) Ph.D. (IIT Kanpur)	Environmental Engineering
Dr.S.R.Satish Kumar, D.Engg. (Nagoya Univ.)	Structural Engineering

Assistant Professors

Dr.Amlan Kumar Sengupta Ph.D. (Univ. of Missouri)	Structural Engineering
Dr.G.Appa Rao Ph.D. (I.I.Sc. Bangalore)	Structural Engineering
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.Karthik K Srinivasan Ph.D. (Texas, Austin)	Transportation Engineering

Name and Qualifications

Dr. Lelitha Devi, Ph.D. (Texas A&M)
Dr. Manu Santhanam Ph.D. (Purdue Univ.)
Dr. J. Murali Krishnan, Ph.D (IIT Madras)
Dr. B. Nageswara Rao, Ph.D (Iowa Univ.)
Dr. S T G Raghukanth, Ph.D. (IISc Bangalore)
Dr. R.G. Robinson Ph.D. (IISc., Bangalore)
Dr. Rupen Goswami, Ph.D. (IIT Kanpur)
Dr. U. Saravanan, Ph.D. (Texas A&M)
Dr. S.M. Shiva Nagendra, Ph.D. (IIT Delhi)
Dr. K.P. Sudheer, Ph.D. (IIT Delhi)
Dr. G. Suresh Kumar, Ph.D. (IISc Bangalore)
Dr. T. Thyagaraj, Ph.D. (IISc Bangalore)
Dr. Vidya Bhushan Maji, Ph.D. (IISc Bangalore)

Major Area of Specialization

Transportation Engineering
Building Technology and Construction Mgmt.
Transportation Engineering
Structural Engineering
Structural Engineering
Geotechnical Engineering
Structural Engineering
Structural Engineering
Environmental Engineering
Water Resources Engineering
Water Resources Engineering
Geotechnical Engineering
Geotechnical Engineering

Adjunct Faculty

Dr. A. Ramakrishna

Building Technology and Construction Mgmt.

Visiting Professor

Dr. N. Raghavan

Structural Engineering

Emeritus Professor

Dr. A.R. Santhakumar

Structural Engineering

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

SI. No.	Coordinator(s)	Title	Period
Conferences:			
1	Murty V A Bondada Sivanandan R	Best Practices to Relieve Congestion on Mixed Traffic Urban Streets in Developing Countries	September 12-14, 2008
2	Ravindra Gettu	RILEM Conference on FRC	September 17-19, 2008
3	Ravindra Gettu	Seventh International Symposium on Fibre Reinforced Concrete	September 17-19, 2008
Seminars:			
1	Gandhi S R	IGS Seminar on "Wave Equation Analysis of Pile Driving Methodology and Performance	June 25, 2008
Workshop:			
1	Amlan K Sengupta	Seismic Retrofit of Buildings	July 12, 2008
2	Ravindra Gettu	Innovations in Construction Materials and Structures	September 20, 2008
3	Ligy Philip Indumathi M Nambi	Water Quality and Related Health Issues	November 14-15, 2008
4	Appa Rao G	Nuclear Power Stations – Structural aspects for Engineer Trainees	January 1, 2009
Training:			
1	Gandhi S R Rajagopal K Boominathan A	The Engineers of L & T, Mumbai	June 30 – July 2, 2008
2	Balaji Narasimhan Srinivasan R (Texas A&M Univ.)	Introduction to Soil and Water Assessment Tool (SWAT)	December 22-24, 2008
Short Term Course:			
1	Veeraragavan A Murali Krishnan J	STTP – QIP course on "Asphalt Binder and Mixture Characterization	June 23-28, 2008
2	Dodagoudar G R	Probability Statistics for Civil Engineers	June 2-6, 2008
3	Dodagoudar G R	Nonlinear Finite Elements in Engineering Analysis and Design	June 10-14, 2008
4	Dodagoudar G R	Fuzzy Logic with Engineering Applications	July 1-5, 2008
5	Dodagoudar G R	Advanced Geotechnical Engineering: Analysis and Design	July 8-11, 2008
6	Saravanan U Muralikrishnan J Ravindran P	Mechanical Response of Materials	July 14-19, 2008
7	Veeraragavan A	Best Practices in Highway Construction	July 16-17, 2008
8	Shiva Nagendra S M Sudheer K P	Modelling Approaches for Environmental and Water Resources Systems Management	August 4-9, 2008
9	Murty B S Ligy Philip	Collection Treatment, Distribution / Reuse of Water and Wastewater	August 25-30, 2008
10	Thamizh Arasan V	Road Transportation Planning	November 3-7, 2008
11	Murty B S Ligy Philip	Collection Treatment and Distribution of Water and Wastewater	November 18-20, 2008
12	Ligy Philip Indumathi M Nambi	Water Quality in Krishnagiri District Findings and Recommendations	November 26-27, 2008
13	Thamizh Arasan V	Road Transportation Planning	February 23-27, 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	Shiva Nagendra S M	International workshop on Indo-French Technologies for Sustainable Environment	Pondichery College of Engg.	April 10, 2008
2	Shiva Nagendra S M	Workshop on Air Quality Modelling	CPCB, New Delhi	April 28-29, 2008
3	Mohan S	International Workshop on Indo-French Technologies for Waste Water Treatment "Sustainable Environment Issues and Strategies"	Pondichery Engineering College, Puducherry	April 4, 2008
4	Kalyanaraman V	Structural Technology workshop for RTA 70	NAL, Bangalore	May 26, 2008
5	Amlan K Sengupta	Seismic Design and Retrofit of Buildings	Hazard Safety Cell, PWD, Pondicherry	August 2, 2008
6	Satish Kumar S R	Workshop on IS 800 – 2007 for University Faculty. (1) Design of Members subjected to combined forces (2) Design of members subjected to combined forces – worked out examples	BIS and INSDAG at Chennai	August 27, 2008 November 26-27, 2008
7	Kalyanaraman V	Workshop on IS 800 – 2007 for University Faculty. (1) Important Changes in new IS 800 – 2007 (2) Design of Members subjected to fatigue (3) Fatigue – worked out sample	BIS and INSDAG at Chennai	August 28, 2008
8	Appa Rao G	7 th RILEM Conference on FRC	IIT Madras	September 17-19, 2008
9	Kalyanaraman V	Workshop on IS 800 – 2007 for University Faculty. (4) Important Changes in new IS 800 – 2007 (5) Design of Members subjected to fatigue (6) Fatigue – worked out sample	BIS and INSDAG at Mumbai	November 18, 2008
10	Satish Kumar S R	Opportunities for Steel in Construction	Thiagarajar College of Engg. Madurai	December 29, 2008
11	Amlan K Sengupta	ADAPT Structural Concrete Software	ADAPT International Pvt. Ltd. Chennai	December 12, 2008

Sl. No.	Name of faculty	Title	Institution	Period
12	Indumathi M Nambi	Marine Coastal Collector well to mitigate Saline Water Intrusion	BITS, Pilani	December 18-20, 2008
13	Rajagopal K	Geotechnical Engineering, RVR & JCE	College of Engineering, Guntur	March 13, 2009
14	Ravindra Gettu	Concrete for Tomorrow	Mahalingam College of Engineering, Pollachi	March 14-15, 2009
15	Rupen Goswami	Steel Design as per IS 800:2007	College of Engg. Thiruvananthapuram	March 19, 2009

Seminar:

1	Mohan S	Environmental Impact Assessment : An Introduction RIAM Method for Scoping Analysis in Impact Assessment	College of Engineering, Trivandrum	April 3, 2008
2	Sengupta A Devdas Menon	A Hand Book on Seismic Retrofit of Buildings	The Institution of Engineers, Kolkatta	May 23-24, 2008
3	Devdas Menon Amlan K Sengupta	All India Seminar on Natural Disaster and Earthquake – Role of Civil Engg.	The Institution of Engineers, Kolkatta	May 23-24, 2008
4	Devdas Menon	Understanding Ourselves	National Academy of Direct Taxes, Nagpur	September 10, 2008
5	Devdas Menon	Prestressing of Concrete	L & T Chennai	September 24, 2008
6	Rajagopal K	Latest Techniques for Construction on Soft Clay Soils	College of Engg. Thiruvananthapuram	November 24, 2008
7	Rajagopal K	Constitutive Modeling of the response soft clay soils to monotonic and cyclic loading.	College of Engg. Thiruvananthapuram	November 24, 2008
8	Gandhi S R	Well Foundations and Diaphragm Wall Construction	LI Instt. Of Engg. & Tech. Ahmedabad	November 22, 2008
9	Ravindra Gettu	Introduction to Construction Materials	Amrita University, Coimbatore	March 13, 2009

Symposia:

1	Mohan S	Potential of Water Harvesting as a Tool for Drought Mitigation	International Symposium on Water Harvesting: Bringing Green Revolution to Rainfed Areas, Tamilnadu Agricultural University, Coimbatore	June 23-25, 2008
2	Thamizh Arasan V	Modelling Highly Heterogeneous Road Traffic	International Symposium on 'Simulation of Traffic Flow' held at Technical University of Graz, Austria	June 29 – July 3, 2008
3	Rajagopal K	Performance of Geosynthetic Encased Stone Columns	IGS, Delhi Chapter	July 4-5, 2008
4	Ramachandraiah A	National Symposium on Acoustics (NSA 2008)	NSTL, Visakhapatnam	December 22-25, 2008

5	Appa Rao G	Student Symposium on Research in Civil Engineering	IIT Madras	March 5-6, 2009
Conference:				
1	Manu Santhanam	Durability Design of Concrete National Conference on Frontline Areas in Civil Engineering,	VLB Janakiammal College of Engg., Coimbatore	April 25, 2008
2	Manu Santhanam	Application of Particle Packing Produce High Performance Concrete	College of Engineering, Guindy	April 30, 2008
3	Sivanandan R Gowri A	Evaluating the efficacy of Right Pockets of Signalized Intersections under heterogeneous Traffic Conditions 10 th International conference on Applications of advanced technologies in Transportation	Athens, Greece	May 28-30, 2008
5	Rajagopal K Murugesan S	Performance of Encased Stone Columns and Design Guidelines for Construction On Soft Clay Soils, 4 th Asian Regional Conference on Geosynthetics, Shanghai, China	China	June 17-20, 2008
6	Meher Prasad A	Application of coupled RKHS – HDMR Stochastic Mechanics and Reliability, 4 th International ASRANet colloquium	Athens, Greece	June 25-27, 2008
7	Veeraragavan A	6 th International Conference on "Roads and Airfield Technology"	Sapporo, Japan	July 21-23, 2008
8	Appa Rao G	Interquadrennial Conference of the International Congress on Fracture (IQCIF-2008)	IISc Bangalore	August 4-7, 2008
9	Nageswara Rao B	Interquadrennial Conference of the International Congress on Fracture (IQCIF-2008)	IISc Bangalore	August 3-7, 2008
10	Shiva Nagendra S M	International Conference on 'Recent Trends in Environmental Impact Assessment	NEERI, Nagpur	November 23-25, 2008
11	Maji V B	Indian Geotechnical Conference (IGC 2008)	IISc, Bangalore	December 17-19, 2008
12	Appa Rao G	National Conference on 'Advances in Construction Materials, Methodologies and Management (A3M-09)	Chaitanya Bharathi Institute of Technology, Hyderabad	January 21-22, 2009
13	Rajagopal K	2 nd Young Indian Geotechnical Engineering Conference	JNTU College of Engg. Kakinada	March 14, 2009

Training:				
1	Rajagopal K Gandhi S R Amlan K Sengupta Robinson R G Maji V B Thiagaraj T	Design and Construction of Pile Foundations	CPWD, Chennai	September 10-12, 2008
2	Meher Prasad A	Nonlinear Modeling and push over analysis of buildings	BMTPC at New Delhi	October 22, 2008
3	Amlan K Sengupta	Seismic design and Retrofit of Buildings	Reserve Bank Staff College, Chennai	November 24, 2008
Short term Course:				
1	Satish Kumar S R	Design of Beams Design of Beam Columns Design of Fatigue	INSDAG, Mumbai	Sept. 30, - October 1, 2008
2	Satish Kumar S R	Design of Steel Structures	BHEL at Noida, New Delhi	January 1-2, 2009
3	Satish Kumar S R	Design of Steel Structures	SEMAC at Hyderabad	January 24-25, 2009
4	Satish Kumar S R	Steel Design as per IS 800:2007	College of Engg. Thiruvananthapuram	March 16, 2009
5	Rupen Goswami	Steel Design as per IS 800:2007	College of Engg. Thiruvananthapuram	March 19, 2009
6	Ramamurthy K	Building Services for the Engineers of Southern Railways	IIT Madras	March 23-27, 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Appa Rao G	National Round Robin Exercise on 'Pushover Analysis of Multistoreyed RC Buildings	CPRI, Bangalore sponsored by BARC Mumbai	May 1, 2008
2	Mohan S	Biomimicry: Lessons learnt from nature	SRM University, Chennai	June 5, 2008
3	Mohan S	GIS Based Air Quality Modeling for Chennai City	RMK Engineering College, Chennai	June 25, 2008
4	Kalyanaraman V	Various topics in Structural Engineering	St. Peter's Engineering College, Avadi	July 7, 2008
5	Satish Kumar S R	Various topics in Structural Engineering	St. Peter's Engineering College, Avadi	July 8-9, 2008
6	Satish Kumar S R	Design of Tension and Compression members as per revised IS 800 – 2007	Velammal College, Chennai	July 25, 2008
7	Santhakumar A R	Various topics in Structural Engineering	St. Peter's Engineering College, Avadi	July 8 & 12, 2008
8	Santhakumar A R	Limit State Design as per revised IS 800 – 2007	Velammal College, Chennai	July 25, 2008

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
9	Santhakumar A R	Earthquake Resistant Design	Velammal College, Chennai	July 25, 2008
10	Amlan K Sengupta	Seismic design and Retrofit of Buildings	Hazard Safety Cell, PWD, Pondicherry	August 2, 2008
11	Rajagopal K	Numerical Modelling of the Softening Behaviour in Soil Structures	IISc, Bangalore	December 17-19, 2008
12	Kalyanaraman V	Technical Contributions of Academic Institutions to the Rural Development	IISc, Bangalore	December 12, 2008
13	Satish Kumar S R	STTP on Structural Steel Design for the Faculty of Civil Engineering	INSDAG at Thapar University, Punjab	December 1-6, 2008
14	Gandhi S R	Geotechnical Issues on Earth Dams	IISc, Bangalore	December 17, 2008
15	Kalyanaraman V	CFS Building Systems for housing challenges and opportunities	SERC, Chennai	December 18-20, 2008
16	Meher Prasad A Devdas Menon	Seismic Vulnerability of South Indian Temples	SERC, Chennai	December 18-20, 2008
17	Devdas Menon Dodagoudar G R	Reliability of cantilever retaining walls against sliding instability	SERC, Chennai	December 18-20, 2008
18	Satish Kumar S R	Connections between rectangular hollow sections to withstand cyclic loading	SERC, Chennai	December 18-20, 2008
19	Satish Kumar S R	Seismic Testing	SERC, Chennai	December 18-20, 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	Ligy Philip	Beijing, China	May 13-17, 2008	Workshop on Improving Air Quality in Asian Developing Countries (IAQADC)	Organizers
2	Appa Rao G	Stuttgart, Germany	May 20 – July 15 2008	-	Germany
3	Rajagopal K	China	June 17-20, 2008	4 th Asian Regional Conference on Geosynthetics	
4	Kalyanaraman V	Australia	June 18-20 2008	5 th International Conference on 'Thin Walled Structures'	
5	Kalyanaraman V	Australia	June 23-25 2008	5 th International Conference on Coupled Instabilities in Metal Structures	
6	Koshy Varghese	Lithuania	June 26-29, 2008	Board of Directors Meeting ISARC 2008	
7	Koshy Varghese	Germany	June 30 – July 4, 2008	University visit to Technical University of Munich	

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
8	Meher Prasad A	Greece	June 25-27, 2008	4 th International ASRANett Colloquim	
9	Thamizh Arasan V	Austria	June 29, - July 3, 2008	To present invited paper in an International symposium	
10	Rajagopal K	Israel	July 14-17, 2008	Technical discussion with M/s PRS Mediterranean, Tel Aviv	
11	Mohan S	Malaysia	July 17-22, 2008	(a) International conference on Environmental Design (b) Academic Interaction with Nottingham University, Malaysia Campus	
12	Veeraragavan A	Japan	July 21-23, 2008	6 th International Conference on Roads and Airfield Technology	
13	Sudheer K P	USA	May 18 – July 18, 2008	Collaborative Research on Impact on Climate Change in Watershed Scale	
14	Appa Rao G	Germany	July 3-15, 2008	Research Collaboration on "Evaluation of Design Strength of Lap-splices in Tension"	
15	Meher Prasad A	Greece, Holland & Germany	July 1-7, 2008	University visit	
16	Appa Rao G	Scotland	July 7-10, 2008	7 th International conference on "Concrete: Construction's Sustainable Option"	
17	Veeraragavan A	Germany	August 28 – Sept. 2, 2008	5 th International Conference on 'Modified Binders and Asphalt Mixtures'	
18	Appa Rao G	Germany	September 3 – 13, 2008	Research & Attending Conference in Stuttgart University	
19	Meher Prasad A Devdas Menon Satish Kumar S R Amlan K Sengupta	Beijing, China	October 12-17, 2008	14th World Conference on Earthquake Engineering	
20	Manu Santhanam	University of Witwatersrand	November 19-23, 2008	Academic Visit	
21	Manu Santhanam	South Africa	November 23-29, 2008	International Conference on 'Concrete Repair, Rehabilitation and Retrofitting'	
22	Gandhi S R	United States	December 24, 2008	Academic visit to Princeton University	
23	Indumathi M Nambi	United States	December 24, 2008	Technical Discussion in Meadwestvaco Corporation	

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
24	Mohan S	France	January 14 – March 31 2009	Invited Professor, INSA, Lyon	
25	Appa Rao G	USA	March 14-18, 2009	ACI Spring Convention Texas, USA	
26	Thamizh Arasan V	USA	March 15-29, 2009	Paper Presentation in the International Conference organized by the Transportation Research Forum of USA	
27	Ravindra Gettu	France	March 24-28, 2009	Board of Directors meeting of the International Union of Laboratories and Experts in Construction Materials and Structures (RILEM)	

Honours and Awards obtained by faculty:

S. No.	Name of faculty	Name of Award	Awarded by	Date of award
i Honours:				
NIL				
ii Awards				
1	Veeraragavan A	Bhagyalakshmi and Krishna Ayenger Award 2007	IIT Madras	April 2008
2	Maji V B	Prof. C.S. Desai Biennial Prize	IGS	December 2008
3	Veeraragavan A	Indian Roads Congress Medal	Indian Roads Congress	13-15, December 2008
4	Ramachandraiah A	Silver Medal	Acoustical Foundation (AFECT)	December 2008

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 Catralunya, Barcelona, Spain	R. Zerbino, L.Agullo, B. 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 revied IS 800	INSDAG	Kalyanaraman V Satish Kumar S R

S. No.	Name of faculty	Title	Publisher	Author/ Co-author
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

Fellowships of Academies and Professional Societies:

S. No.	Name of faculty	Year of admission
Humboldt Fellowship:		
1	Dr. B.N. Rao	2006
INAE:		
1	Dr. S. Mohan	2005
INSA:		
FRA:		
ISTE/CSI:		
Indian Society for Technical Education, Member	Alagusundaramoorthy P	1997
Life Member	Appa Rao G	1996
Others:		
Acoustical Society of India	Ramachandraiah A	1992
International Association for Computer Methods and Advances in Geo mechanics (IACMAG)	Boominathan A	1996
Life Fellow, Indian Geotechnical Society	Gandhi S R	1997
International Society for Soil Mechanics and Foundation Engineering (ISSMFE)	Boominathan A	1999
Indian Society for Earthquake Technology (ISET)	Boominathan A	1999
Indian Geotechnical Society	Boominathan A	1999
American Society of Civil Engineers (ASCE)	Alagusundaramoorthy P	2000
Institute of Steel development and Growth, Kolkata	Satish Kumar S R	2000
Fellow, Institution of Engineers	Gandhi S R	2001
Indian Society of Rock Mechanics & Tunneling Technology (ISRMTT)	Boominathan A	2001
Life Member, ICI	Appa Rao G	2001
Life Member, IAFra MCOS	Appa Rao G	2001
Indian Society for Hydraulic Engineering	Murty B S	2003
Bureau of Indian Standards, New Delhi	Satish Kumar S R	2003
Institution of Environmental Engineers, New Delhi	Gopalakrishna K	2003
Life Member, Indian Roads Congress	Rupen Goswami	2003
Life Member, Indian Society of Earthquake Technology	Rupen Goswami	2005
Acoustical Society of America	Ramachandraiah A	2005
Institution of Engineers, India	Alagusundaramoorthy P	2005
Institution of Structural Engineers, UK	Devdas Menon	2006

National Institute of Hydrology Society	Mohan S	2006
American Society of Civil Engineers	Lelitha Devi V	2006
Institution of Electrical and Electronics Engineers	Lelitha Devi V	2006
Indian Road Congress	Lelitha Devi V	2006
Member, ACI	Appa Rao G	2006

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
7	Gandhi S R	Editor	International Journal of Roads and Airports
			Indian Geotechnical Journal

New facilities added or major equipment procured:

S.No.	Name of Equipment	Value (Rs.)
1	plate heat exchangers	68200
2	load cell	3600
3	steel book case	15800
4	precision miniature load cell	80906
5	INDFUR thyristor con	27040
6	HCL note book pl	43200
7	2 KVA ups	48,968
8	LCD projector	104000
9	2.67 GHZ PC 5 nos.	176500
10	hand held speed	94000
11	electronic balance	25350
12	intel PC without moni	24200
13	lab. Mixtre	347718
14	work station	353000
15	Arc GS software Dr. Balaji	1248000
16	enVI 4.5 ver software	598000
17	concrete pan mixer	135000
18	rp 300 pan mixer	384000
19	HP color laser jet CP2025 printer	41611

Patents awarded:

S. No.	Name of faculty	Topic of patent
1	Ravindra Gettu	Mortar with rubber (mortar / concrete with aggregates totally / partially substituted by rubber, and having low density and elastic modulus), patent no. ES 2217930 B1 granted in Spain on 24 th January 2006, Inventors: A.Aguado, T.Garcia, L.Agullo and R.Gettu

4.6.5 Research and Consultancy:**Sponsored Research Projects:**

S.No.	Title	Duration	Funding Agency	Amount (Rs.)	Co-ordinators
1	Investigations on field performance of bituminous mixes with modified binders	3 years	MOSX	3750000	Veeraraghavan A
2	Development of models for the cleanup of Cr(VI) contaminated aquifers using Bio-remediation	3 years	MWRX	2212000	Ligy Philip
3	Groundwater contamination by organic solvent spills-An experimental investigation of the dissolution phenomenon and development of an upscaled dissolution model	3 years	DSTX	1014000	Indumathi M Nambi
4	Identification and estimation of source contributions to particulate matter concentration at an urban roadway	3 years	DSTX	1200000	S M Shiva Nagendra
5	Development and implementation of advanced methods in spline finite strip analysis of layered fibre composite plates and shells	3 years	ARDB	631000	Kalyanaraman V
6	Investigation of compatibility issues between Indian cement and water-reducing chemical admixtures	3 years	DSTX	3902625	Manu Santhanam
7	Pilot-scale demonstration, evaluation and enhancement of open source GIS tools for use by local people	3 years	MRDX	2343840	Koshy Varghese
8	Decision Support models for highway maintenance managements	2 years	DSTX	481000	Veeraraghavan A
9	Investigation on the performance grade properties of bitumen processed at Chennai Petroleum Corporation Limited (CPCL), Chennai and development of warrants for modification	1 ½ years	CPCL	2162500	Muralikrishnan J
10	Towards understanding the standard bond test and development of model for bond strength of lap splices in reinforced concrete	3 years	DSTX	1159200	Appa Rao G

11	Development of Experimental Set up to Perform Multi-axial Mechanical Tests on Soft Tissues and 3D Reconstruction of their Gross Structure through Optical Imaging	3 years	DBTX	4356300	Saravanan U
12	Study of granite and sandstone – their weathering characteristics and structural properties in ASI monuments	1 ½ years	ASIX	800400	Mathews M S
13	Estimation and prediction of traffic parameters under mixed traffic conditions for its applicatios	3 years	DSTX	816000	Lelitha Devi V
14	Behaviour of slender reinforced concrete beams	3 years	DSTX	1280400	Devdas Menon
15	Integrated construction practice laboratory	3 years	AUTD	2250000	Koshy Varghese
16	Numerical modeling and spatial moment analysis of mobility and mixing of reactive contaminants in low permeability hard rocks under non-isothermal conditions	3 years	DSTX	276000	Suresh Kumar G
17	Evaluating the applicability and benefits of 4D – CAD in Indian construction industry	1 year	AUTD	500000	Ashwin Mahaligam
18	Studies on permissible temperature in FBR vault concrete	3 years	IGCA	2489520	Manu Santhanam
19	CPCB Continuous ambient air quality monitoring station at IIT Madras	1 year	CPCB	20000	S M Shiva Nagendra
20	Studies on seismic behaviour of nonseismically designed RC beam column joints with haunch element retrofit	3 years	BRNS	2746900	Appa Rao G

Industrial consultancy Projects:

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
1	Meher Prasad A	Report on testing of Timber Beams	Zircon Exports (P) Ltd	30337
2	Ramachandraiah A	Evaluation of acoustical and lighting properties	National Thermal Power Corporation Ltd.,	33708
3	Devdas Menon	Bridge at Kallummoottikadavu across T.S. canal - Proof – Checking	P.T. Mathai Construction Company Pvt Ltd.	50000
4	Devdas Menon	Relaxation test for 1000hrs	Bureau of Indian Standards	56180
5	Devdas Menon	Relaxation test for 1000 hrs.	Bureau of Indian Standards	140450
6	Devdas Menon	Construction of high level bridge across Paravana River at ¼ km of Patchayankuppam – Sothikuppam Rpad – Proof checking of sub structure	P & C Construction Pvt. Ltd.,	56180
7	Meher Prasad A	Strengthening of existing RCC Bridge below runway across Mitti River	Larsen and Toubro Limited	56180

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
8	Devdas Menon	Testing of modular towers	Larsen and Toubro Limited	134832
9	Appa Rao G	Conducing pull-out test for 16mm TMT rebars	Haji Construction Additives & Consultants	11234
10	Rajagopal K	Proof checking and advice for construction of reinforced earth load transfer platform at Patna	Navayuga Engineering Company Limited	112875
11	Devdas Menon	Proof checking of approval of design of superstructure for ROB near Mettur gate	DS Toll Road Ltd.,	56180
12	Meher Prasad A	Calibration of Hydraulic jack	Simplex Infrastructures Ltd.,	22472
13	Karthik K Srinivasan	Mode choice estimation for proposed Hyderabad metro rail	L & T Ramboll Consulting Engineers Ltd.,	450000
14	Devdas Menon	Proof checking & Approval of "Design of superstructure for ROB near Km.375 – Payment of consultancy service charges.	DS Toll Road Ltd.,	67416
15	Meher Prasad A	Load calibration test for the mono jack	Sanfield India Ltd.,	11250
16	Meher Prasad A	Testing of scaffolding materials	Consolidated Construction Consortium Ltd	95506
17	Gandhi S R	Remedial measures in pile construction	PMC Projects	22472
18	Thamizh Arasan V	Material testing and mix design for NH works	National Highways Authority of India	118202
19	Ligy Philip	Soil contamination analysis	Toshiba Corporation Power Systems Company	56180
20	Alagusundaramoorthy P	Load stabli tests on cable routing boxes	Honey Well Electrucak Devices & Sstern India Ltd.,	25000
21	Alagusundaramoorthy P	Nondestructive tests, load tests and repair and retrofitting of bridges	Pishon Concrete Test	112500
22	Meher Prasad A	Testing of Anchorage	Utracon Structural System Pvt Ltd.,	84270
23	Devdas Menon	Proof checking of Railway Birdge No.4, (Rail over flyover) on Bhadrak- Dhamra Rail Link	Scott Wilson Kirkpatrick(I) Pvt Ltd.,	56180
24	Devdas Menon	Testing of load transfer	Utracon Structural System Pvt Ltd.,	56180
25	Boominathan A	Quality of compaction of Railway Embankment at Karaikal Port	Karaikal Port Pvt Ltd.,	207176
26	Alagusundaramoorthy P	Proof checking of design calculations of a building at HAL Sular Project	Sijcon Consultants – Gujarat	112360
27	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	100000
28	Meher Prasad A	Testing of elastomeric bearings	Karnataka Neeravari Nigam Ltd.,	28100
29	Appa Rao G	Site visit and assessment of quality of concrete and strength of RC towers	Sirpur Paper Mills Ltd	393000
30	Appa Rao G	Design of high performance concretes	NTPC Tamilnadu Energy Company Ltd.,	310000

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
31	Satish Kumar S R	Compression tests on uprights	Godrej & Boyces Manufacturing Co. Ltd.,	76000
32	Devdas Menon	Testing of Elestomeric Bearing	Agarwal – JMC (JV)	49438
33	Devdas Menon	Testing of Samples	Sangam Wires Pvt. Ltd.,	106742
34	Devdas Menon	Testing of Samples	Ramsarup Nirmaan Wires	36517
35	Meher Prasad A	Proof checking of E-Tab analysis of our Estancia Project	L&T Arun Excello Realty Pvt. Ltd.,	1348320
36	Satish Kumar S R	Proof checking of detailed design of Munger Rail-cum-Road Bridge	Rites Limited	308990
37	Satish Kumar S R	Testing of HT strands	Common Code	200000
38	Devdas Menon	Testing of Bearing	Bharat Heavy Electricals Ltd.,	101124
39	Meher Prasad A	Calibration test	Common Code	100000
40	Gandhi S R	Light House at Poombukar & Mallipattinam	Ministry of Shipping, Road Transport and Highways	134832
41	Devdas Menon	Proof checking of various structures of light house VTMs towers at Mundra(Navinal)	Mundra Port and Special Economic Zone Ltd.	56180
42	Devdas Menon	Testing of Props	Sri Scaffolding Pvt. Ltd.	71910
43	Gandhi S R	Design of basement excavation	Hochtief (India) Pvt. Ltd.,	33708
44	Meher Prasad A	Mixed development of Old Mahabalipuram Road	Mavaadu Projects Pvt. Ltd.,	1292140
45	Meher Prasad A	Design checking of 70 m triangular angular 40 m triangle 30 m	Teracom Ltd.,	134832
46	Meher Prasad A	Proposed residential & commercial project at Village – Thalambur	Carmen Builders and Construction (P) Ltd.,	3707880
47	Mohan S	Compilation and validation of data collected from the rivers of Tamilnadu	Tamilnadu Pollution Control Board	56180
48	Indumathi M Nambi	TWAD Board-Evaluation of turbidity kit payment	Tamil Nadu Water Supply and Drainage Board	5618
49	Rajagopal K	proof checking of reinforced soil retaining wal designs at Mangalore	IRCON International Ltd.,	399364
50	Gandhi S R	Shoring work at Chennai Airport	Airports Authority of India (Chennai Airport Expansion Proj.)	22472
51	Robinson R G	Analysis of clay samples at Gummidipoondi	Tamil Nadu Waste Mangement Limited	50562
52	Devdas Menon	Testing of anchorages	Technocast Foundry	842700
53	Appa Rao G	Design of concrete mixes for development of Kamaraj Domestic Terminal Phase – II	Airports Authority of India	280000
54	Meher Prasad A	Calibration Test	Common Code	100000
55	Thamizh Arasan V	Traffic and parking management plan for IT Park	Shriram Properties & Infrastructure Pvt. Ltd.,	340000

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
56	Thamizh Arasan V	Quality check for road works	Tamilnadu Road Development Company Ltd.,	83000
57	Mathews M S	Construction and restoration of Moti Mahal	Ministry of Environment and Forests	1235960
58	Ligy Philip	tirupur textile industries common effluent treatment plants zero discharge projects	Creative Environmental Consultants	67416
59	Meher Prasad A	Dynamic load of 15.2mm monostrand	Nuclear Power Corporation of India Ltd.	200000
60	Meher Prasad A	Proof checking of Multistorey residential blocks	Sabari Foundations Pvt. Ltd.	420000
61	Rajagopal K	Testing and recommendations for construction of RoB at kushinagar, UP	Simplex Infrastructures Ltd.,	125000
62	Gandhi S R	Foundation design for Ruwais Sulphur project	Dodsal Private Limited	270000
63	Satish Kumar S R	Proof checking of detailed design and drawings of superstructure of Patna Rail cum road Bridge	Rites Limited	674160
64	Robinson R G	Testing of rock core sample	Navayuga Engineering Company Limited	20000
65	Meher Prasad A	Testing of Elastomeric Bearing	Maytas Infra Limited	24719
66	Gandhi S R	Power plant at Krishnapattinam	Coastal Andhra Power Limited	426968
67	Meher Prasad A	Proof Checking of Grade Separator Bridge at Km 60+520	GMR Projects Private Limited	202248
68	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	100000
69	Meher Prasad A	Design checking of 70 m triangular angular 40 m triangle 30 RTT	Kaypee Marketing Services	50562
70	Meher Prasad A	Design & drawing check of harduaganj ESP raft foundation	Bharat Heavy Electricals Ltd., Ranipet	67416
71	Meher Prasad A	Charges for Vertical Bending Fatigue Test of Axle Housing (Two Samples)	Axles India Limited	280900
72	Meher Prasad A	Consultancy Services for verification and approval	Electronics Corporation of India Ltd.,	65000
73	Gandhi S R	Site Inspection and Technical report to be provided to the high court of Madras	ITC Limited	25000
74	Meher Prasad A	Cyclic Load Testing of Aluminum beams	Larsen and Toubro Limited	56180
75	Meher Prasad A	Charges for design proof checking and verification of Civil Structural design	Merit Technologies India Limited	67416
76	Manu Santhanam	Development of new generation superplasticizers	Clariant Produkte GmbH, Germany	348320
77	Thamizh Arasan V	Characterisation of Materials Highway Pavement works	National Asphalt Products and Construction Company	92135
78	Thamizh Arasan V	Traffic Study in Chennai Port Area	Chennai International Terminals Private Limited	150000

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
79	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)	134832
80	Devdas Menon	Proof checking of your design calculation for relocation of transmitter building at Pallavaram Cantonment for Chennai Airport Project	Yugasoft	50000
81	Indumathi M Nambi	Water quality testing for construction	Kupidisaatham Narayanaswami Educational Trust	11100
82	Mohan S	Design of Water Recovery System in Nitro Cellulose Plant	Cordite Factory	280000
83	Meher Prasad A	Design approval of 50M Ground based tower	ICOMM Tele Ltd	50562
84	Gandhi S R	Light House at Lushington Shoal	Directorate of Lighthouses & Lightships	168540
85	Gandhi S R	Proof checking for foundation for oil storage tanks at MRPL	Geo Marine Consultants Pvt. Ltd.,	15000
86	Devdas Menon	Testing of VSL 5-5S Anchor Block	VSL India Pvt Ltd	44944
87	Manu Santhanam	Use of crushed stone dust as fine aggregate in sleeper concrete	Patil Group of Industries	300000
88	Manu Santhanam	Investigation of damaged RCC chimney	KSK Energy Ventures Pvt. Ltd.,	80000
89	Meher Prasad A	POT cum PTFE Bearing Testing	Vijay Nirman Company P. Ltd.,	67416
90	Gandhi S R	Remedial measures for the cracks in the regional centre	Lalit Kala Akademi	100000
91	Mohan S	Design of effluent treatment system for seabass hatchery of RGCA	Rajiv Gandhi Centre for Aquaculture	200000
92	Appa Rao G	Casting and testing of RC deep beams	Siddhartha Engineering College	20000
93	Meher Prasad A	Design checking of square angular towers approval	Aster Teleservices Pvt. Ltd.,	151686
94	Devdas Menon	Design proof check for FRP light house tower	Vignesh Marine Technical Services Pvt.Ltd.	56180
95	Thamizh Arasan V	Feasibility study for provision of ROB	Roads and Building Division	260000
96	Thamizh Arasan V	Development of traffic management plan for Information Technology Park	ITC Limited	337080
97	Mohan S	Design of storm water drainage system for Cochin BP plant	Indian Oil Corporation Limited	33708
98	Ligy Philip	Evaluation of proposed STP system	Consolidated Construction Consortium Ltd	168540
99	Gandhi S R	Foundation for Sasan Ultra Mega Project	Sasan Power Ltd.,	393000
100	Gandhi S R	Foundation for IT Park buildings at Pocharam	Ecalibre Engineering Consultants Pvt. Ltd.,	16854

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
101	Meher Prasad A	Design checking and approval of two types of shelters for Harsh environment	Satyavani Projects and consultants Pvt.Ltd	67416
102	Veeraraghavan A	Tests on bituminous crust samples of the Cochin International Airport Taxiway	Techni Bharati Limited	28090
103	Boominathan A	Seismic cross hole tests at GIFT site	KCT Consultancy Services	4725000
104	Boominathan A	Proof checking of wind stabli generator foundation	Winwind Power Energy (Pvt.) Ltd.,	125000
105	Murty B S	Calibration of water current meters 27 Nos.	Government of Andhra Pradesh	30337
106	Devdas Menon	Wobble & fricton co-efficient test on HDPEsheathing duct for use in Pst Tenstoned prestreated concrete structures	Gwalior Polypipes Ltd.,	136992
107	Meher Prasad A	Design checking of square angular towers approval	Aster Teleservices Pvt. Ltd.,	78652
108	Veeraraghavan A	Tests on crumb rubber modified bitumen crmb 55 grade sample	Gannon Dunkerley & Co. Ltd.,	16854
109	Boominathan A	Soil investigation at ritz carlton hostel site	Simplex Infrastructures Ltd.,	175000
110	Gandhi S R	Technical advice to Delhi Jal Board	Govt. of NCT of Delhi	30000
111	Manu Santhanam	Chloride permeability of metakaolin concrete	English India Clays Ltd.,	44944
112	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	100000
113	Gandhi S R	Testing of fillmaterial	ITD Cementation India Ltd.,	30000
114	Gandhi S R	Remedial measures on cracks at ESI Hospital – Tirupathi	State Insurance Corporation	30000
115	Satish Kumar S R	Design and detailing of 12 m & 15 m pipe pole communication tower	Kumaran Associates	60000
116	Satish Kumar S R	Fatigue test of leaf spring assembling	TACO Hendrickson Suspensions Pvt. Ltd.	400000
117	Thamizh Arasan V	Quality checking of payment works of NHAI	National Highways Authority of India	147192
118	Meher Prasad A	Proposed residential township at Sriperumbudur	Larsen and Toubro Limited	1671245
119	Thamizh Arasan V	Evaluation of suitability of Bitumen for Highway Pavement work	SPL Infrastructure Pvt. Ltd.,	80000
120	Gandhi S R	Design of review of foundation for Ethylene and VCM tanks	Chemplast Sanmar Limited	150000
121	Meher Prasad A	Calibration Test	Common Code	100000
122	Devdas Menon	Testing of HTS Strands of Relaxation Test for 1000 hrs	Nagarjuna Construction Company Ltd.,	69101
123	Devdas Menon	Testing (load frankler test) on VSL GC 6-12 Anchorage system	VSL India Pvt Ltd	78652
124	Boominathan A	Evaluation of elastic properties of rock samples	Oil and Natural Gas Corporatoin Ltd.,	300000
125	Ligy Philip	Treatability study of effluent from TATA Refractories for color removal	TATA Refractories Limited	337080

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
126	Murty B S	Calibration of water Current Meters	Common Code	100000
127	Boominathan A	Inspection of a construction site during pile driving	Ethiraj College for Women	25000
128	Boominathan A	Dynamic pile load tests at CPCL	Simplex Infrastructures Ltd.,	680000
129	Robinson R G	Laboratory scale model tests to study Swiss Cheese technique	Somehsa Marine Geosciences Pvt. Ltd.	200000
130	Kalyanaraman V	Structural glazing works – design checking	Ashok Leyland	95000
131	Devdas Menon	Structural Proof Checking for our "PURVA MONETA" project at No.7, Five Furlong Road, Maduvankarai, Guindy Chennai	Puravankara Projects Limited	1573040
132	Meher Prasad A	POT cum PTFE Bearing Testing & Elasto Meric Bearing	Vijay Nirman Company P. Ltd.,	92135
133	Ligy Philip	Conducting of ambient air quality survey at Ennore	Southern Railway	56180
134	Satyanarayana K N	Committee for escalation and additional items for project of establishment of VTS in gulf of Katchchh.	Lighthouses & Lightships	60000
135	Satish Kumar S R	Common Code	Common Code	200000
136	Mohan S	Evaluation of solid waste processing facility in Municipal Corporation Guntur	Municipal Corporation	500000
137	Mohan S	Design proof check for cyclic activated sludge technology	Corporation of Madurai	898880
138	Mohan S	Design of earth dams for polavaram project	CR 18G – BSCPL JOINT VENTURE	561800
139	Ligy Philip	M/s Shashun Chemical Industries – SIPCOT, Cuddalore district – Raw material for manufacturing medical drugs – collection of sample to be tested	Tamil Nadu Pollution control Board	33708
140	Mohan S	Environment audit of an effluent treatment system of textile processing unit	Pioneer Processing India	150000
141	Rajagopal K	Design and advice for construction of a reinforced soil retaining wall at Kanaka Durga Temple, Vijayawada	Geosol Associates	112360
142	Devdas Menon	5 Nos Sample for fatigue test of 15.20mm dia H.T. steel strands	D P Wires Pvt. Ltd.,	140450
143	Devdas Menon	Proof checking of load test report on pre-tensioned girders being widin Chennai Bypass	Hindustan Construction Co. Ltd.	56180
144	Indumathi M Nambi	Evaluating suitability of iron plant waste for reuse	Agni Steels (P) Ltd.,	56180
145	Gandhi S R	Remedial measures for canal bridge	Sardar Sarovar Narmada Nigam Ltd.	20000
146	Meher Prasad A	Calibration testing on hydraulic pump and pressure gauge	Simplex Infrastructures Ltd.,	28092

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
147	Devdas Menon	Testing of pre-stressing strand of PSC	Common Code	100000
148	Robinson R G	Testing of gravel	Southern Railway – Trichy	10000
149	Thamizh Arasan V	Mix design for Airport Pavement works	Airports Authority of India	92000
150	Devdas Menon	Proof checking of AAI runway across Adyar River –Chennai	L & T Ramboll Consulting Engineers Ltd.,	584272
151	Gandhi S R	Foundation for piling requirements at Pellitization plant at Paradeep	Essar Steel Limited	348000
152	Saravanan U	Proof checking and approval of design calculations	Shriram EPC Limited	125000
153	Rajagopal K	Assessment of geodrains for construction of a railway embankment in Chennai – Gudur section	Southern Railway	56400
154	Gandhi S R	Remedial measures for titanium sponge project of KMML	Kitco Limited	10000
155	Appa Rao G	Design mix for M30 & M35 grade concrete	B.L. Kashyap & Sons Ltd.,	60000
156	Gandhi S R	Coal flowability study for Reliance Power Plant Rosa	Reliance Energy Limited	350000
157	Appa Rao G	Structural safety certificate and proof checking of design (Abirami Theatre)	Abirami Mega Mall	561800
158	Thamizh Arasan V	Quality checking of bituminous pavement works	Tamilnadu Road Development Company Ltd.,	98877
159	Appa Rao G	Vetting of structural design for hospital blocks at HAL campus	Arch Plan	70000
160	Gandhi S R	Excavation scheme for basement construction of prestige at Bangalore	Prestige Estates Projects (P) Ltd.,	11236
161	Satish Kumar S R	Relaxation test for 1000 hrs	Sri Ram Wire Products Pvt. Ltd.,	56000
162	Boominathan A	Vibration study for Chennai Metro Project	Chennai Metro Rail Limited	505620
163	Saravanan U	Proof checking and approval of design calculation	Shriram EPC Limited	112360
164	Gandhi S R	Inspection of steel storage tanks at Willingdon Island, Cochin	IMC Limited	22472
165	Devdas Menon	Proof checking of structural design of residential apartment "PURVA SWANLAKE" Kelambakkam, Chennai	Puravankara Projects Limited	3707880
166	Devdas Menon	Testing of Electrometric Bearing Samples	Trichy – Thanjavur Expressways Limited	74160
167	Meher Prasad A	Fatigue test of strand coupler	Velecha Engineering Limited	112360
168	Satish Kumar S R	Design of telecom tower (15 m height)	Maruthi Engineering	25000
169	Satish Kumar S R	Design of tower for telecom installation – 12m height	Maruthi Engineering	25000
170	Devdas Menon	MPL-NH-67 proof checking for ROBs designs & drawings @ ch: 129+500 and 135+100	Madhucon Projects Limited	348316

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
171	Gandhi S R	Checking suitability of land for residential purpose	Gandhidham Development Authority	157304
172	Gandhi S R	Checking stability of bhilai ash dyke	NTPC-Sail Power Company Pvt Ltd	22472
173	Gandhi S R	Proof checking of foundation design for Chandrapur Power Plant	MSPG Maharashtra State Power Generation Co.Ltd.	224720
174	Thamizh Arasan V	Development of traffic management plan for hotel project	ITC Limited	190000
175	Satish Kumar S R	Proof checking of design	Lendi Associates	25000
176	Devdas Menon	Testing of anchor block	VSL India Pvt Ltd	196630
177	Devdas Menon	Testing of prestressing steel anchorage for UP – 04 EW. Corridor	Renardet S.A. Ingenieurs Conseils	147753
178	Devdas Menon	Proof checking of Railway Bridge No.7 across NH – 5 on Bhadrak – Dhamra Rail Link	Scott Wilson Kirkpatrick(I) Pvt Ltd.,	56180
179	Devdas Menon	Testing of prestressing steel anchorage for UP-03-EW Corridor	Oriental Structural Engineers Pvt. Ltd.	162360
180	Robinson R G	Testing of gravel proposed for filling in embankment for Nagore-Karaikal new Railway project	Southern Railway	11224
181	Boominathan A	Ground improvement for Chennai Airport Runway	Airports Authority of India	112360
182	Boominathan A	Site specific seismic study at GIFT site, Gandhi Nagar (Gujarat)	KCT Consultancy Services	561800
183	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	100000
184	Appa Rao G	Testing of prestressing strands	Hindustan Construction Co. Ltd.	50000
185	Meher Prasad A	Verticle bending fatifue test of Axle Housing 2 Samples) RTT	Axles India Limited	280900
186	Ligy Philip	Carrying out environment audit for Nicholas Piramal India Limited	Piramal Healthcare Limited	337080
187	Thamizh Arasan V	Derivation of Job-Mix formula for bituminous road works	Airports Authority of India	48000
188	G R Dodagoudar	Site specific seismic studies at Bhavanapadu TPP site, Andhra Pradesh	Energy Infratech Private Limited	250000
189	Gandhi S R	Soil investigation and design foundation for construction of RCC tower at Krishnapatnam	Lighthouses & Lightships	280900
190	Devdas Menon	Load Testing of L & T formwork components at IIT	Larsen and Toubro Limited	399178
191	Devdas Menon	Proof checking of structural designs for academic cluster building of APIIT Campus Andhra Pradesh	S. S. Consultants	505620
192	Mohan S	Evaluation of design of proposed landfill at Ramky Pharma city (India) Ltd	Ramky Enviro Engineers Limited	561800
193	Boominathan A	Seismic cross hole tests at Mettur Thermal Power Project	BGR Energy Systems Limited	589890

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
194	Ramachandraiah A	Acoustical Treatment to the Auditorium	Government Engineering College	33708
195	Rajagopal K	Reinforced soil retaining wall on the outer ring road of Hyderabad	Z-TECH (India) Private Ltd	171151
196	Murty B S	Vetting opinion of surge designs – SYP-stage-II Phase – I	Saisanket Enterprises	100000
197	Meher Prasad A	Design of 55m steel tower and foundation at Harudi	Lighthouses & Lightships	123596
198	G R Dodagoudar	Design verification of foundations of ESIC Hospital, Bangalore	A.K. Associates	44944
199	Boominathan A	Foundation recommendations for 600 MW Mettur Thermal Power Project	BGR Energy Systems Limited	393260
200	Mohan S	Evaluation of adequacy of natural drain and design of the storm water drainage system for OMR site	DLF Southern Homes Pvt. Ltd.,	56180
201	Ligy Philip	Waster water analysis	Varalakshmi Starch Industries (P) Ltd.,	28090
202	Meher Prasad A	Caliberation Test	Common Code	100000
203	Devdas Menon	Dynamic load test for 1906 cables	BBR (INDIA) LTD	292136
204	Manu Santhanam	Special Concretes	Ultratech Concrete Limited	260000
205	Satish Kumar S R	Testing of HT strands	Common Code	200000
206	Saravanan U	Proof checking of design	Shriram EPC Limited	30000
207	Appa Rao G	Site visit, stability and strength check on APSRTC regional manager's buildings – Vijayawada	Andhra Pradesh State Road Transport Corporation	150000
208	G R Dodagoudar	Site specific seismic study of proposed Durgapur Steel TPS, West Bengal	Damodar Valley Corporation	220400
209	G R Dodagoudar	Site specific seismic study of proposed Koderma TPS, Jharkhand	Damodar Valley Corporation	220400
210	Meher Prasad A	Approval for the structural design of various models of aster telecom shelters	Aster Teleservices Pvt. Ltd.,	120944
211	Meher Prasad A	Thirty Storey Maretto Pimento	Maratt Limited	674160
212	Mohan S	Technology validation of spent pot lining utilization processi	Indus Smelters Ltd.	55972
213	Rajagopal K	Recommendation of pullout strengths of different geostrips for reinforced soil retaining walls	Hindustan Construction Co. Ltd.	114103
214	G R Dodagoudar	Slope protection for Hill cut of NH 7 bypass – ch. 163.700 to 164.400 section Kayathar to Tirunelveli	SMS Infrastructure Ltd.,	30000
215	Gandhi S R	Remedial measures for landside at INS JARAWA	Head Quarters	125843
216	S M Shiva Nagendra	Monitoring of air flow, pressure, motor speed, noise level and particulate matter concentration at the outlet of Air Purifiers	Forbes Aquamall Limited	75000
217	Meher Prasad A	Testing of Anchorage Systems	Dynamic Prestress (I) Pvt. Ltd.	280900

S. No.	Name of the Faculty	Title	Industry	Amount (Rs.)
218	Meher Prasad A	Load cell calibration	VSL India Pvt Ltd	56180
219	Meher Prasad A	Proposed die cast shop, extension of weld shop, KB engine shop	Larsen and Toubro Limited	280900

RBIC Projects: (on-going only)

S. No.	Name Of Faculty	Title	Industry	Amount (Rs.)
1	Ashwin Mahaligam	Case studies of the Alandur sewerage and Tirupur water supply projects	Institute of Water Policy (Lee Kuan Yew School of Public Policy)	130000
2	Meher Prasad A	Centre for finite element analysis and design (CFEAD)	Larsen and Toubro Limited	1800000
3	Mohan S	Study on infiltration measures into ground water aquifer through injection wells to maintain ground water balance and avoid intrusion of salt water into Neyveli basin	Neyveli Lignite Corporation Ltd.,	735300
4	Kalyanaraman V	Preparation of draft code on steel-concrete composite box girder bridges for Indian Road Congress	Institute for Steel Development & Growth	1287650
5	Kalyanaraman V	Drywall construction using Ramco Hilux Calcium Silicate	Ramco Industries Ltd.,	378600
6	Ligy Philip	Development of integrated treatment process for coke oven effluents	Steel Authority of India	0

Retainer Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs.)
1	Boominathan A	Airports Authority of India	Airports Authority of India	280900
2	Boominathan A	Narmada Water Resources Water Supply & Kalpasar Dept (Gujarat Govt.)	Narmada Water Resources Water Supply & Kalpasar Dept (Gujarat Govt.)	120000
3	Rajagopal K	L&T Rambol Consulting Engineers Limited	L&T Rambol Consulting Engineers Ltd.,	150000

Exchange programme with other Universities including Institutions/Universities under MOU;

Faculty members participation with other institution under MoU:

S. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
1	Dr. Rupen Goswami	Delivered lectures on different topics at Workshop on IS 800:2007 (19 March 2009)	College of Engineering, Thiruvanthapuram

5.5 Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	...	51
Total No. of papers published in Refereed International Journals	...	68
Total No. of papers presented in National Conferences	...	30
Total No. of papers presented in International conferences	...	75

Details:

In Refereed National Journals:

1. Purnanandam, K. and Rajagopal, K. Lateral Earth Pressure Reduction Due To Controlled Yielding Technique, *Indian Geotechnical Journal*, Vol. 38, No. 3, 317-333, 2008.
2. Sajina Sayed, Dodagoudar, G.R. and Rajagopal, K. "Reliability Analysis of Reinforced Soil Walls", *Indian Geotechnical Journal*, Vol. 38, No. 1, 49-67, 2008.
3. Chandrasekaran S.S., Boominathan A. and Dodagoudar G.R., "Behaviour of 2 x 2 Pile Group under Static and Cyclic Lateral Loading", *Indian Geotechnical Journal*, Vol. 38, NO.4, pp.413-432.
4. Jaya V., Dodagoudar G.R., and Boominathan A., "Cyclic Behaviour of Saturated Sands of Kalpakkam Region, Tamil Nadu", *Indian Geotechnical Journal*, Vol.38, No. 2, pp.171-186, 2008.
5. S. Mohan, "Optimal Operation of a Tank Irrigation System", *Journal of Institution of Engineers (India), Civil Engg. Division*, Vol. 89, August 2008, pp. 21-27.
6. Arnab K Bhattacharya, Devdas Menon and K Rajeevan, "Optimal design of precast pipe racks", *Indian Concrete Journal*, Vol. 82, No. 3, pp 21-28, March 2008.
7. Shinto Paul and Devdas Menon, "Improvement of IS 1343 procedure for estimation of ultimate moment capacity of PSC sections with bonded tendons", *Indian Concrete Journal*, Vol. 82, No. 5, pp 16-24, May 2008.
8. Amlan K Sengupta and Devdas Menon, "A handbook on seismic retrofit of buildings", *The Masterbuilder*, Vol. 10, No. 6, pp 92-103, June 2008.
9. Babu Kurian and Devdas Menon, "Transverse bending analysis of concrete box-girder bridges with flange overhangs", *Journal of Structural Engineering, SERC*, Vol. 35, No. 3, pp 173-179, August-September 2008.
10. Maidhily Govind, Pradip Sarkar and Devdas Menon, "Short-term deflections in two-way RC slabs using deflection coefficients", *Journal of Structural Engineering, SERC*, Vol. 35, No. 4, pp 247-254, October-November 2008.
11. Amlan Sengupta and Devdas Menon, "Seismic retrofit strategies of buildings", *Journal of Structural Engineering, SERC*, Vol. 35, No. 4, pp 271-278, October-November 2008
12. Gandhi P, Kumar S, Prasad A M and Murthy D S R (2008) , 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.
13. Smitha, M.S. and Satish Kumar S R (2008) 'Semi-rigid Composite Flange Plate Connections', *Jnl of Struct. Eng., SERC*, (accepted).
14. Reddy, R.M., and Rao, B.N., "Probabilistic Fracture Mechanics by Fractal Finite Element Method," *Journal of Structural Engineering*, SERC, India, 2008 (In Press).
15. 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, 2008 (In Press).
16. Rajagopal K, "Stabilisation of Soft Clay Using Vacuum Consolidation Technique" *The Master Builder*, *Indian Construction Magazine*, October 2008, 150-152
17. Rajagopal K, "Geosynthetic Encased Stone Columns for load support in soft clay soils, *The Masterbuilder*, *Indian Construction Magazine*, February 2009, 88-92
18. Rao, B.N., and Rajesh, A., "Effect of Blow-Holes on Reliability of Cast Component," *Sadhana*, Vol. 33(6), pp. 1-19, December 2008.
19. Chowdhury, R., Rao, B.N., and Prasad, A.M., "Hybrid High Dimensional Model Representation for Failure Probability Estimation," *Journal of Structural Engineering*, SERC, India, 2008 (In Press).
20. Reddy, R.M., and Rao, B.N., "On the calculation of derivatives of stress intensity factors using fractal finite element method," *Indian Journal of Engineering & Materials Sciences*, Vol. 15, pp. 391-418, October 2008.

21. Sunitha, N.V, Dodagoudar, G.R., and Rao, B.N., "A Fuzzy Meshless Method for Beams on Elastic Foundation," *Indian Geotechnical Journal*, Vol. 38(2), pp. 119–139, 2008.
22. Sunitha, N.V, Dodagoudar, G.R., and Rao, B.N., "Element Free Galerkin Method for Beams on Elastic Foundations," *Journal of Structural Engineering*, SERC, India, Vol. 34, No. 5, December 2007–January 2008.
23. Chowdhury, R., Rao, B.N., and Prasad, A.M., "High Dimensional Model Representation Based Higher Order Limit State Function for Reliability Analysis," *Journal of Structural Engineering*, SERC, India, Vol. 34 No.6, pp. 393–405, February–March 2008.
24. Thomas, P. and Sengupta, A. K., "Analysis of Chord Forces in Reinforced Concrete Buildings Subjected to seismic Loads", *ICI Journal*, Indian Concrete Institute, Vol. 9, No. 3, October–December 2008, pp. 21 – 27.
25. Sengupta, A. K. and Menon, D., "Seismic Retrofit Strategies of Buildings", *Journal of Structural Engineering*, Structural Engineering Research Centre, Chennai, Vol. 35, No. 4, October–November 2008, pp. 271 – 278
26. Sengupta, A. K. and Goyal, H., "Indices for Assessing Seismic Vulnerability of Buildings based on Linear and Non-linear Static Analyses", *Journal of Structural Engineering*, Structural Engineering Research Centre, Chennai, Vol. 35, No. 1, April–May 2008, pp. 9 – 15.
27. Sengupta, A. K. and Asokan A., "Modelling of Masonry Infill Walls for Non-linear Static Analysis of Buildings", *Indian Concrete Journal*, The Associated Cement Companies Limited, Vol. 82, No. 2, February 2008, pp. 19 – 28.
28. Sunitha, N. V., Dodagoudar, G. R. and Rao, B. N. (2008). "Element Free Galerkin Method for Beams on Elastic Foundation," *J. of Structural Engineering*, SERC, Vol. 34(5), pp. 181-188.
29. Sajna, S., Dodagoudar, G. R. And Rajagopal, K. (2008). "Reliability Analysis of Reinforced Soil Walls," *Indian Geotech. J.*, Vol. 38, pp. 47 – 67.
30. Praveen Kumar, R. and Dodagoudar, G. R. (2008). "Meshfree Modelling of 1D and 2D Contaminant Transport through Saturated Porous Media," *ISH J. Hydraulic Engineering*, Vol. 14, pp. 72-83.
31. Sunitha, N. V., Dodagoudar, G. R. and Rao, B. N. (2008). "A Fuzzy Meshless Method for Beams on Elastic Foundation," *Indian Geotech. J.*, Vol. 38, pp. 119-139.
32. Jaya, V., Dodagoudar, G. R. and Boominathan, A. (2008). "Cyclic Behaviour of Saturated Sands of Kalpakkam Region, Tamil Nadu," *Indian Geotech. J.*, Vol. 38, pp. 171-186.
33. Praveen Kumar, R. and Dodagoudar, G. R. (2008). "Modelling of 1-D Contaminant Migration through Unsaturated Soils Using RPIM," *Indian Geotech. J.*, Vol. 38, pp. 356-364.
34. Kalyan Kumar, G., Sreedhar, U. And Dodagoudar, G. R. (2008). "A Note on Probabilistic Seismic Hazard Assessment for Chennai, India," *J. of Structural Engineering*, SERC, Vol. 35(4), pp. 308-317.
35. Chandrasekaran, S. S., Boominathan, A. and Dodagoudar, G. R. (2008). "Behaviour of 2 × 2 Pile Group under Static and Cyclic Lateral Loading," *Indian Geotech. J.*, Vol. 38, pp. 415-434.
36. Gunasekaran, M. and Robinson, R. G. (2008). On-sample measurement of strains in triaxial samples using strain gauges, *Indian Geotechnical Journal*, 38(1), 33-48.
37. Robinson, R. G. and Shilpa, D. (2008). Experimental and finite element analysis of equal strain consolidation of clays under radial drainage, *Indian Geotechnical Journal*, 38(2), 204-220.
38. Robinson, R. G. and Shilpa, D. (2008). Equal Strain Consolidation of Clays under Radial Drainage, *Indian Geotechnical Journal*, 38(2), 204-220.
39. Robinson, R. G. (2008). Preparation and characterization of model clay ground for centrifuge tests. *Indian geotechnical Journal*, 38(4), 377-392.
40. Srinath, B., and Santhanam, M., "Electrical Monitoring of Early Age Properties of Cement Mortars," *Indian Concrete Journal* Vol. 82, No. 4, 2008, pp. 37 – 43.
41. Sivakumar, A., and Santhanam, M., "Evaluation of Drying Shrinkage and Residual Stresses of a High Strength Concrete Using Restrained Ring Test," *Indian Concrete Journal* Vol. 82, No. 6, 2008, pp. 49 – 57.
42. Prakash, N., and Santhanam, M., "A New Approach to Optimisation of Paste Composition in Self-Compacting Concrete," *Indian Concrete Journal* Vol. 82, No. 11, 2008, pp. 11 – 18.
43. Prithvi Singh Kandhal, Sinha, V.K. and Veeraragavan A, "A Critical Review of Bitumen Paving Mixes Used in India", *Indian Roads Congress Journal*, Paper No.541, Volume 69-2, November 2008.
44. Kanthakumar K, and Veeraragavan A, 'Influence of Air Voids on Performance of Bituminous Concrete Mixes', *Highway Research Journal* Vol.1, No.2, Nov. 2008

45. Thamizh Arasan V and Krishnamurthy K, Effect of Traffic Volume on PCU of vehicles under heterogeneous Traffic Conditions, *Journal of Road and Transport Research*, Vol.17, No.1, Australian Road Research Board.
46. Appa Rao G, Raghu Prasad B K, and Eligehausen R, "Characterization of Concrete using p-w curves and Tension Softening Modulus, *JOSE*, Vol.35, No.3, 2008
47. Appa Rao G, Mahajan M, "Numerical studies on and shear strength of RC beam column joints incorporating fracture parameters, *Proceedings of IQC on Fracture*, Bangalore, 2008
48. Pandurangan K, Appa Rao G, "Bond Stress – Slip Law and Cracking of Epoxy Coated Reinforced Concrete" *Proceedings of IQC on Fracture*, Bangalore, 2008
49. Appa Rao G, Sreenivasa Rao A, "Development of Standard Test Method for Determination of Toughness Indices in Mode II Failure", *Proceedings of IQC on Fracture*, Bangalore, 2008
50. Sivanandan R, Lakshmanan V and Bharath P, Application of GPS-GSM-GIS Technology to Bus Travel Time and Speed Studies, *Indian Highways*, IRC, New Delhi, pp. 9-17, March 2008.
51. Glory Joseph and Ramamurthy, K. "Effect of Cold-Bonded Fly ash Aggregate on Workability and Mechanical Properties of Concrete" *Institution of Engineers (India)*, Vol.89, Nov.2008, 33-38.

In Refereed International Journals:

1. Sajna S. Dodagoudar, G. and Rajagopal, K. Reliability Analysis of Reinforced Soil Walls Under Static and Seismic Forces, *Geosynthetics International*, Vol. 15, 246-257, 2008.
2. Madhavi Latha, G., Dash, S.K. and Rajagopal "Equivalent Continuum Simulations of Geocell Reinforced Sand Beds Supporting Strip Footings, *Geotechnical and Geological Engineering*, Vol. 26, 387-398, Springer, 2008.
3. Boominathan A., Dodagoudar G.R., A.Suganthi and R.Uma Maheswari , " Seismic Hazard Assessment of Chennai City Considering Local Site Effects", *Journal of Earth System Science*, Vol.117, No. S2, pp.853-863, 2008.
4. Jaya V., Dodagoudar G.R. and Boominathan A., " Seismic Soil Structure Interaction Analysis of a Deeply Embedded Ventilation Stack , *International Journal of Geotechnical Engineering*, Vol.2, No. 4, pp.381-393.
5. Muthukumar K, Sundaravadivelu R & Gandhi S R (2007) "Effect of Dredging & Axial Load on a Berthing Structure" *International Journal of Geo-Engineering Case Histories*, Vol. I, Issue 2, pp73-88
6. S. Mohan and Neena Sunny, "Study on Biomethanization of Wastewater from Jam Industries", *Bioresource Technology*, Volume 99, Issue 1, January 2008, pp. 210-213.
7. S. Mohan and P.K. Sahoo, " Stochastic Simulation of Droughts: Part-I: Point Droughts", *Hydrological Processes*, 22, pp. 854-862, 2008.
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35. Rao, B.N., and Chowdhury, R., "Structural Reliability Evaluation Using Enhanced HDMR," Proceedings of 2008 ASME Pressure Vessels and Piping/CREEP8 Conference, Chicago, Illinois, July 27-31, 2008.
36. Rao, B.N., Arun, O.C., and Sivakumar, S.M., "Stochastic Damage Growth Analysis Using EFGM," Proceedings of 2008 ASME Pressure Vessels and Piping/CREEP8 Conference, Chicago, Illinois, July 27-31, 2008.
37. Reddy, R.M., and Rao, B.N., "Probabilistic Fracture Mechanics Using Fractal Finite Element Method," Proceedings of 2008 ASME Pressure Vessels and Piping/CREEP8 Conference, Chicago, Illinois, July 27-31, 2008.
38. Chowdhury, R., Rao, B.N., and Prasad, A.M., "Application of Coupled RKHS-HDMR to Stochastic Mechanics and Reliability," 4th ASRANet International Colloquium, Athens, Greece, June 25-27, 2008, (Paper No. 98).
39. Rao, B.N., and Kuna, M., "Fracture Analysis of Functionally Graded Piezoelectric Materials," 79th Annual Meeting of the International Association of Applied Mathematics and Mechanics, University of Bremen, Germany, 31 March-4 April, 2008.
40. Reddy, R.M., and Rao, B.N., "Stochastic Fracture Mechanics Using Fractal Finite Element Method," International Conference on Reliability Safety and Quality Engineering (ICRSQE-2008), Mumbai, India, January 5-7, 2008.
41. Chowdhury, R., Rao, B.N., and Prasad, A.M., "Improved HDMR for Probabilistic Mechanics & Reliability," International Conference on Reliability Safety and Quality Engineering (ICRSQE-2008), Mumbai, India, January 5-7, 2008.

42. Gnanasekaran, K. and Sengupta, A. K., "An Investigation of Seismic Retrofit of Columns in Buildings using Concrete Jacket", *Proceedings* (in CD-ROM), Paper Number 12-03-0051, 14th World Conference on Earthquake Engineering, Beijing, China, October 13 to 17, 2008.
43. Sengupta, A. K. and Menon, D., "A Handbook on Seismic Retrofit of Buildings", *Proceedings*, International Conference on Construction – Managing Earthquake Risk, New Delhi, January 30 to 31, 2008, Organised by Construction Industry Development Council, pp. 79 – 86.
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49. Kangarathinam, L., Dodagoudar, G. R. and Boominathan, A. (2008). "Probabilistic Seismic Hazard Studies of East Coast Region of India," *The 14th World Conference on Earthquake Engineering*, October 12-17, Beijing, 08 pages.
50. Sri Muruganandam, B. and Shiva Nagendra. S.M, "*Size-segregated particulate matter concentrations in an urban environment*," International Workshop on Indo-French Technologies for Sustainable Environment (IWFTSE'08), Pondicherry Engineering College, Pudhucherry, India. 10th April 2008. Pp.43-54.
51. Santhanam, M., "Compatibility Issues Between Cements and Water Reducing Chemical Admixtures," ICI-RILEM Workshop, Chennai, Sep 20, 2008.
52. Srinath, B., and Santhanam, M., "Evaluation of Fibre Distribution in Concrete Using AC Impedance Technique," 2nd International Conference on Concrete Repair, Rehabilitation and Retrofitting, Cape Town, South Africa, Nov 24 -26, 2008.
53. B.Sri Muruganandam and S.M.Shiva Nagendra, "Assessment of weekday and weekends particulate matter concentrations emitted from mobile sources", International Conference on Recent Trends in Environmental Impact Assessment (RTEIA-2008) organized by National Environmental Engineering Research Institute, at Nagpur, during 23-25 November 2008.
54. S.M.Shiva Nagendra, "*Modelling of Particulate Matter Dispersion in Opencast Coal Mines*" presented at one day workshop on *Aspiration Raising: Environmental Engineers for Tomorrow* organized by IIT Delhi, New Delhi, on 13th September 2008
55. Nambi, I.M. and Sathish Kumar N. "A new method for quantifying relative permeability variations during NAPL dissolution" Presented at Third International conference on Environmental Research at Goa, December 2008
56. Brachman, R. W. I., Rowe R. K., Arnepalli, D. N., Dickenson, S., Islam, Z., Sabir, A., "Development of an Apparatus to Simulate the Ageing of Geomembranes under Chemical Exposure Elevated Temperatures and Applied Stresses", The First Pan American Geosynthetics Conference & Exhibition, 2-5 March 2008, Cancun, Mexico.
57. R. Kerry Rowe and Dali Naidu Arnepalli., "Theme lecture on Modelling the Effects of Aging of Geomembranes on Contaminant Transport and the Long-term Performance of Landfill Composite Liners", 12th IACMAG, 1-6 October 2008, Goa, India.
58. R. Kerry Rowe and Dali Naidu Arnepalli., "The Effects of Landfill Temperature on the Long-term Performance of Composite Liners", 12th IACMAG, 1-6 October 2008, Goa, India.
59. Goswami, R., and Murty, C.V.R., "Improved Configuration of I-Beam to Box Column Connections in Seismic Steel Moment Frames," 14th World Conference on Earthquake Engineering (14WCEE), 12-17 October 2008, Beijing, China, Paper ID 05-05-0011.
60. Santhanam, M., "Compatibility Issues Between Cements and Water Reducing Chemical Admixtures," ICI-RILEM Workshop, Chennai, Sep 20, 2008.

61. Srinath, B., and Santhanam, M., "Evaluation of Fibre Distribution in Concrete Using AC Impedance Technique," 2nd International Conference on Concrete Repair, Rehabilitation and Retrofitting, Cape Town, South Africa, Nov 24 -26, 2008.
62. Lelitha Vanajakshi, Shankar C. Subramanian and Sivanandan, R., Short term prediction of travel time for Indian traffic conditions using buses as probe vehicles, *Transportation Research Board*, National Research Council, Washington, D. C., January 2008.
63. Lelitha Vanajakshi, Shankar C. Subramanian and Sivanandan, R., A Comparative Study of Techniques for Short Term Bus Travel Time Prediction Under Indian Traffic Conditions, International conference on transportation planning and implementation methodologies for developing countries, Mumbai, India, December 2008.
64. Anjan Kumar, A, Muralikrishnan J and Veeraragavan A, 'Steady Shear Properties of a Class of Aged Bitumens', 4th International Gulf Conference on Roads, 10-13 November 2008, Doha, Qatar.
65. Priya R, Karthik K S and Veeraragavan A, 'Framework For Optimal Maintenance and Rehabilitation Strategies For Project Level Pavement Management', Proceedings, IIT Bombay Golden Jubilee International Conference and 8th International Workshop on Transportation Planning and Implementation Methodologies For Developing Countries, TPMDC 2008, December 3-6, 2008, at IIT Bombay.
66. Anjan Kumar, Mishra, S K and Veeraragavan A, 'Improved Performance of Bituminous Concrete Mixes with Polymer Modified Binder For Indian Highways', Proceedings, IIT Bombay Golden Jubilee International Conference and 8th International Workshop on Transportation Planning and Implementation Methodologies For Developing Countries, TPMDC 2008, December 3-6, 2008, at IIT Bombay.
67. Sunitha S, Samson Mathew and Veeraragavan A, 'Application of Genetic Algorithm in Pavement Maintenance And Rehabilitation Optimization', Proceedings, IIT Bombay Golden Jubilee International Conference and 8th International Workshop on Transportation Planning and Implementation Methodologies For Developing Countries, TPMDC 2008, December 3-6, 2008, at IIT Bombay.
68. Satish Kumar S R, "Experimental Research on Earthquake Resistant Structural Design", organized by NIT Suratkal, BARC and CPRI at Bangalore, on August 28-29, 2008
69. Satish Kumar S R, "Performance based design of reinforced concrete regular plane frames", Proceedings of the 14th World Conference on Earthquake Engineering, Beijing, China, October 12-17, 2008
70. Gowri A and Sivanandan R, "Efficacy of Left and Right Turn Lanes at Signalized Intersections under Heterogeneous Traffic Conditions," Proceedings, International Conference on Best Practices to Relieve Congestion on Mixed-Traffic Urban Streets in Developing Countries, IIT Madras, Chennai, India, pp.29-39, Sept. 12-14, 2008.
71. Gowri A, and Sivanandan R, "Evaluating the Efficacy of Right Turn Pockets at Signalised Intersections Under Heterogeneous Traffic Conditions," Proceedings (CD-ROM), 10th International Conference on Applications of Advanced Technologies in Transportation (AATT), Athens, Greece, May 2008.
72. Sivanandan R, Anusha S P and Senthil Raj SK, "Evaluation of Vehicular Emissions under Lane Restricted Heterogeneous Traffic Flow," CD-ROM, Transportation Research Board (TRB) Annual Meeting, Washington, D.C., USA 2008.
73. Vanajakshi L, Subramanian S C and Sivanandan R, "Short Term Prediction of Travel Time for Indian Traffic Conditions Using Buses as Probe Vehicles," CD-ROM, Transportation Research Board (TRB) Annual Meeting, Washington, D.C., USA 2008.
74. Giory Joseph and Ramamurthy K. Strength and permeation characteristics of cold-bonded fly ash aggregate concrete, *Proceedings of International Conference on Sustainable Concrete Construction*, Ratnagiri, India, 8-10 Feb. 2008, 125-131.
75. Indu Siva Ranjini G., and Ramamurthy K. "Evaluation of synthetic based preformed foam concrete" International Conference and exhibition on Innovative World of Concrete 2008 (Dec 11-14 2008)

Distinguished Visitors to the Department:

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Driscoll Richard, Dr.Le Coz & Ms. Das Safety Experts from Renault Car Company, France	May 21, 2008	Explore the possibilities of research collaboration
2	Prof. R. Srinivasan, Texas A & M University, USA	June 6, 2008	Delivered a talk

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
3	Prof. Chew Yong Tian Mr. Ong See Ho Mr. Chin Jen Chyi, Professional Engineers Board, Singapore	July 21, 2008	Joint Project
4	Prof. Harihar Rajaram, University of Colorado, Boulder	July 22, 2008	Delivered a talk
5	Prof. Shashi Nambisan Prof. Reg Souleyrette Prof. Terry Wipf, Iowa State University	September 15, 2008	To Explore Research Collaboration
6	Prof. R Kerry Rowe, Queen's University	October 8, 2008	Delivered a talk
7	Prof. Ron Harichandran, Michigan State University	October 24, 2008	Delivered a talk
8	Prof. Chris Bell, Associate Dean Oregon State University	October 29, 2008	Visited the Laboratory and had discussions with the faculty
9	Dr. Kathrine Johnson, Clarkson University	November 12, 2008	Visited the Laboratory and had discussions with the faculty
10	Prof. ED. Ray Prof. Sabah Randhawa Prof. Chris Bell Oregon State University	December 2, 2008	Visited the Laboratory and had discussions with the faculty
11	Prof. Rolf Eligehausen Stuttgart University	December 3, 2008	Delivered Prof. CSK Memorial Lecture
12	Mr. Gitakrishnan Ramadurai RPI University, US	December 10, 2008	Delivered a talk
13	Dr. Udai P Singh President Elect. EWRI of ASCE	January 1, 2009	Delivered a talk
14	Profs. Harvey Perlman, Prof. Prem Paul Prof. David Allen Prof. Larry Rillet, Prof. Namas Chandra University of Nebraska Lincoln, USA	February 4, 2009	Visited the Laboratory and had discussions with the faculty
15	Prof. Ralph Zee, Prof. David Dyer, Mr. Dan Bochniak, Mr. David Springer Mr. Luther Strange Auburn University, USA	February 9, 2009	Visited the Laboratory and had discussions with the faculty
16	Prof. Erich. J Plate University of Karlsruhe Germany	March 3, 2009	Delivered a talk
17	Dr. Ramachandran Balakrishnan Caliper Corporation, USA	March 11, 2009	Delivered a talk

Other Activities of the Department/Centre:

Integrated Construction Practice Laboratory (BSB 207) inaugurated on 8th April 2008 by Auto Desk, Bangalore

The Civil Engineering Dept. has organized a workshop on "Innovative Teaching-Learning Methodologies" during 2-3 January 2009

Civil Engineering workshop (BSB 102) Inaugurated on 7th January 2009

Eighteen retired faculty members and one German Prof, Plake visited the Department on 28th February 2009 as part of the Nostalgia program of the Institute. The visitors included the first HoD of the Department Prof. C.G. Swaminathan and several other senior faculty members who have played important role in the development of the department. They shared their experience in the development of the department.

Prof. S.R. Gandhi and Prof K. Rajagopal have been elected as Executive Committee Members of the Indian Geotechnical Society, New Delhi

Mr. Shajan Joykutty, B.Tech. Civil 1985 batch and currently with Hazen Sawyer Associates, USA has delivered lecture on "Engineering Careers in the United States" on 9th February 2009.

Mr. Raj Cherubal, City Connect, Chennai delivered lecture on "Chennai City Connect: Projects and how can you help" on 11th February 2009.

CEA FEST 2009 organized by the Civil Engineering Association during 6-8 March 2009. In this annual programme brain storming sessions, technical competitions, quizzes were conducted. Students from various Technical Institutions participated.

India's Biggest Civil Engineering Quiz 'Bending Moment 08-09' for Engineering College students conducted by the Civil Engineering Association on 20th March 2009.

The Department of Civil Engineering organized the Student Symposium on Research in Civil Engineering' during March 5-6, 2009. About 300 students / delegates (150 from outside) participated and 97 research papers were presented (11 from IITM) in the symposium. Free Boarding and Lodging and also partial financial support towards travel have been arranged for all the outside participants. Industries, Construction Companies and Research organizations provided financial support for the symposium. A grand cultural programme by Kalakshetra Artists was arranged followed by Symposium Dinner at OAT.

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.Tech. (Part-time UOP), 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	CS649	Device Drivers Practicum
2	CS679	Geometry and Photometry based Computer Vision
3	CS680	VLSI Design Automation Algorithms
4	CS681	Information Theory and Coding

New lab(s) established: Computer Architecture and Systems Lab

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	25	21	28	28	3	105
Dual Degree	20	17	11	12	12	72
M.Tech.	53	42	-	-	-	95
M.S.	09	24	19	24	24	100
Ph.D.	09	07	5	10	25	56
Total	116	111	63	74	64	428

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	Sanasam Ranbir Singh		World Wide Web Conference	22 nd – 27 th Apr '08, Beijing, China	
2	Balaji Lakshmanan		Asia Pacific Student Entrepreneurship Summit	1 st - 25 th Apr 08 Standard University California	
3	Rohit D Vallam		International Symposium on Modelling and Optimization in Mobile	31 st – 4 th Apr '08, Berlin, Germany	
4	Kiran Kumar R		First ACM International Workshop on Heterogenous Sensor & Actor Networks 2008	26 th – 30 th May '08, Hong Kong	

5	Ashish Choudhary		The 13th Australasian Conference on Information Security and Privacy (ACISP 2008)	7 th – 9 th July '08 Wollongong, Australia	
6	R. Padmanabhan		International Conference on Audio, Language and Image Processing (ICALIP 2008)	7 th – 9 th July 2008, Shangai, China	
7	Rachit Arora		2nd Workshop on Analytics for Noisy Unstructured Text Data (AND 2008)	24 th July '08, Singapore	
8	Ashish Choudhary & Arpita Patra		International Conference on Information Theoretic Security (ICITS 2008)	10 th -13 th Aug '08, Calgary, Canada	
9	Ashish Choudhary & Arpita Patra		Twenty-Seventh Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC 2008)	18 th -21 st Aug'08 Toronto,Canada	
10	Raghunandan		European Conference on Case Based Reasoning, ECCBR08	1 st - 4 th Sep '08, Trier, Germany	
India					
1	T.Veena R.Padmanabhan & Harendra Kumar Misra Anil Kumar Reddy		Machine Learning Workshop	21 st -25 th Apr '08 Bangalore	
2	S. Sanand T.Ruso G.V. Sairam		6th Workshop on Smart & Secure Environment	20 th & 21 st June '08	
3	Nitin Kumar Veena T		Work Shop on Ontology, NLP, Information Retrieval, Information	16 th -18 th July '08 IIT Bombay	

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

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1	N. Sadagopan (PhD Scholar)		National Doctoral Fellowship Award	AICTE
2	Sreyasee Das Bhattacharjee (PhD Scholar)		IBM PhD Fellowship award for 2008-09	IBM
3	Devanathan V (PhD Scholar)		Best Doctoral Thesis Award. (This is an International prize awarded every year in the VLSI Test Symposium, held at Berkeley.) II Prize: Duke University III Prize: Stanford University	IEEE Test Technology Technical Council 2008
4	Vimalkumar Jeyakumar (3rd B.Tech Student)		First Prize at the India Student Mathematica Competition 2008	Wolfram Research and Sierra Atlantic Software

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.	N Srivatsan	CS05B020	Institute Merit Prize	IITM
2.	Hari S	CS06M014	Institute Merit Prize	IITM

4.7.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor:

Gonsalves T.A., Ph.D (Stanford)[Head]

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, Real-Time Systems, Computer Networks and Fault-Tolerant Computing Systems.

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.

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)

Real-time Systems, Optical and Wireless Networks

Raghavan S.V., Ph.D (IIT, Madras)

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:

Sukhendu Das, Ph.D (IIT Kharagpur)

Visual Perception - Computer Vision, Image processing and pattern recognition, Graphics, Neural Networks, Soft Computing.

Kamakoti V., Ph.D (IIT Madras)

Software for VLSI Design, Computational Geometry, High Performance Computing.

Deepak Khemani, Ph.D (IIT Bombay)

Artificial Intelligence, Knowledge based systems, Natural Language Processing and Neural Networks.

Chandra Sekhar C, Ph.D
(IIT Madras)

Speech Recognition, Artificial Neural Networks, Kernel Methods.

Krishna Moorthy Sivalingam., Ph.D
(SUNY Buffalo)

Wireless Sensor Networks, Optical Network

Assistant Professor:

Shankar Balachandran., Ph.D (UT, Dallas)	CAD for VLSI, Reconfigurable Computing, Computer Architecture
Sufanu Chakraborti., Ph.D(Robert Gordon University, UK)	Information Retrieval, Memory-based reasoning and Machine learning.
Anurag Mittal., Ph.D (U. of Maryland)	Computer Visualization, Computer Graphics
Madhu Mutyam., Ph.D (IIT Madras)	Processor architecture (power, performance, thermal, reliability, and process variation-aware designs) and computability theory.
Narayanaswamy N.S., Ph.D (IISc)	Software for Information Management, Algorithms. and Complexity Theory.
Ravindran B., Ph.D (University of Massachusetts, Amherst)	Machine Learning, Reinforcement Learning, Data Mining, Information Filtering, Knowledge Representation.

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

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

Sl. No.	Coordinator(s)	Title	Period
Symposia:			
1	Jointly by Deepak Khemani (Dept of CSE) & Prof. B Yegnanarayana (IIIT Hyderabad)	Organized the first Indo-UK Roundtable Meeting on Artificial Intelligence	11 th - 12 th Dec '08, Hyderabad
Workshop:			
1	Dr. V. Kamakoti	RIGHT START 2008 (workshop for empowerment of Rural School Teachers); Organized jointly by CCE & ASHA Foundation	3 rd – 9 th May '08
2	Jointly by Prof. Hema A Murthy (Dept of CSE) & Dr. Sriram (DOMS)	Workshop for the Blind	12 th May -11 th July'08
1	Deepak Khemani and B. Ravindran	Workshop on AI (jointly organized by IITM & British Council)	9 th & 10 th December, 2008
Short term Course:			
1	Dr. V.Kamakoti	Short term course on Agile Programming; Organized by Dept of CSE & CCE, IITM (approved by AICTE)	19 th – 31 st May'08
2	Prof. T.A.Gonsaves, Prof. Hema A Murthy & Dr. Shankar Balachandran	Short term course on "Teaching Computer Networks Effectively"	16 th to 27 th June '08

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. S.V. Raghavan	6th Workshop on Smart & secure Environment		20 th & 21 st June '08
Conference:				
1	Dr. T. A. Gonsalves	Session Chair, ICCBN Conference Bangalore		16 th July '08
2	Dr. Madhu Mutyam	Session Chair, International Symposium on Low Power Electronics Design		10 th – 13 th Aug '08 Bangalore
4	Dr. Deepak Khemani	IEEE-Tencon 2008		18 th -21 st Nov' 08, Hyderabad, India
5	Hema A Murthy	"Speech Synthesis Consortium." (Invited by DIT to lead the consortium)		22 nd Aug '08 DIT, New Delhi
6	Dr. S. V. Raghavan	4th National conference on IT in Defense		30 th Aug '08 Bangalore
7	Dr. Madhu Mutyam	Session Chair, International Conference on VLSI Design		5 th -8 th Jan '09, New Delhi

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Dr. D. Janaki Ram	Raising Programming abstractions from Objects to Services at IISc Centenary Conference on Electrical Engineering	IISc Bangalore	31st May'08
2	Dr. T.A.Gonsalves	Towards Internet for the Next Billion	Waterford Institute of Technology, Ireland,	3rd June '08
3	Dr. Deepak Khemani	Delivered an invited talk "A CBR approach to Knowledge Management" at the conference Sangoshthi 2008, Role of IT-Enabled Knowledge Management in Growth of India	Sarabhai Auditorium, IGCAR, Kalpakkam	24 th -26 th July '08
4	Dr. Deepak Khemani	Delivered the keynote address at the AICTE Sponsored Staff Development Programme on Artificial Intelligence Applications in Manufacturing	Institute of Road and Transport Technology, Erode.	6 th April, '09
5	Dr. Kamala Krithivasan	Ambiguity in Languages at a workshop on IT and language processing.	Satyasai University, Prasanthinilayam	9th Aug '08

6	Dr. Sukhendu Das	Content based Video Retrieval (CBVR) based on salient features of shape and Trajectory information of a video object	Dept of CSE, Univ. of Western Australia	15th& 29th Aug'08
7	Dr. C. Chandrasekhar	"Kernel Methods for Pattern Analysis" at Workshop on "Pattern Recognition and Machine Learning for Defense Science Applications"	DRDO, New Delhi	28-29 Aug '08
8	Dr. B. Ravindran	"Using lexical chains for document representation"	Robert Gordon university, Scotland	23 rd June '08

Visits abroad:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	Prof. S. V. Raghavan	Canberra, Australia	3 rd -4 th Apr'08	To participate in the 3rd meeting of the India – Australia Joint Science & Technology Committee	
2	Dr. Krishnamoorthy Sivalingam	Phoenix, Arizona, USA	14 th -17 th Apr' 08	To attend the 27th IEEE Conference on Computer Communications (INFOCOM) 2008	
3	Prof. C. Pandurangan	Sydney, Australia	21 st - 25 th Apr '08	To attend and present a paper at the 4th Intn. Security Practice & Experience Conference (ISPEC)	
4	Prof. C. Pandurangan	Beijing, China	6 th -15 th May '08	To deliver lectures and interact on research problems at Institute of Theoretical Computer Science, Tshinghua University, China	
5	Dr. B.Ravindran	Miami, USA	15 th - 17 th May '08	To attend and present a paper in the Twenty-First International Florida Artificial Intelligence Research Society Conference (FLAIRS 2008)	
6	Dr. B.Ravindran	University of Oklahoma, Norman	18 th - 19 th May '08	Research discussion	
7	Prof. T.A.Gonslaves	Sweden	24 th -29 th May'08	For meeting with Universities & Industries in connection with Indo-Swedish Project	
8	Prof. C. Pandurangan	Tolyo, Japan	18 th - & 19 th June '08	To attend Indo-Japan Workshop to discuss the details of collaboration at IIT Hyderabad	
9	Dr. Krishna Sivalingam	University of Maryland, USA	22 nd May'08 to 20 th July '08	In connection with ongoing research Project on "Wireless Sensor Networks"	

10	Dr. B. Ravindran	Robert Gordon university Scotland	24 th June to 27 th July '08	For research collaboration under the UKIERI scheme of UK Government
11	Dr. Kamala Krithivasan	Orlando, USA	7 th to 31 st July '08	To attend and present paper in conferences and also visit universities in USA.
12	Dr. B.Ravindran	Helsinki, <i>Finland.</i>	4 th - 10 th July '08	To attend and present a paper in 25th International Conference on Machine Learning (ICML 2008)
13	Dr. B.Ravindran	Redmond, Washington	28 th - 29 th July '08	To attend Microsoft Faculty Summit
14	Dr. Sukhendu Das	Perth, Australia	3 rd July to 5 th Sep '08	To accept an assignment as AUS-AID Fellowship at the University of West Australia
15	Dr. Krishna Sivalingam	UMBC Baltimore, USA	22 nd May to 20 th July'08	In connection with ongoing research project on "Wireless Sensor Networks
16	Dr. C. Pandu Rangan	Australia & Canada	6 th to 8 th Aug' 08 & 10 th to 13 th Aug '08	To attend the workshop & to discuss on Indo- Australian Project at QUT, Brisbane, Australia & To attend and present paper in ICTIS 2008 at University of Calgary, Alberta, Canada
17	Dr. S.V. Raghavan	Australia	5 th to 11 th Aug '08	To participate in the project meeting of the Apex Program co- ordination Committee at QUT, Brisbane, Australia
18	Dr. Sukhendu Das	Australia	5 th to 11 th Aug '08	To attend a workshop at QUT, Brisbane, Australia
19	Dr. Deepak Khemani	Robert Gordon University, Aberdeen	14 th Oct - 4 th Nov '08	Under the UKIERI program.
20	Prof. T. A. Gonsalves	Navarra, Spain	10 th -13 th Feb '09	Keynote Speaker, First intl. Forum on Talent Presented a talk on IITM Experience with Talent Development through Incubation
21	Dr. D. Janaki Ram	Germany	26 th Feb - 4 th Mar '09	To visit University of Karlsruhe, Germany under Indo – German Project

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
I. Honours:					
1	Prof. C. Pandurangan	Invited to serve in the Academic Council of Anna University as a Governor's Nominee for three years from 2008 April			
2	Prof. S.V. Raghavan	Nominated as the Technical Expert by the Government of India for the High Level Committee to establish National Knowledge Network			
ii. Awards:					
1	Anurag Mittal (with SUNY Buffalo)	HP Innovation Research Award	HP	Project proposal for gesture recognition	
2	A team of researchers led by Dr. B. Ravindran and Dr. Jeremy Wyatt of Univ. of Birmingham	UKIERI standard research award for the year 2008-2009		For their project titled Reinforcement Learning of Visual Routines for Autonomous Systems.	
3	Dr. C. Siva Ram Murthy	2008 IBM Real-time Innovation Faculty Award.	IBM TJ Watson Research Centre	For real time innovation Research projects	
4	The Semiconductor devices logic & circuits group. (Group comprising of Faculty from Depts of CSE &EE, IITM)	Techno shield award	Instituted by Indian Semiconductor Assn.,		

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

4.7.4 Design and Development Activities:

Patents:

Patents filed:

Sl. No.	Name of faculty	Topic of patent
1	Dr. Shankar Balachandran	Online Authentication System serving as unique and exclusive password generator for every internet transaction. (Indian Patent File No. 1329CHE08)
2	Dr. Shankar Balachandran	Online Security System Serving as a Unique and Exclusive Password Generator by Random and Dynamic Substitution of Symbols with Variable Length Boolean Strings for User Authentication Over Internet (Indian patent file No. 1530CHE08)
3	Dr. Shankar Balachandran	Hardware authentication over the web using off the shelf USB flash drive
4	Dr. Shankar Balachandran	Online Authentication mechanism using multiple keyboards and grids

4.7.5 Research and Consultancy:

Sponsored Research Projects: (new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Formal equivalence checking of digital designs	22/07/2008 to 21/01/2010	IGCAR	23.66	V. Kamakoti
2	Patterns to Decisions: Making data mining actionable	9/7/2008 to 8/7/2011	DST	9.29	B. Ravindran
3	Protecting critical infrastructure from denial of service attacks: Tools, technology and policy	31/7/2008 to 30/7/2011	DST	132.05	S.V. Raghavan
4	Academic and Research Collaboration in Communication and Information Technologies	14/10/2008 to 13/10/2013	DRDO	200	HoD
5	Multimodal command and control by integrating two-handed gestures and speech	2/12/2008 to 31/7/2009	HP	9.96	Anurag Mittal
6	RAS: An end-to-end real-time alert system based on real-time Java (IBM Real-time Innovation Award)	29/1/2009 to 28/7/2012	IBM, USA	7.35	C. Siva Ram Murthy
7	Distributed software engineering	27/3/2008 to 26/3/2011	DST	19.24	D. Janaki Ram

8	Reinforcement learning of visual routines in autonomous systems	1/3/2009 to 31/3/2011	UKIERI	13.43	B. Ravindran
9	A Study on Computability models based on graph splicing systems		DST	6.02	Dr. Rama R (Dept of Maths) & Dr. Kamala Krithivasan (Dept of CSE)

Industrial Consultancy projects: (new)

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)

RBIC projects: (new)

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Janakiram D	Device grid storage network	Xerox Corporation	51.60
2	Ravindran B	Algorithms for concept learning	General Motors India Pvt. Ltd.,	16.53
3	Janakiram D	Thales @ IITM	Thales Software India Pvt. Ltd.,	10.83
4	Pandurangan C	Comments on fault attack on AES	NTT Com Asia Limited	10.8

Retainer Consultancy: (new)

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Gonsalves T A	3i Infotech Limited	3i Infotech Limited	1.25
2	Ravindran B	Ericsson India Pvt. Ltd.,	Ericsson India Pvt. Ltd.,	1.20
3	Raghavan S V	National Informatics Centre	National Informatics Centre	3.47

5.5 Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	...	0
Total No. of papers published in Refereed International Journal	...	12
Total No. of papers presented in National Conferences	...	05
Total No. of papers presented in International conferences	...	52

Details:**In Refereed International Journals:**

1	T, Venkatesh and A, Sankar and A, Jayaraj and C, Siva Ram Murthy	A Complete Framework to Support Controlled Burst Retransmission in Optical Burst Switching Networks	IEEE Journal on Selected Areas in Communications, 26 (3). pp. 65-73, 2008
2	A, Antony Franklin and C, Siva Ram Murthy	A link layer adaptive pacing scheme for improving throughput of transport protocols in wireless mesh networks	Computer Networks, 52 (8). pp. 1583-1602, 2008
3	V R, Devanathan and C P, Ravikumar and Mehrotra, Rajat and V, Kamakoti	A Novel Power-Managed Scan Architecture for Test Power and Test Time Reduction	Journal of Low Power Electronics, 4 (1). pp. 101-110, 2008
4	G V, Raju and T, Bheemarjuna Reddy and C, Siva Ram Murthy	Adaptive FEC-Based Packet Loss Resilience Scheme for Supporting Voice Communication over Ad hoc Wireless Networks	IEEE Transactions on Mobile Computing, 7 (10). pp. 1184-1199, 2008
5	Sastry, Siva Kumar and Reddy, Vishnu Vardhan and V, Kamakoti and M Vedula, Vivekananda and M, Kailasnath	Automatic Constraint Based Test Generation for Behavioural HDL Models	IEEE Transactions on Very Large Scale Integration (VLSI) Systems, 16 (4). pp. 408-421, 2008
6	V, Masilamani and K, Krithivasan	Bi-Level Image Reconstruction from Its Two Orthogonal Projections with Periodicity and a Sub Image Constraints	International Journal of Imaging Science and Engineering, vol. 2, no. 1, 2 (1). pp. 170-173, 2008
7	N, Sebastian and K, Krithivasan	Inference of Regular Expressions from a Pattern Automation	Journal of Combinatorics, Information and System Sciences, 33, 2008
8	A, Jayaraj and T, Venkatesh and C, Siva Ram Murthy	Loss Classification in Optical Burst Switching Networks using Machine Learning Techniques: Improving the Performance of TCP	IEEE Journal on Selected Areas in Communications, 26 (6). pp. 45-54, 2008
9	S, Jayashree and B S, Manoj and C, Siva Ram Murthy	Network Lifetime Driven MAC Protocols for Ad hoc Wireless Networks	ACM/Springer Wireless Networks, 14 (6). pp. 929-947, 2008
10	Vijay, Srinivas and D, Janakiram	Node Capability Aware Replica Management for Peer-to-Peer Grids	IEEE transactions on SMC Part A, 2008
11	D, Janakiram and Ashok, Gunnam and Suneetha, N and Vineet, Rajani and Vinay, Kumar Reddy	Object Oriented Wrappers for Linux kernel	Software: Practice and Experience Journal, 2008
12	S, Sriram and T, Bheemarjuna Reddy and C, Siva Ram Murthy	The Influence of QoS Routing on the Achievable Capacity in TDMA Based Ad hoc Wireless Networks	ACM/Springer Wireless Networks, 2008

In Proceedings of National Conferences:

1	C, Jagadish and S, Thanga Prakash and A. Gonsalves, Timothy	Network Management Traffic Optimization	National Conference on Communications: NCC-2008.
2	Guduru, Suresh and D. N, Rajan and Rehman, Jakir and A. Gonsalves, Timothy	Virtual Tuner Network for Video Services over the CATIUS Cable Access Network	National Conference on Communications: NCC-2008
3	KS, Karthik and S, Shyam and N, Ramasubramanian and M, Shoaib and Mohammad, Noor and V, Kamakoti	A SEU Tolerant CLB RAM for In-Circuit Reconfiguration	12th IEEE Intl. VLSI Design and Test Symposium (VDAT'08), Bangalore
4	Singh, Sanasam Ranbir and A. Murthy, Hema and A. Gonsalves, Timothy	Effect of word density on measuring words association	1st Bangalore annual Compute conference, 2008
5	G, Satish Kumar and A. Gonsalves, Timothy	QoS in Ethernet Access Ring	National Conference on Communications: NCC-2008

In Proceedings of International Conferences:

1	Chowdary, C. R. and Sreenivasa Kumar, P.	Sentence Ordering for Coherent Multi-document Summary Generation	British National Conference on Databases(BNCOD), 2008
2	V, Sudha Rani and S. V., Raghavan	A Greedy Approach to Beacon Placement for Localization	IEEE IFIP Wireless Days 2008, Dubai
3	A K, Arun and A, Antony Franklin and C, Siva Ram Murthy	A Load Aware Channel Assignment and Link Scheduling Algorithm for Multi-Channel Multi-Radio Wireless Mesh Networks	15th Annual IEEE International Conference on High Performance Computing (HiPC), December 17-20, 2008, Bangalore, India
4	B, Venkata Ramana and K, Srinivasa Pavan and C, Siva Ram Murthy	A Novel Learning Based Solution for Efficient Data Transport in Heterogeneous Wireless Networks	15th Annual IEEE International Conference on High Performance Computing (HiPC), December 17-20, 2008, Bangalore, India
5	T V, Kalyan and Madhu, Mutyam	Word-interleaved cache: an energy efficient data cache architecture	ACM/IEEE International Symposium on Low Power Electronics and Design (ISLPED'08)
6	Chevireddy, Sadhana and A. Murthy, Hema	A syllable based segment vocoder	National Conference on Communications: NCC-2008
7	Bhavani, Shankar and Kannan, Srinathan and C, Pandu Rangan	Alternative Protocols for Generalized Oblivious Transfer	ICDCN 2008
8	Swaminathan, P and Balaraman, Ravindran	Co-SOFT-Clustering: An Information Theoretic approach to obtain overlapping clusters from co-occurrence data	Proceedings of the Twenty First Florida AI Research Society Conference (FLAIRS 2008), AAAI Press.

9	Rachuri, Kiran Kumar and A, Antony Franklin and C, Siva Ram Murthy	Coverage Based Expanding Ring Search for Dense Wireless Sensor Networks	15th Annual IEEE International Conference on High Performance Computing (HiPC), December 17-20, 2008, Bangalore, India
10	Sharmila, Deva Selvi and S, Sree Vivek and Naga, Naresh Karuturi and G, Ragavendran and C, Pandu Rangan	Cryptanalysis of Bohio et al.'s Identity Based Broadcast Signcryption (IBBSC) Scheme for Wireless Ad-Hoc Networks	IEEE Privacy Security and Trust (PST)
11	Cheboli, Deepthi and Balaraman, Ravindran	Detection of keratoconus by semi-supervised learning	ICML/UIAI workshop on Machine Learning in health care applications, 2008
12	Singh, Sanasam Ranbir and A. Murthy, Hema and A. Gonsalves, Timothy	Determining user's interest in real time	Proceeding of the 17th international conference on World Wide Web, 2008
13	Bhavani, Shankar and Prasant, Gopal and Kannan, Srinathan and C, Pandu Rangan	Unconditionally reliable message transmission in directed networks	SODA 2008
14	S, Sharmila Deva Selvi and S, Sree Vivek and Naga, Naresh Karuturi and Deepanshu, Shukla and C, Pandu Rangan	Efficient and Provably Secure Certificateless Multi-receiver Signcryption	LNCS ProvSec, 2008
15	Arpita, Patra and Ashish, Choudhary and Madhu, Vaidyanathan and C, Pandu Rangan	Efficient Perfectly Reliable and Secure Message Transmission Tolerating Mobile Adversary	ACISP 2008
16	Kannan, Srinathan and Ashish, Choudhary and Arpita, Patra and C, Pandu Rangan	Efficient Single Phase Unconditionally Secure Message Transmission with Optimum Communication Complexity	Proc. of Twenty-Seventh Annual ACM SIGACT SIGOPS Symposium on Principles of Distributed Computing (PODC 2008)
17	Handigol, Nikhil and K, Selvaradjou and A, Antony Franklin and C, Siva Ram Murthy	Energy Efficient Directional Routing for Effective Actor-Actor Communication in Wireless Sensor and Actor Networks	International Conference on Communication, Convergence, and Broadband Networking (ICCBN 2008), July 17-20, 2008, Bangalore, India.
18	Rachuri, Kiran Kumar and A, Antony Franklin and C, Siva Ram Murthy	Energy Efficient Searching in Delay-Tolerant Wireless Sensor Networks	1st ACM International Workshop on Heterogeneous Sensor and Actor Networks (HeterSanet), May 26-30, 2008, Hong Kong.
19	Raghunandan, M. A. and Wiratunga, Nirmalie and Chakraborti, Sutanu and Massie, Stewart and Khemani, Deepak	Evaluation Measures for TCBR Systems	Proceedings of the 9th European Conference on Case-Based Reasoning, 2008
20	L, Jeganathan and K, Krithivasan and R, Rama	Graph Splicing Systems	Proceedings of TMFCS, July 2008, Orlando, USA

21	Maleka, S. and Amjed, Shareef and C, Pandu Rangan	The Deterministic Protocol for Rational Secret Sharing	4th International Workshop on Security in Systems and Networks (SSN 2008), USA
22	Arora, Rachit and Balaraman, Ravindran	Latent Dirichlet Allocation and Singular Value Decomposition based Multi-Document Summarization	Proceedings of the Eighth IEEE International Conference on Data Mining (ICDM 2008). IEEE Press.
23	Arora, Rachit and Balaraman, Ravindran	Latent Dirichlet Allocation Based Multi-Document Summarization	Proceedings of the Second Workshop on Analytics for Noisy Unstructured Text Data (AND 2008). ACM Press (Best Student Paper).
24	T, Bheemarjuna Reddy and D, Agrawal and C, Siva Ram Murthy	LEEMP: Light-Weight Energy Efficient Multicasting Protocol for Mobile Ad hoc Wireless Networks	International Conference on Communication, Convergence, and Broadband Networking (ICCBN 2008), July 17-20, 2008, Bangalore, India.
25	Ray, Aniket and Kumar, Vikas and Balaraman, Ravindran and Gopal, Dr. Lingam and Verma, Dr. Aditya	Machine Learning to predict the incidence of Retinopathy of Prematurity	Proceedings of the Twenty First Florida AI Research Society Conference (FLAIRS 2008)
26	V, Masilamani and K, Krithivasan	Min-cost Max-flow Based Algorithm for Reconstructing Binary Image from Two Projections Using Similar Images	International Workshop on Combinatorial Image Analysis, 2008
27	T, Rakesh Kumar and S. V., Raghavan	Mobile PassPattern System (MPPS): Advanced User Authentication system for mobile devices	IEEE IFIP Wireless Days 2008, Dubai
28	Sriram, Kailasam and Santosh, Kumar and D, Janakiram	Mobile Telemedicine using Data Grid	International Conference on Communication, Convergence and Broadband Networking (ICCBN 2008)
29	V, Rohit and A, Antony Franklin and C, Siva Ram Murthy	Modelling Co-operative MAC Layer Misbehaviour in IEEE 802.11 Ad Hoc Networks with Heterogeneous Loads	6th International Symposium on Modeling and Optimization in Mobile, Ad Hoc, and Wireless Networks (WiOpt), March 31 - April 4, 2008, Berlin, Germany.
30	S, Balasubramanian and S, Harini and C, Pandu Rangan	On Conditional Covering Problem	19th International Workshop on Combinatorial Algorithms, 2008
31	Amjed, Shareef and C, Pandu Rangan	On Optimal Probabilistic Asynchronous Byzantine Agreement	ICDCN 2008
32	R, Padmanabhan and A. Murthy, Hema	On parametric representations of the modified group delay	International Conference on Audio, Language and Image Processing (ICALIP 2008)
33	Narayanamurthy, Shravan Matthur and Balaraman, Ravindran	On the Hardness of Finding Symmetries in Markov Decision Processes	Proceedings of the Twenty Fifth International Conference on Machine Learning (ICML 2008)

34	Madasu, Kishore Babu and A, Antony Franklin and C, Siva Ram Murthy	On the Prevention of Collusion Attack in OLSR-based Mobile Ad hoc Networks	16th International Conference on Networks (ICON 2008), December 12-14, 2008, New Delhi, India
35	V, Masilamani and K, Krithivasan and K G, Subramanian and A, Miin Huey	On the Reconstruction of 2D-arrays from their Parikh Images	Internation Symposium on New Development and Applications(GFTA 2008, 0-13 NOV, 2008, Universiti Kebangsaan Malaysia, Bangi, Malaysia.
36	K, Lakshmanan and M, Anand and K, KRITHIVASAN	On the trade-off between ambiguity and measures in internal contextual grammars	DCFS 2008, Charlottetown, Canada.
37	AshwinKumar, B V and Arpita, Patra and Ashish, Choudhary and Kannan, Srinathan and C, Pandu Rangan	On Tradeoff Between Network Connectivity, Phase Complexity and Communication Complexity of Reliable Communication Tolerating Mixed Adversary	Proc. of Twenty-Seventh Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing (PODC 2008)
38	T, Rakesh Kumar and S. V., Raghavan	PassPattern System (PPS): A Pattern-Based User Authentication Scheme	7th IFIP International Conference on Networking (IFIP Networking 2008), Singapore.
39	T, Rakesh Kumar and S. V., Raghavan	PassPattern System (PPS): A Pattern-Based User Authentication Scheme	7th IFIP International Conference on Networking (IFIP Networking 2008).
40	Ashish, Choudhary and Arpita, Patra and AshwinKumar, B V and Kannan, Srinathan and C, Pandu Rangan	Perfectly Reliable and Secure Communication Tolerating Static and Mobile Mixed Adversary	Proc. Of Information Theoretic Security, Third International Conference, ICITS 2008.
41	P, Swapna Raj and Balaraman, Ravindran	Personalized Web-page Rendering System	Proceedings of the Fourteenth International Conference on Management of Data (COMAD), 2008
42	Kannan, Srinathan and Arpita, Patra and Ashish, Choudhary and C, Pandu Rangan	Unconditionally Reliable Hypergraphs	Proc. of Seventh International Conference on Cryptography and Network Security, 2008
43	Sravanthi, M. and Chowdary, C. R. and Sreenivasa Kumar, P.	QueSTS: A Query Specific Text Summarization System	Proceedings of the 21st International FLAIRS Conference, 2008
44	Shaik, Maleka and Amjed, Shareef and C, Pandu Rangan	Rational Secret Sharing with Repeated Games	ISPEC 2008
45	V, Masilamani and K, Krithivasan	Reconstructing 3D-Structure from Microscopic Projections Using Filters	2nd International Symposium on Bio-and Medical Informatics and Cybernetics (BMIC 2008), Orlando, USA.
46	Varan, Kirtane and C, Pandu Rangan	RSA-TBOS Signcryption with Proxy Re-encryption	ACM Workshop on Digital Rights Management., 2008

47	S, Sharmila Deva Selvi and S, Sree Vivek and G, Ragavendran and Naga, Naresh Karuturi and C, Pandu Rangan	Schemes and a Provably Secure ID-Based Broadcast Signcryption (IBBSC) Scheme	9th International Workshop on Information Security Applications, 2008
48	Chevireddy, Sadhana and A. Murthy, Hema and Sekhar, C Chandra	Signal processing based segmentation and HMM based automatic clustering for a syllable based segment vocoder at 1.4Kbps	16th European Conference on Signal Processing and Communication, EUSIPCO-2008
9	Sharmila, Deva Selvi and S, Sree Vivek and Neha, Jain and C, Pandu Rangan	Threshold Signcryption Scheme	IEEE/IFIP Trust Security and Privacy for Pervasive Applications, 2008
50	Arun, Kumar and D, Janakiram	Towards a Programming Language for Services Computing	17th International World Wide Web Conference (WWW 2008), Beijing, China
51	Lakshmanan, Balaji and Balaraman, Ravindran	Transfer Learning with Differently-abled Robots	IROS Workshop on Robotics Challenges for Machine Learning, 2008
52	Arpita, Patra and Ashish, Choudhary and C, Pandu Rangan	Unconditionally Reliable and Secure Message Transmission in Directed Networks Revisited	International Conference on Security and Cryptography for Networks, SCN 2008.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Dr. Krishnaiyan Thulasiraman Professor and Hitachi Chair in Computer Science University of Oklahoma	16 th Apr '08	To give a seminar talk
2	Prof. Byrav Ramamurthy, University of Nebraska Lincoln	From 4 th Feb 2009 (3 weeks)	Research Interaction with faculty and students
2	Dr. N. R. Srinivasa Raghavan Lab Group Manager, Customer Driven Advanced Vehicle Development Group, GM-India Science Lab, Bangalore.	2nd May '08	To deliver a lecture
3	Delegates from Science & Innovation group, Bangalore (Part of British High Commission)	7th May '08	Department Visit
4	Prof. S. Lakshmi Narasimhan Columbia University	31st May '08 to 7 th June'08	To deliver a series of Lectures
5	Dr. Sriram Rajamani Principal Researcher and Research Manager Microsoft Research India	4 th Aug'08	To deliver a guest lecture
6	Dr. Alexander Rudnický Carnegie Mellon University, USA	12 th Aug'08	To deliver a guest lecture

4.8 Department of Electrical Engineering

4.8.1 Introduction

The Department of Electrical Engineering encompasses the fields of Communication, Power, Micro Electronics, Control and Instrumentation. The Department comprises of the following sections.

Communication Systems

- Communication Laboratory
- Digital Signal Processing Laboratory
- Image Processing Laboratory
- Microwave and Antenna Laboratory
- Telematics Laboratory

Power Systems, Power Electronics Machines and Drives

- Electrical Machines and Drives Laboratory
- High Voltage Laboratory
- Power Electronics Laboratory
- Power Systems Laboratory

Control and Instrumentation Systems

- Control and Robotics Laboratory
- Measurements and Instrumentation Laboratory

Microelectronics and VLSI Design

- Digital Systems Design Laboratory
- FPGA Laboratory
- Microelectronics and MEMS Laboratory
- VLSI Laboratory

4.8.2 Academic Programmes

The department offers the following course based programmes

- **B. Tech Degree in Electrical Engineering** (*an integrated, eight semester long, undergraduate degree that combines all areas of Electrical Engineering: Communication, Control, High Voltage, Instrumentation, Microelectronics, Signal Processing Power Systems and Power Electronics*)
- **Dual degree (B. Tech and M. Tech Degrees) in Electrical Engineering** (*an integrated, ten semester long, undergraduate degree that combines all areas of Electrical Engineering: Communication, Control, High Voltage, Instrumentation, Microelectronics, Signal Processing Power Systems and Power Electronics and the postgraduate degree in any one of the specializations:*
 - (1) Communication Systems
 - (2) Power Systems and Power Electronics
 - (3) Microelectronics and VLSI design
- **M. Tech Degree in Electrical Engineering** (*postgraduate degree in any one of the specializations:*
 - (1) Communication Systems
 - (2) Power Systems and Power Electronics
 - (3) Microelectronics and VLSI design
 - (4) Control and Instrumentation

The department offers the following research based programmes

- **M.S Degree in Electrical Engineering** (*postgraduate level research degree*)
- **Ph.D. Degree in Electrical Engineering** (*Doctoral level research degree*)

The areas of research: Antennas, Biomedical Instrumentation, Biosensors, Coding and Information Theory, Communication Systems, Control Engineering, Digital Techniques and Computer Technology, Electrical Machines and Drives, Electromagnetic Interference and Compatibility, Electronic Circuits, High Voltage Engineering, Image and

Digital Signal Processing, Laser Communication, Measurements and Instrumentation, MEMS, Microwave Engineering, Nanotechnology, Optical Communication, Optical Instrumentation, Photonics, Power Electronics, Power Systems, Robotics and VLSI, Semiconductor Devices, Wireless Communication.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	40	43	50	60	4	197
Integrated M.Tech.						
Communication Systems	18	17	17	17	16	85
Power System & Power Electronics	11	9	11	10	17	58
Micro-Electronics & VLSI Design	19	16	16	18	22	91
M.Tech.						
Communication Systems	25	32	–	–	–	57
Power System & Power Electronics	7	9	–	–	–	16
Micro-Electronics & VLSI Design	13	16	–	–	–	29
Control & Instrumentation Systems	7	–	–	–	–	7
M.S.	7	22	22	25	25	101
Ph.D.	6	16	14	13	31	80
Total	153	180	130	143	115	721

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

S.No	Name of the faculty	Title	Institution	Period
Abroad				
1.	Ms. Angeline Ezhilarasi	International Conference on Energy Engineering	Pondicherry Engineering College	08.01.09
2.	Mr. R.E. Fernandez	ICMEMS 2009	IITMadras	03.01.09
3.	Ms. L. Sujatha	ICMEMS 2009	IITMadras	03.01.09
4.	Mr. Somashekara Bhat	ICMEMS 2009	IITMadras	03.01.09
5.	P.Kanakasabapathy	IEEE International Conference on Sustainable Energy Technologies (ICSET 2008)	Singapore	25.11.2008
6.	Mr. M.K. Ilampoornan	International Symposium on Electrical Insulating Materials,	Yokkaichi, Japan	07.09.08 to 11.09.08

7.	Mr. M.R. Ramesh Kumar	WPMC 2008	Lapland, Finland	08.09.08 to 11.08.08
8.	Gokul Sridharan	ISIT 2008, Toronto	Canada	6.7.2008 to 11.7.2008
9.	Gajanana Krishna	ISIT 2008, Toronto	Canada	6.7.2008 to 11.7.2008
10.	Renny E. Fernandez	Tenth World Congress on Biosensors - International Conference	Shanghai China	14.05.08
11.	M. R. Ramesh Kumar	WOCN 2008, Surabaya	Indonesia	5.5.2008 to 7.5.2008
India				
12.	C. Manikandan	NCC 2009	IIT Guwahati	16.1.2009 to 18.1.2009
13.	M. Bama	NCC 2009	IIT Guwahati	16.1.2009 to 18.1.2009
14.	Mr. J. Sharma	ICMEMS 2009	IIT Madras	03.01.09
15.	Mr. Paul Braineard E	ICMEMS 2009	IIT Madras	03.01.09
16.	Mr. R. Chendur Kumaran	XXXII National System Conference	IIT Roorkee	18.12.2008
17.	Mr. Manoj Kumar Maharana	XXXII National System Conference	IIT Roorkee	18.12.2008
18.	Mr. P. Kanakasabapathy	National Power System Conference	IIT Bombay	16.12.2008
19.	Mr. Kalyani Sundaram	National Power System Conference	IIT Bombay	16.12.2008
20.	L. Bharathkumar,	PHOTONICS-2008: International Conference on Fiber Optics and Photonics	IIT Delhi, India	December 13-17, 2008
21.	Rajesh Joseph	PHOTONICS-2008: International Conference on Fiber Optics and Photonics	IIT Delhi, India	December 13-17, 2008
22.	Shantanu Pal	PHOTONICS-2008: International Conference on Fiber Optics and Photonics	IIT Delhi, India	December 13-17, 2008
23.	Rupesh Kumar Navalakhe	IEEE Region 10 Third International Conference on Industrial and Information Systems	IIT Kharagpur, India.	December 8-10, 2008

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	D. Mahaveer Sathaiya	Technoinventor 2008 Award	India Semiconductor Association	May 2008

Names of students/scholars who won Institute Convocation / Institute Day Prize:

S.No	Name of the Student	Roll No.	Name of Prize	Name of Donor
1.	Arvind K R	EE05B006	Institute Merit Prize	IITM
2.	Jayaraj Joseph	EE06M038	Institute Merit Prize	IITM

4.8.3 Faculty and their Specialization

Name and Qualification	Areas of specialization
Professors	
Amitava Dasgupta, Ph.D (IIT Kharagpur)	Si and GaAs Devices, Technology and Simulation
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
Ashok Jhunjunwala, Ph.D (Maine)	Communication Networks, Fibre optics, Surface Acoustic Wave Devices.
Shreepad Karmalkar, Ph.D. (IIT Madras)	Semiconductor Device Modeling and Technology
Nandita Dasgupta, Ph.D (IIT Madras)	Si and III-V Semiconductor Devices, Tech, Simulation
Prabhu K.M.M., Ph.D (IIT Madras)	Signal Processing
Srinivasan S., Ph.D(IIT Madras)	Digital Design, DSP Architecture and applications, VLSI Design.
Vinita Vasudeven, Ph.D (IIT Bombay)	CAD for VLSI, VLSI Design
Analog Devices Chair Professor	
Mani Subramanian	Network Management and Broadband Network Systems
Visiting Professor	
Ashok S., Ph.D.	Microelectronics, Solar cells
Associate Professors	
Aravind R., Ph.D (California)	Image Processing and Compression

Jayashankar V., Ph.D (Anna)	Instrumentation and Measurement for high voltage applications
Krishna Vasudevan, Ph.D (IIT Madras)	Power Electronics
Rajagopalan A.N., Ph.D (IIT Bombay)	Image Processing and Computer Vision
Sarathi R., Ph.D.(IISc Bangalore)	High voltage Engineering
Swarup K.S., PhD (IISc Bangalore)	Power systems, ANN, Distribution Automation
Sridharan K., Ph.D (RPI, New York)	Robotics, Graphics, Web Programming
Assistant Professors	
Andrew Thangaraj, Ph.D (Georgia Tech)	Information theory, Error control coding
Anjan Chakravarthy, Ph.D (IIT Kharagpur)	Modeling of semiconductor devices
Anil Prabakar, Ph.D (Carnegie Mellon)	Electromagnetic fields, Optical Networks
Arun Mahindrakar, PhD (IIT Bombay)	Nonlinear and optimal Control Engineering
Balaji Srinivasan, PhD (New Mexico)	Fiber Optic Engineering
Bijoy Krishna Das, (Germany)	Optoelectronics devices and circuits
Kalyankumar B., PhD (IIT Kanpur)	Power system stability
Mathiazhagan C., Ph.D (California)	RF, Analog Circuits for Telematics.
Nagendra Krishnapura, Ph.D (Columbia)	nonlinear analog signal processing
Nitin Chandrachoodan, Ph.D (Maryland)	Digital Systems, Microprocessors, VLSI design
Manivasakan R., Ph.D (IIT Bombay)	Communication Networks.
Maheshkumar Ph.D (IIT Kanpur)	Power systems
Ramalingam C. S., Ph.D (Rhode Island)	Digital Signal Processing, Speech Recognition and Speech Coding
Shanthi Pavan Y., D.Sc (Columbia)	VLSI Design
Shanthi Bhattacharya PhD (IIT Madras)	Optical MEMS for telecommunication
Srikrishna B., Ph.D (Rice)	Wireless Communication, Information Theory
Venkatesh T.G., Ph.D.(IISc Bangalore)	Computer Architecture and Networks.
Bharath Bhikkaji, Ph.D (Uppsala)	Control of Mechatronic systems, Control Systems Design and Signal Processing.
Sivaprakasam M., Ph.D (California)	Biomedical engineering system
Krishna S., Ph.D (IISc Bangalore)	Power System Stability Analysis and Control. Flexible AC Transmission System (FACTS) Controllers.
Srinivas S., Ph.D (NIT Warangal)	Power Electronics & Machine Drives

Senior Scientific Officer Gr-I:

Renganathan, H., M.S (IIT Madras)

DSP. Microprocessor Systems

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. Amitava DasGupta	International Conference on MEMS, ICMEMS 2009	IIT Madras	03.01.09 to 05.01.09
2.	Dr. S. Karmalkar	Introduction to research	Vellore Institute of Technology	12.11.2008 to 13.11.2008
3.	Dr. S. Karmalkar	Introduction to Research	IIT Bombay.	23.05.2008 to 25.05.2008
Short term course				
1.	Dr. Amitava DasGupta	7 th Indo-German Winter Academy	IIT Madras	13.12.08 to 19.12.08
2.	Dr. K.S. Swarup	Modern Power System for AREVA T & D Engineers	IIT Madras	04.08.08 to 09.08.08
3.	Srikrishna B and Andrew Thangaraj	Summer School on Information Theory	IIT Madras	21.7.2008 to 24.7.2008

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	Institution	Period	
				From	To
Workshop / Symposia					
1.	Dr.B.K.Das	Integrated Optical Highly Coherent Light Sources" and "Silicon Photonics", National Workshop on VLSI Technology & Design	College of Engineering, Chengannur, Kerala.	20.02.09	20.02.09
2.	Dr. Arun Mahindrakar	Challenges in Control Engineering	NIT Trichi	08.01.09	10.01.09

3.	Dr. Ashok Jhunjunwala	CAR-Fraunhofer Workshop	Fraunhofer Institute of Machine Tools	15.01.09	15.01.09
4.	S. Krishna	National Power System Conference	IIT Bombay	16.12.08	18.12.08
5.	Dr. K.S. Swarup	International Conference on "Power System Protection & Automation Conference,	Chennai	21.11.08	22.11.08
6.	Dr. S.Karmalkar	Round Table meeting with the Academicians from UK in Bangalore	ISA-UKTI-SIN Semi Conclave 2008.	13.10.08	13.10.08
7.	Dr. Anil Prabhakar	Joint European Magnetic Symposium – 2008	Dublin, Ireland	14.09.08	19.09.08
8.	Dr. Shanti Bhattacharya	IMEKO TC2 Symposium on "Photonics in Measurements	Olympik Hotel Prague, Czech Republic	25.08.08	26.08.08
9.	Dr. V. Jagadeesh Kumar	Seminar on "Harmonics, EMI/EMC & Effects on Power Quality"	International Copper Promotion Council (India)	13.08.08	13.08.08
10.	Dr.R.David Koilpillai	Indo – Japan Workshop	University of Tokyo	18.06.08	19.06.08
Conferences					
Conferences attended by faculty in abroad					
1.	Dr. S. Srinivas	Electrical and Systems Science and Engineering - CESSE'09.	Penang, Malaysia.	25-02.2009	27.02.2009
2.	Dr. Ashok Jhunjunwala	CAS-INSA Workshop on Information and Communication Technologies	Shenzhen, China	20.11.2008	21.11.2008
3.	Dr. Arun D. Mahindrakar	IEEE International Conference on Systems, Man, and Cybernetics (SMC2008)	Singapore	12.10.08	15.10.08
4.	Dr. Anil Prabhakar	Joint European Magnetic Symposium – 2008	Dublin, Ireland	14.09.08	19.09.08
5.	Dr. B. Srikrishna	IEEE International Symposium on Personal, Indoor and Mobile Radio Communications (PIMRC 2008)	Cannes, France	15.09.08	18.09.08
6.	Dr. Shanti Bhattacharya	Photonics Prague 2008 – 6th International Conference on Photonics, Devices and Systems	Olympik Hotel Prague, Czech Republic	27.08.08	29.08.08
7.	Dr. Srikrishna B	ISIT 2008, Toronto	Canada	6.7.2008	11.7.2008

8.	Dr. V. Jagadeesh Kumar	International Instrumentation and Measurement Technology Conference , (IEEE I ² MTC 2008)	Victoria, Vancouver Island, Canada	12.05.08	15.05.08
9.	Dr. R. David Koilpillai	Vehicular Technology Conference (VTC 2008)	Singapore	11.05.08	14.05.08
10.	Dr. Andrew Thangaraj	IEEE Information Theory Workshop 2008	Porto, Portugal	05.05.08	09.05.08
11.	Dr. Mahesh Kumar	IEEE 21st Canadian Conference on Electrical & Computer Engineering	Dundas, Onrario, Canada	04.05.08	07.05.08
12.	Dr. Balaji Srinivasan	Distributed Sensing Using Optical Fibers	International Conference on Smart Materials, Structures and Systems, Bangalore	24.07.08	24.07.08
13.	Dr. Enakshi Bhattacharya	International Conf. on Porous Silicon Science & Technology	Mallorca, Spain	10.3.08	14.3.08
14.	Dr. David Koilpillai	Indo-American Frontiers of Engineering (IAFOE 2008) Symposium	Irvine California, USA	27.02.08	01.03.08
Conferences attended by faculty in India					
15.	Dr. Anil Prabhakar	National Conference on Communications 2009	IIT Guwahati	16.01.09	18.01.09
16.	Dr. B. Srikrishna	National Conference on Communications 2009	IIT Guwahati	16.01.09	18.01.09
17.	Dr. Enakshi Bhattacharya	Recent Trends in Sensor Development for the Assessment and Management of the Environment	Loyola College	08.01.09	10.01.09
18.	Dr. B. Srikrishna	IEEE COMSNETS 2009: WISARD	Bangalore	05.01.09	06.01.09
19.	Dr. Nitin Chandrachoodan	VLSI Deisgn Conference	Taj Palace Hotel, New Delhi	05.01.09	07.01.09
Short Term Courses					
1.	Dr. Bijoy Krishna Das	Physics and Technology of All-Optical Communication Components and Devices	IIT Kharagpur	11.10.07	16.10.07

Meetings					
Abroad					
1.	Dr. Ashok Jhunjunwala	3i infotek Strategy Meeting	Beijing, China	05.05.08	06.05.08
2.	Dr. K. Giridhar	IMT-Advanced Workshop Meeting	Shenzen, China	07.04.08	08.04.08
3.	Dr. Ashok Jhunjunwala	Board Meeting of 3i Infotech	Maldives	10.04.08	14.04.08
India					
4.	Dr. Ashok Jhunjunwala	Opening Remarks at MPFI Sixth meeting	Mobile payment Forum of India, New Delhi	27.02.09	27.02.09
5.	Dr. Ashok Jhunjunwala	Round table meeting on changing India Theme	DST, New Delhi	27.02.09	27.02.09
6.	Dr. Ashok Jhunjunwala	NMITLI project on SofComp meeting of the MC	IISc. Bangalore	21.02.09	21.02.09
7.	Dr. David Koilpillai	CEWIT's Technical proposals to the global standards organization 3GPP	Stockholm, Sweden	16.02.09	16.02.09
8.	Dr. Ashok Jhunjunwala	BHU Selection Committee Meeting	Banaras Hindu University, Varanasi	13.02.09	14.02.09
9.	Dr. David Koilpillai	CEWIT's Technical proposals to the global standards organization 3GPP	Athens Greece	11.02.09	13.02.09
10.	Dr. Ashok Jhunjunwala	PDRSG Meeting	Dept. of Information Technology, New Delhi	06.02.09	06.02.09
11.	Dr. Ashok Jhunjunwala	SAC-PM Meeting	CSIR Science Centre	16.01.09	16.01.09
12.	Dr. Ashok Jhunjunwala	JNU Selection Commission Meeting	Jawaharlal Nehru University	12.01.09	12.01.09

Special Lectures delivered by the faculty in other institutions:

S.No	Name of the faculty	Topic of the lecture	Date	Institution
Abroad				
1.	Dr. Shanthi Pavan	High Speed Analog Adaptive Equalization.	24.11.08	Columbia University, New York.

2.	Dr. Balaji Srinivasan	Distributed Sensing of Strain and Temperature	02.09.08	Indo-UK Workshop, Cochin
3.	Dr. Enakshi Bhattacharya	Silicon based triglyceride sensors	05.08.08 & 07.08.08	University of Waterloo, Canada
4.	Dr. Enakshi Bhattacharya	Silicon based triglyceride sensors	10.08.08	National Institute of Nanotechnology, Edmonton, Canada
India				
5.	Dr. Krishna Vasudevan	Operation of Inverters for Wind Power Generation	March 2009	SSN College of Engg
6.	Dr. S. Karmalkar	Solutions to some important problems in Semiconductor Device Modelling and Technology	22.01.09	Gallium Arsenide Enabling Technology Centre (GAETEC), Hyderabad
7.	Dr. S. Karmalkar	Device modeling – the art of making approximation at a workshop on VLSI Design	21.02.09	Workshop on VLSI Technology and Design, Government Engineering College, Changanaseri
8.	Dr. S. Karmalkar	The Personality of Semiconductor Technology	20.02.09	Vikram Sarabhai Space Center, Thiruvananthapuram
9.	Dr. S. Karmalkar	The personality of Semiconductor Technology Thinking, Communication and Experimental skills for research	20.02.09	Trivandrum College of Engineering, Thiruvananthapuram
10.	Dr. Enakshi Bhattacharya	An overview of MEMS and Micromachining	19.02.09	Government Engineering College, Changanaseri
11.	Dr. Enakshi Bhattacharya	Towards a Silicon based Biochip	16.02.09	ISI, Kolkata
12.	Dr. K.S. Swarup	Power System Substation and Distribution Automation	14.02.09	Sree Vidyaniketan Engg. College, Tirupathi
13.	Dr. K.S. Swarup	Studies in State Estimation in Energy Management Systems	13.02.09	Crescent Engineering College, Chennai
14.	Dr. S. Karmalkar	The Personality of Semiconductor Technology	23.01.09	IIT Hyderabad
15.	Dr. Ashok Jhunjhunwala	COMSNETS Keynote Talk	09.01.09	Grand Ballroom, Hotel Chancery Pavillion
16.	Dr. K.S. Swarup	Energy Management Systems in Power Engineering	06.01.09	Pondicherry Engineering College
17.	Dr. Enakshi Bhattacharya	Silicon based capacitive and Microcantilever Sensors	22.12.08	National Symposium on Nanosensors, IIT Delhi
18.	Dr. Krishna Vasudevan	Sensorless Operation of BLDC Machines	November 2008	NIT Tiruchi
19.	Dr. S. Karmalkar	Silicon Nanowires	31.10.08	Anna University
20.	Dr. Enakshi Bhattacharya	An overview of MEMS and micromachining processes	25.10.08	AMM Workshop on the Design of Mechanisms for Solving Real Life Problem, IIT Madras

21.	Dr. Mahesh Kumar	Power Quality issues and Concerns	25.10.08	NIT Surathkal, Karnataka
22.	Dr. Krishna Vasudevan	Emerging Trends in Distribution Systems	24.10.08	NIT Suratkal
23.	Dr.Arun D. Mahindrakar	Notions in Nonlinear Controllability	10.10.08	IIT Madras
24.	Dr. K. Sridharan	FPGA-based Algorithm Design for Robotics Applications	Sep 2008	SSN College of Engineering, Chennai
25.	Dr. Krishna Vasudevan	Harmonic Detection Methods for Active Power Filters	October 2008	NIT Suratkal
26.	Dr. Shanthi Pavan	Research opportunities in Analog-Mixed Signal Design	29.08.08	SSN College of Engg. Chennai
27.	Dr. Andrew Thangaraj	Algebraic Network Flows	27.08.08	I.I.Sc., Bangalore
28.	Dr.B.Srikrishna	LDPC codes for OFDM over an Inter-symbol interference Channel	18.06.08	IISc. Bangalore.
29.	Dr.Manivasakan.R	Optical Networks Metro and Access	24.05.08	SSN College of Engg. Chennai
30.	Dr. Krishna Vasudevan	Emerging Trends in Distribution Systems	24.10.08	NIT Suratkal
31.	Dr. Arun D. Mahindrakar	Notions in Nonlinear Controllability	10.10.08	IIT Madras
32.	Dr. Krishna Vasudevan	Harmonic Detection Methods for Active Power Filters	October 2008	NIT Suratkal
33.	Dr.S.Srinivas	Multi-level inverters & Induction motors with open-end windings	30.08.2008	G.I.E.T, Rajamundry, A.P

Visits abroad by Faculty:

S.No.	Name of the faculty	Country visited	Purpose of visit	Date	
				From	To
1.	Dr. Balaji Srinivasan	Albuquerque	To visit University of New Mexico	05.12.08	06.12.08
2.	Dr. Ashok Jhunjunwala	Beijing, China	To attend the Third Communications Policy Research; South (CPRsouth3)	05.12.08	09.12.08
3.	Dr. Balaji Srinivasan	New Orleans, USA	To attend and present paper at IEEE Globecom Conference	30.11.08	04.12.08
4.	Dr.Y.Shanthi Pavan	USA	To present a paper at the IEEE Biomedical Circuits and Systems Conference	19.11.08	21.11.08
5.	Dr. K. Giridhar	Stockholm, Sweden	To present research work at the 21st Wireless World Research Forum	13.10.08	15.10.08
6.	Dr. Ashok Jhunjunwala	Paris, France	To attend the consultation meeting with key partners on the execution of Science Programme as a part of UNESCO Sectors for Natural Sciences, Human & Social Sciences	29.09.08	30.09.08

7.	Dr. Shanthi Pavan	United Kingdom	Lecture at University College London and attend the European Solid State Circuits Conference, Edinburgh	11.09.08	21.09.08
8.	Dr. Enakshi Bhattacharya	Canada	India-Canada Nanotechnology Workshops	05.08.08	12.08.08
9.	Dr. David Koilpillai	Universiti Teknologi Petronas (UTP), Malaysia	To participate in the meeting of External Examiner at Electrical Engineering Department	02.08.08	07.08.08
10.	Dr. Enakshi Bhattacharya	Israel	Scientific collaboration under Indo-Israel joint project	24.06.08	30.06.08
11.	Dr. Bhaskar Ramamurthy	UK	UKIERI Project Discussion	01.06.08	05.06.08
12.	Dr.K.Giridhar	UK	UKIERI Project Discussion	01.06.08	05.06.08
13.	Dr.Nandita Dasgupta	Belgium	Research and Teaching work under the Erasmus Mundus Photonics Program	15.05.08	16.06.08
14.	Dr. Ashok Jhunjunwala	Boston USA	Meeting with analog Devices & 10th Year Anniversary Celebrations @ Harvard Business School	14.05.08	16.05.08
15.	Dr. Ashok Jhunjunwala	Sweden	School of Engineering, Blekinge Institute of Technology	25.05.08	30.05.08
16.	Dr.Y.Shanthi Pavan	USA	Texas Instruments, Dallas, USA	15.05.08	16.05.08
17.	Dr.Y.Shanthi Pavan	USA	Oregon State University	23.05.08	25.05.08
18.	Dr. Bhaskar Ramamurthi	Sweden	Discussion on Indo-Swedish Collaboration	24.05.08	27.05.08
19.	Dr. Andrew Thangaraj	Portugal	Collaboration with Joao Barros, University of Porto, Portugal	24.04.08	07.05.08

Honours and awards obtained by Faculty/Laboratory:

S.No	Name of the faculty/ laboratory	Name of the award	Awarded by	Date of award
Faculty				
1.	Dr. Ashok Jhunjunwala	IEEE Fellow	IEEE Board	01.01.2009
2.	Dr. Ashok Jhunjunwala	CII CONNECT 2008 Entrepreneurs Award	The Confederation of Indian Industry (Southern Region) For Category ICT Ecosystem	Sept.2008
3.	Dr. Ashok Jhunjunwala	Honorary Doctorate Award	Blekinge Institute of Technology Sweden	10.10.2008
4.	Dr. Nagendra Krishnapura	Young Faculty Recognition Award (YFRA)	Outstanding achievements in teaching, scholarship and creative work, YFRA Committee	Aug.2008
Laboratory				
5.	Microelectronics & VLSI Group	Technoshied Award (cash prize of Rs.50,000/-)	Dr. Chidambaram , PSA, Indian Semiconductor Association, GOI	July 2008

Books, Monographs authored / co-authored:

No	Name of faculty	Title	Publisher	Author / Co-author
1	Balaji Srinivasan	Fiber Optic Communications Techno-Economics, Chapter in EOLSS	UNESCO publication (2009)	A. Prabhakar
2	Anil Prabhakar	Network Management: Principles and Practice	2nd Edition, Pearson Publications, 2009	Dr.Mani Subramanian

4.8.4 Design and Development Activities:

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

New facilities added or major equipment procured:

Sl.No.	Name of Equipment	Value (Rupees)
1	Development Waveguide End-Facets Preparation Facility	
2	Tunable Laser Source	

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.

Patents Awarded: Nil

4.8.5 Research and Consultancy:**Sponsored research Projects:**

S.No	Name of the faculty	Title	Industry	Amount (Rupees)
1.	Krishna Vasudevan	Development of 400 Hz Inverters for Aircraft Applications	NaMPET (DIT)	1,464,000
2.	Manivasagan R	Simulation and performance of Gigabit capable passive optical network (GPON)	DRDO	996,000
3.	Amitava DasGupta	Design, fabrication and characterization of MEMS resonators	RCI, Hyderabad	996,000
4.	Amitava Das Gupta	Development of microelectrode arrays for electrochemical applications	DST, New Delhi	3,196,850
5.	Sarathi R	Creation of infra structure for the synthesis of metallic nano particles by wire explosion technique	High Energy Material Research Lab., Pune	873,000
6.	Kalyan kumar	Algorithms and switching control strategies of UPQC with minimum VA loading for handling power quality problems	DST	2,819,000

7.	Jagadeesh Kumar V	Design and development of a novel calibration-free pulse oximeter (March 2008 – March 2010)	Department of Biotechnology	2,195,000
8.	Mani Subramanian	Design and development of network security simulator for training and exercise (April 2008 –April 2011)	Integrated Defence Service	3,000,000
9.	Nagendra Krishnapura	Design and fabrication of integrated circuits for signal conditioners (April 2008 –April 2011)	Indira Gandhi Centre for Atomic Research	3,051,000
10.	Sarathi R	Multi-fusion sensor system for condition monitoring of gas insulated system (July 2008 – July 2010)	DST	3,799,000
11.	Krishna Vasudevan	Development fo 400 HZ inverters for Air-borne application under NaMPET (Aug 2008 – Dec 2009)	Department of Information Technology	1,464,000
12.	Bijoy Krishna das	Development of passive integrated photonic components in silicon-on-insulator platform (Sept 2008 – Sept 2011)	DST	4,428,000
13.	Shanthi Pavan	Center for Analog Mixed Signal Integrated Circuit Design (Nov 2008 – Nov 2013)	Department of Information Technology	30,327,000
14.	Manivasagan R	Development of Gigabit capable Passive optical Network (G-PoN) technology and its performance analysis under a new DBA algorithm (Nov 2008 – Nov 2010)	DST	1,878,000
15.	Anjan C	Investigation and compact modeling of noise in SiGe heterojunction bipolar transistors (Dec 2008 – Dec 2011)	DST	1,750,000
16.	Bijoy Krishna das	SOI integrated optical chip for sensor applications (Jan 2009 – Jan 2011)	DRDO	996,000
17.	Bijoy Krishna das	Development of integrated optical single channel add drop multiplexer (SCADM) in SOI platform for fiber optic communication systems	DIT, Govt. India	4,95,000
18.	Bhaskar Ramamurthy	IBM Faculty Award - 2008 (Jan 2009 – Jan 2010)	IBM CORPORATION , USA	490,000
19.	Nagendra Krishnapura	Circuits for in situ measurement of signal and noise on integrated circuits (May 2008 – May 2011)	New Faculty Scheme	500,000
20.	Anil Prabhakar	Facilitating cognitive development in infants with motor impairments (May 2008 – May 2009)	Socially Relevant Projects	458,000
21.	Ashok JhunJhunwala	VIDYA-SRUTHI - Knowledge through voice (July 2008 – May 2009)	Socially Relevant Projects (Class of 1981)	502,000
22.	Krishna S	Analysis and control of voltage stability and frequency stability (Jan 2009 – Jan 2011)	New Faculty Scheme	50,000

23.	Srikrishna B	Multi-terminal Wireless Communication Systems	DST, 2007-2010	1,960,000
24.	Bharath Bhikkaji	Modelling and control of negative imaginary systems (Feb 2009 – Feb 2012)	New Faculty Scheme	500,000

Industrial Consultancy Projects:

S.No	Name of the faculty	Title	Industry	Amount (Rupees)
1.	Jagadeesh Kumar V	Testing of power transformers	Venkateswara Electrical Industries (P) Ltd.	45,000
2.	Sarathi R	Impulse voltage withstand and testing of current limiting series reactor	PS Electricals (Private) Limited	67,000
3.	Jagadeesh Kumar V	Testing of power transformers	PS Electricals (Private) Limited	30,000
4.	Sarathi R	Impulse voltage with stand study and testing of power transformers	S A P Industries	21,000
5.	Balaji Srinivasan	Testing of optical fiber cable	BGR Energy Systems Limited	5,000
6.	Jagadeesh Kumar V	Testing of Power Transformers	Andrew Yule & Company Ltd.,	30,000
7.	Jagadeesh Kumar V	Testing of power transformers	Indo Tech Transformers Limited	90,000
8.	SARATHI R	Impulse voltage with stand study and testing of power transformers	Supreme Power Equipments	33,000
9.	Jayashankar V	Analysis of bus bar configurations for inverters	Converteam EDC Pvt. Ltd.,	47,000
10.	Jayashankar V	Field plot of disc insulator	W S Industries (India) Limited	23,000
11.	Sarathi R	Impulse voltage with stand study and testing of power transformers	Ascott Electricals Pvt. Ltd.,	215,000
12.	Jagadeesh Kumar V	Testing of power transformer	Victory Electronics Limited	15,000
13.	Sarathi R	X-ray analysis	Common Code	100,000
14.	Karmalkar S	Safe Operating Area Modeling	GE Global Research Center	789,000
15.	Anil Prabhakar	Mini - Optical Time domain Reflectometer	Optiwave Photonics Limited	500,000
16.	Anil Prabhakar	Personal Optical time Domain Reflecto-meter	Fiber Optika Technologies Pvt. Ltd.	800,000

17.	Shanthi Swarup K	Development Coding and testing of algorithm for AC motor protection	Easun Reyroll Ltd	458,000
18.	Devendra Jalihal	Development of tactical field wireless system	Tata Power Company Ltd.	3,385,000
19.	Krishna Vasudevan	Consultation on thyristor Application	On Load Gears	80,000
20.	Shanthi Pavan	Testing	Fairchild Semiconductor Corporation	1,000,000

RBIC projects: (on going & new)

No.	Name of Faculty	Title	Industry	Amount (Rupees)
1	Krishna Vasudevan	Modelling and Analysis of Annular Linear Induction Pump	IGCAR	846,000
2	Nagendra Krishnapura	Defence Research & Development Organisation	DRDO	498,000
3	Balaji Srinivasan	Mini-OTDR Development,	Optiwave Photonics Hyderabad	
4	Balaji Srinivasan	Personal OTDR Development	Fiber Optika, Bangalore	

Research Publications of the faculty members & research scholars:

Total no. of papers published in refereed international journals	...	34
Total no. of papers presented in international conferences	...	18
Total no. of papers presented in national conferences	...	8
Total no. of papers presented in national Journals	...	4

Referred National Journals:

S.No	Authors	Title	Publisher
1	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	K.S. Swarup and Suryadeep Das	Trends in SCADA based IED with IEC68150 Interoperability	Electrical India, Jan.2009
3	K.S. Swarup and Samir Azim	Capacitor Allocation in Distribution Systems	Electrical India, Vol.48, No.12, Dec. 2008, pp. 54-67
4	K.S. Swarup and Raju Kumar	Singe line Diagram in Substation Automation	Electrical India, Vol.48, No.11, pp.218-2008, Nov. 2008

Refereed International Journals:

S.No	Author(s)	Title	Publisher	Co-author(s)
1.	S. Karmalkar and	An Analytical Method to Extract the Physical Parameters of a Solar Cell From Four Points on the Illuminated J-V Curve	IEEE Electron Device Lett., vol. 30, No. 4, pp. 349- 352, Apr. 2009.	
2.	Dr. K.M.M. Prabhu	A Substitution-by-Interpolation Algorithm for Watermarking Audio	European Journal of Signal Processing, Vol. 89, pp. 218-225, April 12, 2009.	A. Deshpande
3.	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, April 12, 2009.	E.P. Reddy, D.P. Das
4.	Dr. Amitava Das Gupta	Unified Analytical Threshold Voltage Model for Non-uniformly doped Dual Metal Gate Fully Depleted Silicon-On-Insulator MOSFETs	Solid State Electronics, Vol.53, pp.256-265, March 2009.	Rathnamala Rao, Guruprasad Katti, Dnyanesh S. Havaladar, Nandita DasGupta
5.	Dr.V.Vasudevan	Analysis of clock jitter in continuous time sigma delta modulators,	IEEE Trans. Circuits and Systems I, pp519-528, March 2009	
6.	Dr. Anil Prabhakar	Evolution of Quantum States in an Electro-optic Phase Modulator	IEEE Journal of Quantum Elec. Feb.2009	Mr. Pradeep Kumar
7.	Dr. B. Srikrishna	Outage probability of Multiple-Input Single-Output (MISO) systems with delayed feedback	IEEE Transactions on Commns., Vol.57, No.2, pp.319-326 Feb.2009	Mr. V.S. Annapureddy, Mr. D.V. Marathe, Ms. T.R. Ramya
8.	Dr. Shanthi Pavan	Widely programmable active-RC filters in CMOS Technology	IEEE Journal of Solid State Circuits Feb.2009	Mr. Tonse Laxminidhi, Mr. Venkata Prasadu
9.	Dr. K.M.M.Prabhu	A Substitution-by-Interpolation Algorithm for Watermarking Audio	European Journal of Signal Proc. Vol. 89, No.2, pp.218-225 Feb.2009	Mr. Atul Deshpane
10.	Dr.K. Sridharan	Efficient CORDIC algorithms and architectures for low area and high throughput implementation	IEEE Transactions on Circuits and Systems - II, Express Briefs, Vol.56, No.1, pp.61-65,Jan.2009	Ms. Leena Vachani, Mr. P.K. Meher
11.	Dr. Enakshi Bhattacharya	Comparison of a potentiometric and a micromechanical triglyceride biosensor	Biosensors and Bioelectronics 24(5), pp.1276-1280,Jan 2009	Mr. R.E. Fernandez, Mr. V. Hareesh, Mr. A Chadha
12.	Dr. K.S. Swarup	Market operations in future Indian restructured power systems scenario	International Journal of Energy Technology and Policy, Vol.7, No.1, pp.78-94 Jan 2009	Mr. P. Kanakasabapathy

13.	Dr. Amitava DasGupta	Analytical model of subthreshold current and slope for asymmetric 4-T and 3-T Double-Gate MOSFETs	IEEE Trans. Electron Devices, pp. 3442-3449, December 2008	Aritra Dey, Anjan Chakravorty, Nandita DasGupta
14.	Dr. Amitava DasGupta	A low temperature wet release process for low stiffness structures	Journal of Micro/Nanolithography , MEMS, and MOEMS (JM3), Vol. 7, No. 4, pp. 043007-1-5, October-Dec. 2008	Jaibir Sharma
15.	Dr. Amitava DasGupta	Extraction of Young's modulus and residual stress of structural materials through measurement of pull-in voltage and off-capacitance of beams	Journal of Micro/Nanolithography , MEMS, and MOEMS (JM3), Vol. 7, No. 4, pp. 043020-1-6, October-Dec. 2008	Jaibir Sharma
16.	Dr. Shanthi Pavan	Excess Loop Delay compensation in continuous-time Sigma Delta Modulators	IEEE Transactions on Circuits and Systems; Express Briefs Dec.2008	
17.	Dr. S. Karmalkar	On the Charge-Sheet Superjunction (CSSJ) MOSFET	IEEE Trans. Electron Devices, Vol.55, No.12, pp.3562-3568, Dec. 2008	Mr. S. Srikanth
18.	Dr. Arun D. Mahindrakar	Stabilization of a Circular Ball-and-beam System with Input and State Constraints using Linear Matrix Inequalities	IEEE, SMC 2008 November 2008.	Abilash PM
19.	Dr. Y. Shanthi Pavan	Readout Electronics for and EISCAP Biosensor	IEEE Biomedical Circuits and systems Conference, Baltimore, USA November 2008	Hareesh, V, Enakshi Bhattacharya
20.	Dr. Arun D. Mahindrakar	Control of a class of underactuated mechanical systems using sliding mode	IEEE Transaction on Robotics Oct.2008	V.Sankamarayanan
21.	Dr. Nandita Das Gupta	Reactive ion etching of GaN in SF ₆ + Ar and SF ₆ + N ₂ Plasma	Semiconductor Science & Technology Oct.2008	T.Sreenidhi, K.Bhaskar and Dr.Amitava DasGupta
22.	Dr. Mahesh Kumar	Control Strategies for Load Compensation Using Instantaneous Symmetrical Component Theory Under Different Supply Voltage	IEEE Trans. On Power Delivery Oct.2008	U.K. Rao, A. Ghosh
23.	Dr. K.M.M. Prabhu	Fast adaptive algorithms for active control of non-linear noise processes	IEEE Trans. On Signal processing Vo.56, No.9, pp.4530-4536, Sept. 2008	Mr. E. Prashanth Reddy, Mr. D.P. Das
24.	Dr. Shanthi Pavan	A 20.7 mW continuous-time delta-sigma modulator with 15 MHz bandwidth and 70 dB dynamic range	European Solid State Circuits Conference, Edinburgh, UK, Sept. 2008	Mr. Karthikeyan Reddy

25.	Dr. K.S. Swarup	Protective relaying for power transformers using field programmable gate array	Proc. of IET Electric Power Applications, Vol.2, No.2, pp.135-143, Sept.2008	Ms. Simi P. Valsan
26.	Dr. K.S. Swarup	Solving multi-objective optimal power flow using differential evolution	Proc. of IET Generation Transmission and Distribution, Vol.8, No.5, pp.720-730, Sept. 2008	Mr.M.Varadarajan
27.	Dr. K.S. Swarup	Differential evolution approach for optimal reactive power dispatch	Applied Soft Computing, Vol.8, No.4, pp.1549-1561, Sept.2008	Mr.M.Varadarajan
28.	Dr. K.S. Swarup	Differential evolution algorithm for optimal power dispatch	Journal of Electrical Power and Energy Systems, Vol.30, No.8, pp.435-441, Sept. 2008	Mr.M.Varadarajan
29.	Dr. K.S. Swarup	Solving multi-objective optimal power flow using differential evolution	Proceedings of IET Generation Transmission and Distribution, Vol.8, No.5, pp.720-730, August 2008	Mr.M.Varadarajan
30.	Dr.G.R.K.S.Subramanyam,DR.A.N.Rajagopalan and Dr.R.Aravinf	Importance sampling-based Unsecented Kalamam Filter for Film-Grain Noise Removal	IEEE Multimedia Vol.15,Issue 2, pp 52 – 63. June 2008	Dr.G.R.K.S.Subramanyam,DR.A.N.Rajagopalan and Dr.R.Aravinf
31.	Dr. Mahesh Kumar	An optimization based algorithm for shunt active filter under unbalanced and non sinusoidal supply voltages	IEEE Conf. on Industrial Electronics and applications. June 2008.	Koteswara Rao .U and Vincent.G
32.	Dr. Mahesh Kumar	An improved switching strategy for a three phase three leg DSTATCOM.	IEEE Conf. on Industrial Electronics and applications. June 2008.	Koteswara Rao .U and Vincent.G
33.	Dr.Harishankar Ramachandran	Analytic, nonlinearly exact solutions for an rf confined plasma	Physics of Plasma 15, 062303, June 2008	Kushal shah & Hari Ramachandran
34.	Dr. Enakshi Bhattacharya	Covalent immobilization of pseudomonas Cepacia Lipase on semiconducting materials	Appl. Surface Science, Vol. 254 p 4512-4519, May 2008	R.E.Fernandez, E.Bhattacharya and A.Chadha
35.	Dr. S. Karmalkar	A Physically-based Explicit I-V Model of a Solar Cell having Parasitic Resistances for Simple Design Calculations	IEEE Electron Device Lett. vol. 29, No. 5, pp. 449-451, May 2008.	Saleem H
36.	Dr. K. Sridharan	Hardware-efficient Prediction-Correction based generalized Voronoi Diagram Construction and FPGA implementation	IEEE Transactions on Industrial Electronics, Vol.55, Issue 4, pp. 1558-1569, April 2008	Ms. Leena Vachhani

37.	Dr. K.S. Swarup	Volt-Var optimization using differential evolution	Electric Power Components and Systems, Vol.36, Issue 4, March 2008, pp 387-408	Mr. M. Varadarajan
38.	Dr. Nandita DasGupta	'Optimization of surface passivation for InGaAs/InP pin photodetectors using ammonium sulfide	Semiconductor Science and Technology (SST) March 2008	D. Sheela
39.	Dr. B. Srikrishna	Signal Space Diversity for Spatial Multiplexing	IEEE PIMRC 2008, Cannes, France	Mr. G. Krishna, Mr. K.V. Srinivas, Dr. R. David Koilpillai

In Refereed National Conferences:

S.No	Name of faculty	Title		Author/Co-author
1.	Dr. B. Srikrishna	Low density Parity Check codes in OFDM systems	National Conference on Communications (NCC), Guwahati Jan.2009.	Mr. M.K. Dileep & Dr. A. Thangaraj
2.	Dr. K.S. Swarup	Identification of operating states using direct Acyclic Graph	XXXII National System Conference (NSC-08), IIT Roorkee	Mr. Manoj Kumar Maharana
3.	Dr. K.S. Swarup	Power system stability analysis using perturbation technique	XXXII National System Conference (NSC-08), IIT Roorkee	Dr. T.G. Venkatesh, Mr. R. Chendur Kumaran
4.	Dr. K.S. Swarup	Optimal bidding strategies for pumped storage plant in pool-based electricity market	Proc. of 15th National Power System Conference (NPSC 2008), IIT Bombay	Mr. P. Kanakasabapathy
5.	Dr. K.S. Swarup	Multiple regression based classifier for static security assessment	Proc. of 15th National Power System Conference (NPSC 2008), IIT Bombay	Ms. S. Kalyani
6.	Dr. S.Krishna	Harmonic Elimination by Selection of Switching Angles and DC Voltages in Cascaded Multilevel Inverters	National Power System Conference, December 2008	
7.	Dr. B. Srikrishna	Throughout of wireless relay networks with interference processing	Proceedings of the National Conference on Communications (NCC), Guwahati	Ms. M. Bama & Dr. A. Thangaraj
8.	Dr. B. Srikrishna	Resource allocation under channel uncertainty	Proceedings of the National Conference on Communications (NCC), Guwahati	Mr. C. Manikandan & Mr. R. Sundaresan

In refereed International Conferences:

S.No	Name of faculty	Title	Conference	Co-author(s)
1.	Dr.S.Srinivas	Uniform Overlapped Multi-Carrier PWM for a Six-level Diode Clamped Inverter	Proc. of International Conf. on E Electrical and Systems Science and Engineering, Feb.2009, (PWASET, Vol.38, pp.272-277).	
2.	Dr. Amitava DasGupta	Design of high-Isolation and low insertion loss RF MEMS Shunt switches for Ku and K-band application	International Conference on MEMS, IIT Madras Jan.2009	J. Sharma, N. Krishnapura, V. Kumar and D.V.K Sastry
3.	Dr. Amitava DasGupta	Numerical study of the effect of extension on the performance of valveless micropump	International Conference on MEMS, IIT Madras Jan.2009	Paul Braineard E, Dhiman Chatterjee
4.	Dr. Enakshi Bhattacharya	Dynamic response of enzyme immobilized Cantilever beams to Urea	International Conference on MEMS, IIT Madras Jan.2009	Mr. R.E. Fernandez, Ms. Anju Chadha
5.	Dr. Enakshi Bhattacharya	Improvements in Silicon/Porous Silicon Composite Membrane Pressure Sensors	International Conference on MEMS, IIT Madras Jan.2009	Ms. L. Sujatha, Mr. V.S. Kale
6.	Dr. Enakshi Bhattacharya	Extraction of Residual Stress using Electrical Measurements	International Conference on MEMS, IIT Madras Jan.2009	Mr. S. Bhat
7.	Dr. B. Srinivasan	Anamolous Thermal Dynamics of Bragg Gratings Inscribed in Germanosilicate Optical Fiber	Optoelectronics and Advanced Materials & Rapid Communications 3, 17-23 (2009).	A. Rahman, K. Venu Madhav, B. Srinivasan, S. Asokan
8.	Dr. Enakshi Bhattacharya	Porous Silicon/Polysilicon cantilever sensor for enhanced Triglycerides biosensing	IEEE Sensors 2008, Lecce, November 2008, Italy	R.E. Fernandez, S. Stolyarova, A Chandha, E. Bhattacharya and Y.Nemirovsky
9.	Dr. B. Srikrishna	Two Models for Noisy Feedback in MIMO Channels	42nd Asilomar Conference on Signals, Systems, and Computers, October 2008	V. Aggarwal, G. Krishna, S. Bhashyam, A. Sabharwal
10.	Dr. B. Srikrishna	Downlink performance of 2-Cell cooperation schemes in a Multi-cell environment	Proc. of WPMC, Lapland, Finland Sept.2008	Mr. M.R. Ramesh Kumar, Dr. D. Jalihal
11.	Dr. Shanti Bhattacharya	Development of a fully automated fibre interferometer	Conference Proc., IMEKO TC2 Symposium on Photonics in Measurements, Prague Sept.2008	Ms. C.A. Khansa, Mr.G.Lakshminarayan, Dr. Anil Prabhakar

12.	Dr. B. Srikrishna	Decentralized Power Control with Two-way Training for Multiple Access	IEEE ISIT 2008, Toronto, Canada, pp. 609-613, July 2008.	G. Krishna, S. Bhashyam, A. Sabharwal
13.	Dr. B. Srikrishna	Optimizing Burst Erasure Correction of LDPC Codes by Interleaving	IEEE ISIT 2008, Toronto, Canada, pp. 1143 - 1147, July 2008.	G. Sridharan, A.Kumarasubramanian, A. Thangaraj, S. Bhashyam
14.	Dr. B. Srikrishna	Throughput Improvement for Cell-Edge Users Using Selective Cooperation in Cellular Networks	Fifth International Conference on Wireless and Optical Communications Networks, Surabaya Indonesia, May 2008	M. R. Ramesh Kumar, S. Bhashyam, D. Jalihal
15.	Dr. Andrew Thangaraj	Confidential Messages to a Cooperative Relay	IEEE Information Theory Workshop April 2008, Porto	Mr. Matthieu Bloch
16.	Dr. Anil Prabhakar	Estimating unoxidized A1 thickness in Tunnel Junctions using the Scattering Matrix	Joint European Magnetic Symposia, 2008	Ms. M. Malathi
17.	Dr. Shanti Bhattacharya	Solar lighting using the Sollektor	International Seminar on Emerging Technologies & Strategies for Energy Management in Railways Ohm-Hochschule Numberg, Germany	S. Subramanian, H. Poisel, POF-Applications Centre,
18.	Dr. K.S. Swarup	Trends in IED and IEC 61850 Interoperability November 2008.	Proceedings of International Conference on "Power System Protection & Automation Conference, 2008	
19.	Dr. K.S. Swarup	Optimal Bidding Strategies for Multi-unit Pumped Storage Plant in Pool Based Electricity Market Using Evolutionary Tristate PSO	IEEE International Conference on Sustainable Energy Technologies (ICSET 2008) Singapore, 24-27, Nov. 2008	P.Kanakasabathy
20.	Dr. K. Sridharan	A hardware-architecture for control-law based Voronoi diagram computation and FPGA implementation	Proceedings of IEEE TENCON 2008	Leena Vachhani, Dr.Arun D.mahindrakar
21.	Dr. K. Sridharan	A novel CAM-based robotic indoor exploration algorithm and its area- efficient implementation	Proceeding of IEEE Int. conf. on Industrial Electronics (IECON) pp. 2419-2424	P.Rajesh Kumar, N.Sudha, Leena Vachhani
22.	Dr. K.S. Swarup	A Parallel processing approach to contingency analysis	Proc. of the International Conference on Energy Engineering, Pondicherry Engineering College	Ms. G. Angeline Ezhilarasi

23.	Dr. B. Srinivasan	Distributed High Temperature Sensing Using Fiber Bragg Gratings	International Journal of Optomechatronics 2, 4-15 (2008)	Syam Prasad Kuncha, Balaji Chakravarthy, Harishankar Ramachandran
24.	Dr. B. Srinivasan	Distributed Temperature Sensing Using Raman Scattering in Optical Fibers	Photonics 08, New Delhi (2008)	L. Bharath Kumar
25.	Dr. B. Srinivasan	Countering atmospheric Turbulence Using Wavelet-Based Signal Processing	Globecom 08, New Orleans (2008)	P. Latsa Babu
26.	Dr. B. Srinivasan	Experimental Investigation of the Link Between Growth and Decay of Fiber Bragg Gratings	Photonics 08, New Delhi (2008)	Rajesh Joseph, V. Vishnuprasad, Nirmal K Viswanathan
27.	Dr. B. Srikrishna	Signal Space Diversity for Spatial Multiplexing	IEEE PIMRC 2008, Cannes, France	Mr. G. Krishna, Mr. K.V. Srinivas, Dr. R. David Koilpillai

Distinguished Visitors to the Department

S.No	Visitor Name & Designation	Affiliation	Date of visit	Purpose of visit
1.	Dr. Joseph Watts, Chairma	IBM SRDC, Compact Model Council (USA)	22.02.09 to 26.02.09	To teach a short-term course on Compact modeling
2.	Dr. David Secher, Chief Executive	N8 Research Partnerhsip, UK Business Incubation Ltd., Imprimatur Capital Ltd., CEO, i2india, BioCom	11.02.09	To continue to foster even greater Indo-UK collaboration
3.	Dr. Perter Harma, Deputy Chief Executive	N8 Research Partnerhsip, UK Business Incubation Ltd., Imprimatur Capital Ltd., CEO, i2india, BioCom	11.02.09	To continue to foster even greater Indo-UK collaboration
4.	Dr. Vamsi Boppana, Director, SW Center and CTO	Xilinx India Technology Services Pvt. Ltd.	29.01.09	To discuss research collaboration
5.	Dr. Chris Dick, DSP Chief Architect	Xilinx, San Jose, USA	29.01.09	To discuss research collaboration
6.	Dr. Bill Wilkie, Director of Wireless Systems Engineering Group	Xilinx, Edinburgh	29.01.09	To discuss research collaboration
7.	Dr. Ben Ferrari, Managing Director	Imprimatur Capital Ltd.	28.01.09	To continue to foster even greater Indo-UK collaboration at the higher levels
8.	Dr. Deepam Mishra, CEO	i2india	28.01.09	To continue to foster even greater Indo-UK collaboration at the higher levels

9.	Dr. Tommy Sopwith, Chairman and Managing Director	Biocommercialisation India	28.01.09	To continue to foster even greater Indo-UK collaboration at the higher levels
10.	Mr.M.Venkata sathyanarayana	R & D, Head, Foreign Delegates convert team	10.05.08	Discussion
11.	Mr. Venkata Sathyanarayana	R & D, Head, M/s Convert Team UDC Pvt. Ltd.	10.04.08	Discussion
12.	Dr. T. Ratnarajah Principal Research Engineer	Queens University, Belfast, UK	15.02.08	To discuss the potential research collaboration with IITM
13.	Dr. M. Sellathurai, Reader	Queens University, Belfast, UK	15.02.08	To discuss the potential research collaboration with IITM
14.	Dr. A. Nallanathan, Senior Lecturer	Kings College, London, UK	15.02.08	To discuss the potential research collaboration with IITM

Other Activities of the Department / Centre:

- (i) Dr.Balaji Srinivasan was a special invitee at the Photonics India Review Meeting held at IISc, Bangalore on 16.10.2008.
- (ii) Dr.Balaji Srinivasan, Member, Editorial Board, International Journal of Bio-Sciences and Technology (IJBST)
- (iii) Dr. S. Karmalkar was a judge of the All India Technical Contest - "GE Edison Challenge" organized by General Electric India Technology Center, Bangalore on Nov 6,7. The contest invited innovative ideas in Self Cooling Engines, Train Informatics, Home Energy Solution and Early Detection for Disease Management. The 1st prize was Rs. 5 lakh and the 2nd prize was Rs. 1 lakh.

Major Infrastructure development made in the Department

Development of Integrated Optoelectronics Laboratory.

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 508	Mechatronics Systems Design
2.	ED 524	Tyre Mechanics
3.	ED 526	Mechanics and Control of Robot Manipulators
4.	ED 527	Motorcycle Dynamics
5.	ED 529	Rapid Product Development
6.	ED 531	Differential and Computational Geometry

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
Dual Degree	43	26	24	25	--	118
M.S.	--	5	5	--	--	10
Ph.D.	3	5	4	--	--	12
Total	46	36	33	25	--	140

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
India					
1	M.Santhakumar	ED 07D003	IISc Centenary: International Conference on Advances in Mechanical Engineering	2-4, July 2008, IISc., Bangalore	IIT Madras

2.	M.Santhakumar	ED 07D003	IEEE International Conference on Industrial and Information Systems (ICIIS 2008)	8-10, December 2008, IIT Kharagpur	IIT Madras
3.	M. Jagannath	ED 07D006	Pravartana II: Workshop on Nonlinearity and Geometry in Mechanics	March 13-15, 2009 IIT Kanpur	IIT Kanpur
4.	Jobin K Antony	ED 08D002	International Conference on Trends in Optics and Photonics	March 1-4, 2009, Kolkata	IIT Madras

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

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Mr Hrishikesh Ranjalkar and Ms. Sirisha Kurada	ED 05B008 ED 05B020	Best Engineering Project among the IIT Madras teams	Brunel University Design Contest, U.K.

Names of students/scholars who won Institute Convocation / Institute Day Prize:

S.No	Name of the Student	Roll No.	Name of Prize	Name of Donor
1.	Deepan Raj Prabakar	ED05B006	Institute Merit Prize	IITM

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

Optomechatronics, Remote Sensing, Laser Based Sensing, MEMS

Assistant Professor:

Dr.T.Asokan

Robotics, Mechatronics, Control, Electro Hydraulic Servo Systems

Dr C S Shankar Ram

Model Based Control and Diagnostics, Automotive Systems, Vehicle Dynamics

Dr Sandipan Bandyopadhyay

Robotics, Kinematics, Dynamics of Multibody Systems, Design, Symbolic Computation

Dr.M.Ramanathan

Geometric & Solid Modelling, CAD, Computer Vision, Computational Geometry, Computer Graphics, Computational Biology, Shape search

Dr.G.Saravana Kumar

CAD, Computational Geometry, Reverse Engineering, Shape Optimization, Biomechanical Modeling, Biomedical Imaging and Reconstruction, Biomimetic Prosthetic and Scaffold Design, Layered Manufacturing and Soft Computing

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

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1.	Dr.T.Asokan	One day Technology Appreciation Programme on "Robotics and Automation", IIT Madras	June 26, 2008
2.	Dr.T.Asokan	New Product Development RCI, Hyderabad	July 12, 2008
3.	Dr.T.Asokan	Industrial Robotics and Automation, IIT Madras	October 22-24, 2008
4.	Dr. Sandipan Bandyopadhyay	AMM Workshop on the Design of Mechanisms for Solving Real-life Problems	October 23-25, 2008

Short term Course:			
1.	Dr.T.Asokan and Dr.Nilesh J. Vasa	Engg. Design Principles and New Product Development	30th June to 5th July 2008
2.	Dr.Nilesh J Vasa	Application of Lasers in Sensing and Measurements, IIT Madras	14 th July to 19 th July 2008
3.	Dr M Ramanathan	Programming in C and Introduction to OpenGL	September-October 2008

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	Toyota Production System	National Productivity Council, New Delhi	August 11-13, 2008
Conference:				
1.	Dr.Nilesh J Vasa Dr R Sarathi, EE	Conference on Lasers and Electro-optics (CLEO 2008)	McEnergy Convention Centre, San Jose, USA.	May 4-9, 2008
2.	Dr.T.Asokan	IISc Centenary: International Conference on Advances in Mechanical Engineering	IISc Bangalore	July 2-4, 2008
3.	Dr Sandipan Bandyopadhyay and Dr. Ashitava Ghosal	IISc Centenary: International Conference on Advances in Mechanical Engineering	IISc Bangalore	July 2-4, 2008
4.	Lelitha Vanajakshi, Shankar C. Subramanian, R Sivanandan	International Workshop on Transportation Planning and Implementation Methodologies for Developing Countries	IIT Bombay	December 2008
5.	Dr T.Asokan, Dr M.Singaperumal	Third IEEE International Conference on Industrial and Information Systems	IIT Kharagpur	December 8-10, 2008

6.	Dr T.Asokan	Third IEEE International Conference on Industrial and Information Systems	IIT Kharagpur	December 8-10, 2008,
7.	Dr Saravana Kumar G	All India Manufacturing Technology, Design and Research Conference	IIT Madras	December 15-17, 2008
8.	Dr T Asokan	Nat. Conference on Advances in Automation, Robotics, Control and Vision (ICARCV)	Hanoi	December 17-10, 2008
9.	Nilesh J. Vasa M. Singaperumal (ME)	AIMTDR (All India Manufacturing Technology, Design and Research Conference)	IIT Madras	December 15-17, 2008
10.	Nilesh J. Vasa	International Conference on Fiber Optics and Photonics (Photonics 2008)	Indian Habitat Centre, New Delhi (India)	December 15-17, 2008
11.	Prof.R.Krishna Kumar	3rd Indo-Australian Conference on "Bio-materials, Implants and Tissue Engineering and Regenerative Medicine	Sydney, Australia	January 21-23, 2009
12.	Dr.Nilesh J.Vasa	4 th Indo-Japan Joint Seminar on Micro-Nano Manufacturing Science, organised by IIT Kanpur	Symbiosis International University, Pune,	March 9-11, 2009
Short term Course:				
1.	N. J. Vasa	Recent Trends in Condition Monitoring of Power Apparatus	IIT Madras	30 June – 11 July, 2008
2.	N. J. Vasa	Short Term Course in Atmospheric Science	IIT Madras	August 16-22, 2008
3.	Dr.T.Asokan	Collaborative research in the area of Aerial and Underwater Robotics	Australian Defence Force Academy, Canberra, Australia	November 10-13, 2008
4.	Dr.T.Asokan	Indo-German Workshop on Computational methods driven by Industrial problems	IIT Madras	November 21, 2008
5.	Dr.T.Asokan	India MedTech Summit	AIIMS, New Delhi	December 14-15, 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr.T.Asokan	Hydraulic Control Systems	One-day Workshop on Hydraulic Systems organised by Fluid Power Society of India, CVRDE, Chennai	11 th June 2008.

2.	Dr.T.Asokan	Robots for Industrial and Service applications	Short Term Training Programme on "Advances in Manufacturing Engineering" organised by Viswajothi College of Engineering, Kerala	18 th June 2008
3.	Dr.T.Asokan	Futuristic Robots	Technology Appreciation Programme, IIT Madras	26 th June 2008
4.	Dr.Nilesh J. Vasa	Vision System in Robotics and Automation	Technology Appreciation Programme, IIT Madras	26 th June 2008
5.	Dr.Sandipan Bandyopadhyay	Design of Automotive Components	STTP on Engg. Design Principles and New Product Design	1 st July 2008
6.	Dr.C.S.Shankar Ram	Design of Automotive Brake Systems	STTP on Engg. Design Principles and New Product Design	2 nd July 2008
7.	Dr.C.S.Shankar Ram	Control of robotic manipulators	Short Term Training Programme on Industrial Robotics and Automation	October 2008
8.	Dr Sandipan Bandyopadhyay	Stewart-Gaough Manipulator: the universal simulator Platform	CVRDE, Avadi, Chennai	10 th July 2008
9.	Dr T Asokan	Mobile Manipulators	CVRDE, Avadi, Chennai	11 th July 2008
10.	Dr T Asokan	Autonomous Underwater Vehicles	Karpagam College of Engineering, Coimbatore	19 th July 2008
11	Dr Sandipan Bandyopadhyay	Modeling and simulation of dynamic systems (MSDS- 08)	Stewart platform manipulator: promises and challenges	August 21-23, 2008
12.	Dr Sandipan Bandyopadhyay	Geometry in kinematics, dynamics, and design: A brief introduction	Pravartan II, a workshop held at IIT Kanpur	March 13-15, 2009

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr.R.Krishna Kumar	Brunel University, London, U.K.	30 April to 2 May, 2008	Delivered lectures on "Finite Element Analysis"	Brunel University
2.	Dr.R.Krishna Kumar	Belgium	9-14 June, 2008	India-EU Scientific Evaluators Panel Meeting on Computational Materials Science Joint Proposals	Government of India

3.	Dr Nilesh J Vasa and Dr Sandipan Bandyopadhyay	Brunel University, London, U.K.	10-12, June 2008	Co-ordinators for the Brunel Design Show	Brunel University
4.	Dr.R.Krishna Kumar	Germany	16-20, July 2008	Program on NVH at M/s Continental AG, Germany as a part of sponsored research project of M/s J.K. Tyres and Industries Ltd.	J.K.Tyres and Industries Ltd.
5.	Dr.M.Ramanathan	Las Vegas	2-5 December 2008	Autodesk University (AU), 2008	Autodesk Inc.

4.9.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Raghupathi Singhania Centre of Excellence for Tyre and Vehicle Mechanics – Phase II	2008- 2010	J.K.Tyres and Industries Ltd	150	Dr.R.Krishna Kumar
2.	Development of light emitting devices based on ZnO nanowires and heterostructures	2008- 2009	Department of Science and Technology	5.75	Dr.M.S.Ramachandra Rao, Phy dept. Dr.K.Sethupathi, Phy. Dept. Dr.Nilesh J. Vasa, ED dept.
3.	Mathematical Modelling of Six degree of Freedom Motion Platform	2008	Simulator Development Division, Indian Army, Secunderabad	10	Prof.S.K.Saha, IIT Delhi (PI) Dr PVM Rao, IIT Delhi (Co-PI) Dr Sandipan Bandyopadhyay, IIT Madras (Co-PI)
4.	Design, fabrication and control of a three- degrees-of- freedom planar parallel manipulator	2008- 2009	New Faculty Grant Scheme	5	Dr Sandipan Bandyopadhyay
5.	Powered Tricycle for Physically Handicapped	6 months (24.9.08 to 23.3.09)	Rural Technology Action Group	1	Dr Sandipan Bandyopadhyay
6.	Study on development of MEMS based RF ion mobility spectrometer for chemical pollutants	18 months	Defence R&D Establishment	Rs.9.84	Dr Nilesh J Vasa

7.	Measurement of elemental species for space exploration by using laser induced breakdown spectroscopy technique	3 years	Indian Space Research Organisation	Rs.19.53	Prof M Singaperumal Dr A S Laxmiprasad Dr Nilesh J Vasa
8.	Modelling, Simulation, and Development of a Parallel Platform (6DOF) for Underwater Robotics Research Applications using Autodesk Products	1 year	Autodesk Inc. Singapore	Rs.10.8	Dr T Asokan
9.	Multi material representation in CAD for layered Manufacturing	2008-10	DST	Rs.10.92	Dr G Saravana Kumar
10.	Medial Axis Transform using theory of moving frames	2008-10	New Faculty Research Grant, IIT Madras	Rs.5	Dr M Ramanathan
11.	Computer aided design and analysis of sculpted engineered porous structures for bone tissue engineering	2009-11	New Faculty Research Grant, IIT Madras	Rs.5	Dr G Saravana Kumar

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
1.	All faculty members	Visit by the student delegation (6 student members, 1 staff), October 2008	Brunel University, London, UK
2.	N. J. Vasa	Visit by the Delegation from the Graduate School of Engineering, November 2008	Kyushu University, Fukuoka, Japan

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	...	7
Total No. of papers presented in National Conferences	...	Nil
Total No. of papers presented in International conferences	...	18

Details:

In Refereed International Journals:

1. Vasa N.J. et al, Preparation of KTiOPO₄ (Potassium Titanyl Phosphate) thin films on different substrates by pulsed laser deposition, *International Journal of Advanced Manufacturing Technology*, 2008, Vol.38, 600-604.
2. Shankar C. Subramanian, Swaroop Darbha and Rajagopal K.R., A Parameter Estimation Scheme for a class of Sequential Hybrid Systems, *Journal Nonlinear Analysis: Hybrid Systems*, Vol. 2, pp.1113-1124, 2008
3. Balaramakrishna N, Krishna Kumar R., A Study on the effect of different tyre imperfections on steering wheel vibrations, *Journal of Vehicle System Dynamics*, January 2009
4. Lelitha Vanajakshi, Shankar C. Subramanian and Sivanandan R., Travel time prediction under heterogeneous traffic conditions using global positioning data from buses, *IET Intelligent Transport Systems*, Vol. 3, Issue 1, pp. 1–9, 2009.
5. Veerababu K., Ganesh Narayanan R. and Saravana Kumar G., An expert system based on artificial neural networks for predicting the tensile behavior of tailor welded blanks, *Expert Systems with Applications*, 2009. Available online 23 February 2009.
6. Sandipan Bandyopadhyay, Ashitava Ghosal, An algebraic formulation of static isotropy and design of statically isotropic 6–6 Stewart platform manipulators, *Mechanism and Machine Theory*, **In Press, Corrected Proof**, Available online 22 January 2009
7. Sandipan Bandyopadhyay, Ashitava Ghosal, An eigenproblem approach to classical screw theory, *Mechanism and Machine Theory*, **In Press, Corrected Proof**, Available online 16 October 2008

In Proceedings of International Conferences:

1. Veerababu K., Ganesh Narayanan R. and Saravana Kumar G, Prediction of Deep Drawing behaviour of Tailor Welded Blanks using ANN, *In: M.S. Shunmugam and N. Ramesh Babu, ed. 2nd International & 23rd AIMTDR conference*, 15-17 December 2008 India. IIT Madras, Vol 1., 97-104.
2. Appa Rao A and Saravana Kumar G , Fractal Tool Paths for Layered Manufacturing, *In: M.S. Shunmugam and N. Ramesh Babu, ed. 2nd International & 23rd AIMTDR conference*, 15-17 December 2008 India. IIT Madras, Vol 2., 1103-1108.
3. Nilesh J Vasa, Sarathi R, Measuring Orthogonal Components of Electric Field Via Optical second Harmonic Generation in KTiOPO₄, *Conference on Lasers and Electro-optics (CLEO 2008)*, May 4-9, 2008, McEnergy Convention Centre, San Jose, USA.
4. Asokan T, Non-linear Diving Plane Control of an Autonomous Underwater Vehicle (AUV) IISc Centenary: *International Conference on Advances in Mechanical Engineering*, 2-4, July 2008, Bangalore.
5. Sandipan Bandyopadhyay and Ashitava Ghosal, A new characterisation of spatial manipulators based on their instantaneous degrees of freedom IISc Centenary: *International Conference on Advances in Mechanical Engineering*, 2-4, July 2008, Bangalore
6. Lelitha Vanajakshi, Shankar C. Subramanian, Sivanandan R, A comparative study of techniques for short term bus travel time prediction under Indian traffic conditions, *International Workshop on Transportation Planning and Implementation Methodologies for Developing Countries*, December 2008, IIT Bombay
7. Asokan T, Singaperumal M, Controller Design for Manipulator Trajectory Control of an AUV- Manipulator System, *Third IEEE International Conference on Industrial and Information Systems*, 8-10, December 2008, IIT Kharagpur
8. Asokan T., Attitude control of flatfish shaped AUV, *Third IEEE International Conference on Industrial and Information Systems*, 8-10, December 2008, IIT Kharagpur

9. Krishna Kumar R., Finite Elements in understanding Cardiac Mechanics, 3rd *Indo-Australian Conference on "Bio-materials, Implants and Tissue Engineering and Regenerative Medicine*, 21-23, January 2009, Sydney, Australia.
10. Nilesh J.Vasa, Solid-state Laser induced Micro-structuring of Amorphous Si Thin Films for Photovoltaic Applications, 4th *Indo-Japan Joint Seminar on Micro-Nano Manufacturing Science*, organised by IIT Kanpur March 9-11, 2009, Symbiosis International University, Pune,
11. Asokan T, Nat. *Conference on Advances in Automation, Robotics, Control and Vision (ICARCV)*, , 17-20, Dec. 2008, Hanoi
12. Nilesh J. Vasa, Singaperumal M (ME), Investigation on effect of nano- and pico-second laser pulse in annealing of amorphous silicon films by pulsed Nd³⁺:YAG laser, *Proc. Of the 2nd International and 23rd AIMTDR (All India Manufacturing Technology, Design and Research Conference)*, Dec 15-17, 2008, IIT Madras
13. Palani I.A., Vasa N.J. Singaperumal M., "Investigations on Laser Interaction in Annealing of Amorphous Silicon Films by Pulsed Nd:YAG Laser", *Proceedings of the 23rd ASPE (American Society for Precision Engineering) Meeting and 12th International Conference on Precision Engineering*, October 19-24, 2008, ISBN 978-1-887706-48-3.
14. Nilesh J. Vasa, Gas sensors based on super-luminescent diode for combustion monitoring, *International Conference on Fiber Optics and Photonics (Photonics 2008)*, December 15-17, 2008, Indian Habitat Centre, New Delhi (India)
15. Santhakumar.M and T.Asokan, Non-linear Diving plane control of an Autonomous Underwater Vehicle (AUV), at *IISc Centenary International Conference on Advances in Mechanical Engineering (IC-ICAME 2008)*, July 2-4, 2008, IISc Bangalore, India.
16. Santhakumar.M and T.Asokan, Coupled, Non-linear Control System Design for Autonomous Underwater Vehicle (AUV), *IEEE International Conference on Control, Automation, Robotics and Vision (ICARCV 2008)*, December 17-20, 2008, Hanoi, Vietnam.
17. Santhakumar.M and T.Asokan, Attitude Control of flatfish shaped Autonomous Underwater Vehicle, *IEEE International Conference on Industrial and Information Systems (ICIIS 2008)*, December 8-10, 2008, IIT Kharagpur, India.
18. Santhakumar.M and T.Asokan, Position Tracking Control of an underactuated Autonomous Underwater Robot, *International Conference in Ocean Engineering (ICOE 2009)*, 1-5 February 2009, IIT Madras, India.
19. Jobin K. Antony, Nilesh J. Vasa, R. Sarathi, V. L. N. Sridhar Raja, and A. S. Laxmiprasad, Optical Emission Diagnostic Technique for Laser Ablated Plume and Aluminum wire Discharge Plasma, *Proceedings of International Conference on Trends in Optics and Photonics*, March 1 - 4, 2009, Kolkata, India, pp. 354-361, ISBN: 978-81-908188-0-3 (Ed.: Ajay Ghosh and Debesh Choudhury)

6. Other Activities of the Department/Centre:

1. Mr Akash Sinha, Director, iRobot Corporation, USA was invited to deliver a Special Lecture on "Robots for dangerous Missions" on 2nd April 2008.
2. Mr Vikas Shenoy, Mr Teegala Balaji, Mr Hrishikesh Ranjalkar, Ms Sirisha Kurada, Mr Srinidhi K, Mr Arjun N, dual degree students of our department participated in the Brunel Design Show, held at London between 10-12 June, 2008.
3. Dr Sandipan Bandyopadhyay has been elected as the National Secretary of the "Association for Machines and Mechanisms" (AMM), India, which is affiliated to the "International Federation for Theory of Machines and Mechanisms" (IFTOMM).

4. Dr.Nilesh J Vasa arranged a seminar on "Optical Systems for Laser based Micromachining" by Dr. Burkhard Fechner and Dr. Mirko Dittmar, Coherent Group, Goettingen, Germany on 26th August 2008 at the Chemical Engineering Seminar Hall.
5. Dr M Ramanathan has joined the department as Assistant Professor on 4th August 2008.
6. Dr T Asokan has been selected by the Stanford University, USA for the prestigious Stanford-India Bio-design Fellowship to pursue post doctoral research program in the design of Biomedical Devices for the Indian Clinical requirements. The one-year fellowship begins in January 2009.
7. Prof.R.Krishna Kumar has been nominated as a member of the Advisory Committee of the Technology Development Committee of Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram
8. A delegation of the French Region Centre accompanied by representatives of the University of Tours and Polytech' Tours visited our department on 2nd December, 2008 for possible collaborative projects.
9. Dr Shanmukh Katragadda, Head - Dept. of Electrical / Electronics, Mercedes-Benz Research and Development India Pvt. Ltd., Bangalore and Mr HansGeorg Metzler, Director of the lab for "Active Safety & Driver Assistance Systems", and two of the lab members visited the Department of Engineering Design on 3rd December 2008 for possible collaborative projects.
10. Dr.G.Saravana Kumar has joined as Assistant Professor in the Department of Engineering Design on 1st December 2008.
11. Dr.T.Asokan served as an External expert in the interview Board of DRDO for recruitment of Scientists between 18th and 20th November 2008.
12. Dr T Asokan attended the India MedTech Summit held at AIIMS, New Delhi between 14-15, December 2008.
13. Dr G Saravana Kumar is a member of Editorial Advisory Board of the Rapid Product Development Magazine, a bi-monthly technical magazine published by Rapitec Solution Inc., Bangalore, India and 3i Product Development Consultants Ltd., U.K.

4.10 DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

4.10.1 Introduction:

The HSS department has entered a new phase of its evolution. The five year integrated MA programme launched by the Department of Humanities and Social Sciences (HSS) in the academic year 2006-07, is now in the phase of stabilisation.

The Third batch of MA students joined the Department in August 2008.

4.10.2 Academic Programmes: Five year integrated MA programme introduced in July 2006

New Courses introduced:

HS593	War and Peace in West Asia
HS741	Film Theory and Practice

Besides , several new course under the M.A. Programmes have also been introduced.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
MA	29	28	27	-	-	84
Ph.D.	2	6	4	6	20	38
Total	31	34	31	6	20	122

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.	CT Vidya	Cyclical Analysis of India's Economic Growth: Is Service Sector Catching up?	The Clobelics International Conference, Mexico	September 22-24, 2008
2.	K.C. Adaina	Workshop on 'Social Science and Qualitative Research'	Workshop: Department of Humanities and Social Sciences, Indian Institute of Technology Madras	April 10th-12th 2008
3.	Lenin.C.C	presented a paper titled "Religion and Politics in Ancient India: Reflections on Arthasastra," in the National Symposium on "Intersecting Science, Philosophy and Religion-An Indian Perspective," held at Ashirbhavan, Cochin	Conference: organized by the Indian Council of Philosophical Research (ICPR, New Delhi), the Indian Institute of Science and Religion, Pune, and the Institute of Science and Religion, Aluva	June 14-16, 2008

4.	Mantu Kumar Mahalik	"What Causes Asset Price Bubble in an Emerging Economy? Some Empirical Evidence in the Housing Sector of India"	Conference: Annual Money and Finance Conference at IGIDR, Mumbai	January 23-24, 2009
5.	Nishikant Kolge	<i>Thirteenth National Workshop Perspectives on Caste and Gender in Early India</i>	Centre for Contemporary Theory and General Semantics, Baroda	2 – 5 February 2009
6.	Nishikant Kolge	<i>"Gandhi's Criticism of Industrialization and Modernity; An Environmental Perspective"</i>	Seminar: National Seminar on Gandhi Science and Environment, Institute of Gandhian Studies, Wardha.	14-16 March, 2009
7.	Nishikant Kolge	Workshop on Case and Gender in Early India	Forum for Contemporary Theory and General Semantics, Baroda	February 2-5, 2009
8.	Nishikant Kolge	Presented a paper titled "Gandhi's Criticism of Modernity and Industrialization : An Environmental Perspective, at the national Seminar on Gandhi: Science and Environment	Conference: The Institute of Gandhian Studies, Vardha	March 14-17, 2009.
9.	Nivedita Kumari	Workshop & Conference	3rd Linguistics Spring School in Indian Mountains, Kausani, Uttarakhand	13th - 31st May 2008
10.	Nivedita Kumari	Conference and a workshop	"Universals and Variation" at "The seventh GLOW in Asia, 2009" organized by The English and Foreign Language University, Hyderabad	February 25-27, 2009
11.	Nivedita Kumari	Title: <i>"English Nouns in Hindi, Maithili and Japanese: A Preliminary Survey"</i> ,	Noam Chomsky and the Contemporary World, jointly organized by the Department of philosophy, Pondicherry University and CIIL, Mysore,	22-24 September 2008
12.	Rekha G Menon	Presented a paper titled "Human Nature: Chomsky, Foucault and Habermas" in the National seminar on Noam Chomsky and the contemporary World	The Department of Philosophy, Pondicherry University	September 22-24, 2008
13.	S D Vaishnavi	Applied Econometrics for Health Policy Analysis conducted by Department of Humanities and Social Sciences, IITM	Workshop: London School of Hygiene and Tropical Medicine	31 March – 3 April 2008
14.	S D Vaishnavi	International Doctoral Course in Health Economics and Policy- "Inequalities in Health and Health Care" at Geneva, Switzerland	International Doctoral Course : Swiss School of Public Health	May 5 to 9, 2008

15.	S D Vaishnavi	Analyses of Benefit Incidence and Financial Incidence	Workshop: International Health Policy Program, Thailand in Collaboration with London School of Hygiene and Tropical Medicine at Bangkok	21-23 rd Jan 2009
16.	S Josephine	Rebuilding sustainable communities for children and their families after disasters	Conference: Center for Rebuilding Sustainable Communities after Disasters (CRSCAD).University of Massachusetts-Boston, USA	November 16-19, 2008
17.	S Josephine	Paper presented on ' <i>Rawlsian Perspective on Socio-Political Equity and Its Ramifications on Indian Education</i> ' (By Josephine A and Dr. Sudarsan P)	Department of Education (Central Institute of Education), University of Delhi	March 5-7, 2009

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

Vidya Sarveswaran received the Fulbright Pre-Doctoral Fellowship awarded by Fulbright Foundation. She visited the University of Nevada at Reno, USA for the period of nine months from August 2008 to May 2009.

K Kanthimathi won the award for her proposal for the presentation on "Attitudes towards the Hindi Language in Tamil Nadu" at the 15th World Congress of Applied Linguistics held in Essen, Germany from 24th-29th August 2008

4.10.3 Faculty and their activities:

Faculty:

S.No	Name and Qualifications	Major area of specialization (only 3 areas)
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.
9.	Debashis Acharya, Ph.D. (Univ. of Hyderabad)	Macro and Monetary Economics, International Trade and Finance; Health Care Finance
10.	Devaki Reddy, Ph.D. (JNU, New Delhi)	English, Sociolinguistics, ELT
11.	John Bosco Lourdusamy, D.Phil. (Oxford University)	History of Science, Science, Technology and Society

12.	Jyotirmaya Tripathy, Ph.D (IIT,Kharagpur)	Literary Theory, American Studies, Cultural Studies
13.	Milind Brahme, Ph.D. (JNU, New Delhi)	German Studies, Comparative Literature and Modern Marathi Literature
14.	Mohan S, M. A. (Madras University)	English, Science Fiction, Technical Report Writing, Indian Writing in English
15.	Prema Rajagopalan, Ph.D. (IIT Kanpur)	Sociology of Science and Technology, Development, Women in Science and Technology
16.	Sonika Gupta Ph D (JNU NewDelhi)	Chinese Foreign Policy and Politics, International Relations Theory, Human Security, Nuclearization of South Asia
17.	Sreekumar N, Ph.D. (Univ. of Hyderabad.)	Philosophy of Language, Hermeneutics, Indian Philosophy
18.	Srilata K, Ph.D. (Univ. of Hyderabad)	African Literature, Cultural Studies, Creative Writing
19.	Sudarsan Padmanabhan Ph D (Univ. of South Florida)	Social and Political Philosophy, Indian Philosophy and culture
20.	Suresh Babu M, Ph.D (JNU, New Delhi)	Industrial Economics, Applied Macro Economics
21.	Swarnalatha R, Ph.D (Madras University)	Eco Philosophy, American Literature
22.	Umakant Dash, Ph.D. (IIT Kanpur)	Energy Economics; Health Care Economics
23.	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	Muraleedharan VR Debhasis Acharya Umakant Dash	Application of Econometric tools in Health Economics	March 31 st to April 3 rd , 2008
2	Aysha Iqbal	Screenplay writing by Patricia Gruben. SFU	February 14, 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.	Aysha Iqbal	Drama of David Graneberg	University of Kerala	November 6, 2008
2.	Jyotirmaya Tripathy	Muscular Democracy	FCT, Baroda	December 18-21 2008
3.	Milind Brahme	Attended & presented a paper at Jean Monnet Conference	The EU in a global perspective: Intercultural Dialogue across three continents, Hochschule Bremen, Germany	May 25 - 27, 2008

4.	Muraleedharan VR	participated in the Consultation on National Rural Health Mission	TISS, Mumbai	June 18 th - 20 th 2008
5.	Sreekumar N	Dayakrishna on the Question of Vedic Authority	Department of Philosophy, University of Madras	March 13-14 2008
6.	Sreekumar N	Science and Religion in Ancient india	Indian Council of Philosophical Research, New Delhi	June 14-16 2008
7.	Sreekumar N	Identity and Recognition	Sacred Heart Seminary, Poonamallee, Chennai	September 12-13 2008.
8.	Sreekumar N	"Racism and its Politics: Some Ethical Convens	Indian Council of Philosophical Research, New Delhi	November 21-22 2008
9.	Sreekumar N	Language as Ladder; Gadamer on Tradion and Authority	Department of Philosophy, University of Hyderabad	January 28-30, 2009
10.	Sreekumar N	Workshop on Public Health Ethics Curriculaum Development	Achutha Menon Centre for Health Science Studies	July 1-3 2008
11.	Sreekumar N	Workshop on Development of Syllabus for Philosophy for IGNOU	Suvidya College Bangalore	December 13-14 2008
12.	Sudarsan P	Curriculum Development Meeting Public health Ethics	Achutaha Menon Centre for Health Sciences Studies, Trivandrum	July 1-3, 2008
13.	Sudarsan P	Equity and Education in India	Delhi University	March 5-7, 2009
14.	Sudarsan P	Intersecting Sci., Ohi. & Rel	Little Flower SRM, Cochin	June 19-26, 2008
15.	Sudarsan P	Election Reforms	Association for Democatic reforms Bombay	Jan 31 – Feb 09, 2009
16.	Sudarsan P	Current Moral Debates Religion and Humanism	National College Trichy	July 10-11, 2008
17.	Swarnalatha R	International Literature Congerence , chaired a session on Ecocreticism	Ethiraj College for women Chennai	March 12-13 2009

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Aysha Iqbal	Film adaptation of Shakespeare	Annamalai University March 2, 2009
2.	Aysha Iqbal	Anthology Cinema	Madras Christian College December 16, 2008
3.	Aysha Iqbal	Film Studies	University of Kerala July 9, 2008

4.	Aysha Iqbal	Multimedia in ESL	Crescent College, Chennai October 15, 2008
5.	Aysha Iqbal	Indian Writing in English :Current Trends	HH Maharaja College University of Kerala, July 10, 2008
6.	Choudhary S C	"Aeronautical English"	AirTraffic controllers Annual Meet, Airports Authority of India, Chennai, 19 th June 2008
7.	Jyotirmaya Tripathy	Territorial Identity	Central Washington University October 13, 2008
8.	Muraleedharan V R	1 st Upandranath Bramachari Memorial Lecture : titled "Rockefeller foundation and Malaria in Madras Presidency"	University of Burdwan 19 th December 2008
9.	Swarnalatha R	What is Ecocriticism ?	Vaishnav College, Chrompet April 18, 2008
10.	Umakant Dash	Econometric Application in Health	IIT Madras, Chennai March 31 st – April 3 rd 2008
11.	Umakant Dash	Cost-Effective and Cost-Benefit Analysis and its Application to HIV	Public Health Management Institute (PHMI), Hyderabad September 25 th 2008
12.	Umakant Dash	Introduction to Health Economics	National Institute of Epidemiology (ICMR), Chennai. 14 th August 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1	Jyotirmaya Tripathy	USA	December 7-15 2008	RMMLA Annual Convention, University of Nevada, funded by IITM
2	Umakant Dash	CREHS (Consortium for Research on Equitable Health) at Dar E Salem, Tanzania	July 2008	To attend the Annual meeting
3	Umakant Dash Muraleedharan V R Debashis Acharya	Bangkok	January 21– 23 2009	to attend "analyses of financial and benefit Incidence of health systems in three countries: India, Nigeria and Thailand
4	Aysha Iqbal	United Kingdom	March 27 th -1 april	Conference
5	Aysha Iqbal	Singapore	December 4-8, 2008	Conference

4.10.5 Research and Consultancy

Sponsored Research Projects:

S.No	Title	Period	Funding agency	Amount Lakhs	in	Coordinators
1	'The othesie & Gender	1-3-09 to 1-3-11 (2 years)	ICCSR New Delhi	1.78 lakhs		J. Tripathy

24-NJ
6-IJ

Journal Editorial Boards:

R Swarnalatha : Editor (founder) of Indian Journal of Ecocriticism

R Swarnalatha : Guest editor of *Trumpetu: Journal of Ecosophy* (International Journal – Canada)

R Swarnalatha : has been elected to serve on the Editorial Board on ISLE (Interdisciplinary Studies in Literature and Environment) , the peer- reviewed International Journal with is published from the University of Nevada , Reno.

Research Publications:

David H Peters & Muraleedharan VR: "Regulating India's Health Services: To what End?" *Social Science and Medicine* 66(2008); 2133-2144 NJ

Debashis Acharya and Sahoo Biresh K, "Examining the Total factor productivity change in Radial and Non-radial DEA models: An application to Indian Commercial Banks", *International Journal of applied Economics and Econometrics* (accepted for one of the issues of 2008) NJ

Debashis Acharya, and S Amanulla, "Indian Trade with IOR-ARC: AN=n Empirical Note", *GITAM Review of International Business*, 1, 2008. NJ

Debashis Acharya, Gopalaswamy, Arun Kumar, and Jaideep Malik, "Stock Price Reaction to Merger announcements: An Empirical Note on Indian Markets", *Investment Management and Financial Innovations*, Vol-5, Issue1, p.95-103, 2008 NJ

Debashis Acharya, S, Amanulla and Sara Joy, "Financial Development and Economic Growth in Indian States: An examination", *International Research Journal of Finance and Economics*, Issue – 24, p.117-130, 2009 IJ

Jyotirmaya Tripathy: "Why America Cannot exercise Turner's Ghost?" *LITCRIT*. Vol.34, No.1,2008, 16-30. NJ

Jyotirmaya Tripathy: Puritan Legacy of America, *Indian Journal of Politics and International elations* Vol.1, Ni.1 2008, 25-72 NJ

N Sreekumar : Self Creation and Democratic Politics: "Rorty's Redescription of Nietzsche", *Journal of the Indian Council of Philosophical Research*, XXIV, 81-98, 2009 NJ

N Sreekumar and KG Maya: "Industry-University Collaboration: Some Ethical Considerations", *Curie Journal*, April 2009, II.4.95

N Sreekumar: The Horizon of Meaning: A Re-examination of Philosophical Hermeneutics, *Suvidya Journal of Philosophy and Religion*, 2, No.1, 51-66, 2008. NJ

N Sreekumar: "Postmodern Discontents of Liberal democracy.", *Indian Journal of Politics and International Relations*, 1-2, July-December, 2008. 315-331. NJ

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Rajan SC, Dougherty, WD, Kartha S, Lazarus, Bailie A, Runkle B and Rencl A "Greenhouse gas reduction benefits and costs of a large-scale transition to hydrogen in the USA", *Energy Policy*, 37, 56-67, 2009.

Rajan SC, "Meeting the Millennium Ecosystem assessment Challenge: The case for biome stewardship councils", *Policies for sustainable Governance of Global Ecosystem Services*, Edward Elgar: London, 315-328, 2008. IJ

SC Chaudhary: Testing Spoken English for credit within the Indian University System, *TESL-EJ* Vol12 No.3 Dec 2008 NJ

Umakant Dash, Vaishnavi SD., 2009. Catastrophic Payments for Health Care among Households in Urban Tamil Nadu, India, *Journal of International Development*, 21 (2): 169- 184 IJ

Umakant Dash: "Importance associated to Retail Service Attributes: a Study on Indian Consumers" The Icaian Journal of Management Research, Vol. VII, No. 2, 2008, pp 7-20. co-author Mridula Mishra)

Umakant Dash, Vaishnavi SD, Muraleedharan VR. 2008. "Technical Efficiency and Scale Efficiency of District Hospitals: A Case Study of Tamilnadu", *Indian Economic Review* 43 (1) : 69-82 NJ

Umakant Dash, Muraleedharan VR, Prasad BM, Acharya D, Lakshminarasimhan S, 'Access to health services in under privileged areas: a case study of Mobile health Units in Tamil Nadu and Orissa', CREHS Research Report, October 2008. NJ

Muraleedharan VR, Prasad BM: 'Community health workers: a review of concepts practice and policy concerns; CREHS working paper April 2008. NJ

Umakant Dash, Muraleedharan VR, Acharya D and Girija Vaidyanathan, "An analysis of district public health care system in Tamil Nadu and Orissa" submitted to the World Bank, New Delhi, April 2008 NJ

Malathy D, S.N Rajesh Raj. "Does Schooling affect Labour Productivity and Earnings?" Evidence from the unorganized Coir Yarn Manufacturing sector in Kerala, India". The Indian Journal of Labour Economics ,_Vol.51, No.4 Oct-Dec.2009 pp 931-948 NJ

Malathy D, P. Duraisamy Grant-in-Aid for Secondary Education in Tamil Nadu: Policies and Practices-in JBJ Tilak (Ed.) Financeing of Secondary Eduation in India; NUEPA,2008. NJ

Malathy D, P. Duraisamy "Women's Participation in S&T Education and Labour Markets in India " Kumar Neelan (Ed) Women and Science in India: A Reader OUP, Delhi 2009. NJ

Other Activities:

Aysha Iqbal: Kiaran Nagarkar and in Discontgents of Masculinity, book chapter in Masculinity in Post colonial Indian Writing in English – published by Letizia Alterno & Rajeswar Mitapalli (eds) Anthem Presss, New Delhi in 2009 NJ

Aysha Iqbal: Radicalism & Rebellion: Arelevance of Brecht in Present Times : Published by German Studies in India< University of kerala Vol – 4 No.1 in April 2008 NJ

Aysha Iqbal: Teaching EAP/ESP in India EAP and ESP in Developing Countries: Current State of Play vs Actual Needs and Wants – published by Garner Education & British Council, UK 2009. NJ

SC Chaudhary : Consultancy for Online teaching of English with Valued Epistemics Pvt. Ltd. for Rs.1 lakh. NJ

SC Chaudhary: Released a book titled 'Foreigners & Foreign Languages in India; A Sociolinguistic History' published by Cambridge University Press, in Jan-2009 NJ

Special Lectures:

Dr. P. B. Anand, Senior Lecturer in Environmental Economics, Director, Post graduate Programme Bradford Centre for International Development, University of Bradford, UK delivered a talk on "New Horizons In Environmental Economics Water Governance" on 5th September 2008

Dr. Girish Sant, (Alumini of IIT Bombay) delivered a lecture on " Electricity, Governance and Regulation " on 22nd Nov 2008

Renuka Rajaratnam, from University of Manchester, UK, delivered a lecture on the area of Intercultural Communication on 12 November 2008

4.11 DEPARTMENT OF MANAGEMENT STUDIES

4.11.1 Introduction:

The Department of Management Studies was established in April 2004 with its initial faculty consisting of those of the Department of Humanities and Social Sciences who taught in the M. Tech (Industrial Management) programme until 2001 and thereafter in the MBA programme. On 2nd February 2006, the Department moved into its new premises provided by the Institute to facilitate all-round developments in its teaching programmes, research 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, is a good indication of this.

The MBA Programme, which commenced only in July 2001, has rapidly earned 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 has, perhaps, the largest number of 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. The research papers 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.

4.11.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	MS 547	Managing Work Teams
2.	MS 583	Business Analysis for IT Solutions
3.	MS 607	Quality Assurance Management
4.	MS 627	Quality Management Systems
5.	MS 657	Maintenance Management
6.	MS 694	Introduction to Business Insurance
7.	MS 850	Stochastic Modeling and Applications - I
8.	MS 851	Stochastic Modeling and Applications - II

Students on Roll:

Programme	I year	II Year	III Year	IV Year	V Year & later	Total
M.B.A.	65	62	-	-	-	127
MS (by Research) & MS (Entrepreneurship)	6	6	6	5	6	29
Ph.D.	8	12	8	11	31	70
Total	79	80	14	16	37	226

Names of Students/Scholars who attended Conferences/Seminars and Symposia Abroad/ India:

Sl. No.	Name of the Student	Programme	Title	Date & Venue
(a) Paper Presented				
1.	Mathew A. Thomas	International Conference on Statistics and its Applications in Management	<i>"Convergence to Benford's Law in Financial Data"</i>	IIM, Kozhikode - May 1-3 , 2008
2.	Mathew A. Thomas	11th Annual Conference of the Strategic Management Forum	<i>"Critical Success Factors to Collaborate in Cross Border Alliances: Experiences of Indian Manufacturing Enterprises"</i>	IIT Kanpur - May 8 – 10, 2008
3.	Arti D. Kalro	International Conference on Globalization and Emerging Economics	<i>"Effectiveness of Comparative Ads: A study on emerging and Matured Consumer Markets"</i>	IIM, Indore and Centre for Indian Multinational Education and Research - August 11-13 , 2008
4.	M. Geetha	International Conference on Globalization and Emerging Economics	<i>"Impact of Store Image on Impulse Buying"</i>	
5.	Mathew Cherian	International Conference	<i>"Mediating Role of Absorptive Capacity and Alliance Learning Capability in Cross Border Alliances"</i>	Strategic Management Society, USA at Indian School of Business, Hyderabad

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.	Balaraman R	MS06A008	Institute Merit Prize	IITM

4.11.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization (only 3 areas)
<u>Professor</u>	
Ganesh L S <i>B.E.(Hons.), M. Tech, Ph. D.</i>	Systems Thinking and Applications, Project Management, Technology and Knowledge Management
Jayachandran S <i>M.A., MBA, Ph. D.</i>	Marketing Management
Kamalanabhan T J <i>M.A., M. Phil., Ph. D.</i>	Industrial Psychology, Organizational Behaviour, Human Resources Management
Narendran T T <i>B.E., M.S., Ph. D.</i>	Operations Management, Cellular Manufacturing, Logistics and Supply Chain Management
Rajendran C [Head] <i>B.E.(Hons), M.E., Ph. D.</i>	Operations and Supply Chain Management, Scheduling, Computer Simulation, Quality Management
Srinivasan G <i>B.E.(Hons), M.S., Ph. D.</i>	Operations Research, Supply Chain Management, Cellular Manufacturing
Thenmozhi M <i>M. Com., M. Phil, Ph. D.</i>	Financial Management, Strategic Management, Computational Finance, Financial Markets
Vijayaraghavan P <i>B.E., MBA, Fellow IIM Bangalore (TTK Chair Professor)</i>	Strategic Marketing, Brand Management, Advertising and Sales Promotion
<u>Associate Professor</u>	
Madhumathi R <i>M. Com., Ph. D.</i>	Financial Management and Accounting, Investment Analysis, Forex Research
Prakash Sai L <i>P.G. Dipl.(CM&P), M. Tech, Ph D.</i>	Strategic Management, Business Models, IT Outsourcing and IT Strategic Planning, Technology Management
<u>Assistant Professor</u>	
Arshinder Kaur <i>M. Tech, Ph. D.</i>	Supply Chain and Operations Management
Arun Kumar G <i>M. Com., Ph. D.</i>	Market Microstructures, IPOs, Joint ventures and multinational business
Bharadhwaj S <i>MBA, Ph. D.</i>	Consumer Behaviour, International Marketing, Brand Management
Ganesh M.P. <i>M. Phil, Ph. D.</i>	Organizational Behaviour, Human Resources Management, Industrial Psychology
Rahul R. Marathe <i>B.E., M.S., Ph.D.</i>	Operations Research, Stochastic Processes, Supply Chain Management
Sanghamitra B <i>B.E., Fellow IIM Calcutta</i>	Organizational Behaviour, Human resources Management
Thillairajan A <i>B.E., M.Sc., Fellow IIM Bangalore</i>	Financial Management and Corporate Finance, Venture Capital and Entrepreneurial Finance, Infrastructure and Project Finance, Business Strategy of Technology Enterprises
<u>Visiting Faculty</u>	
Emeritus Scientist/Emeritus Professor	----
Scientific Officers / Engineers	----

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.	C. Rajendran	Workshop	"Multivariate Analysis" (in association with NIT, Trichy)	August 15–17, 2008 – Dept. of Management Studies
2.	T.J. Kamalanabhan and Dr. M. Thenmozhi	Training Programme (for L & T : ECC Divn. Employees)	Supervisory Development Programme	February 16–21, 2009 Dept. of Management Studies
3.	T.J. Kamalanabhan and P. Vijayaraghavan	Executive Development Programme (for Council for Leather Exports, Chennai)	"International Marketing"	March 23 - 29, 2009 - Dept. of Management Studies, 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.	L. Prakash Sai	"Breakthrough Management" Prof. Shoji Shiba - Renowned Management Guru	Confederation of Indian Industry, Mumbai	July 27 – Aug 02, 2008
2.	Sanghamitra Bhattacharyya	"Cost in Transnation"	Bremen, Germany (International Conference)	October 21 – 23, 2008
2.	A. Thillai Rajan	"Strategic Innovation in a Flat World"	The Strategic Management Society's Special India Conference -Indian School of Business, Hyderabad	December 12-14, 2008
Conference (Paper Presented) :				
1.	Sanghamitra Bhattacharyya	"Challenges and Opportunities of doing Business in India : A Cultural Analysis"	International Conference on Social Sciences (ICSS), Izmir, Turkey	August 21–23, 2008
2.	T.J. Kamalanabhan	"The Role of Personality Traits, Social Competence, Impression Management and Entrepreneurial Orientation in Entrepreneurial Success"	International Borneo Business Conference 2008, Universiti Malaysia Sabah, Malaysia	December 15-17, 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	S. Bharadhwaj	"Towards Better Research"	Department of Business Admn., Annamalai University - April 7, 2008
2.	L. Prakash Sai	"Strategic Management" (for trainee engineers)	National Productivity Council, Chennai - September 12, 2008
3.	L.S. Ganesh	"Systems Upanishad"	Centre for Sustainable Technologies, Indian Institute of Science, Bangalore - October 9, 2008
4.	A. Thillai Rajan	"Understanding global financial crisis and India's response"	Association of British Scholars, Chennai - December 22, 2008
5.	M.P. Ganesh	Title: Psychology for Effective Teaching (part of the workshop for management teachers on Improving Teaching and Developing Personality)	GKM College of Engineering and Technology – January 24, 2009
6.	M.P. Ganesh	Teachers as Leaders (part of the AICTE-ISTE sponsored short term training programme on "Team Building and Leadership" for engineering college and arts & science college faculty)	Mailam Engineering College, Mailam, Puduchery – March 5, 2009

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Rahul R. Marathe	Japan	June 11 – 20, 2008	Study of operations of selected Industries and Academic Institutions in Japan (as part of the VLM Programme)
2.	L. Prakash Sai	Japan	June 15 – 25, 2008	
3.	T.J. Kamalanabhan	Korea	June 18 - 23, 2008	Invited as a Visiting Faculty for Summer 2008 at the Faculty of Economics and Business, Kyungpook National University, Korea under Professional Visit.
4.	C. Rajendran	Netherlands	August 25 2008	Visited Nyenrode Business School, Nyenrode University, Netherlands for conducting the PhD thesis defence.

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	A. Thillai Rajan	Young Teacher Award	IIT Madras (at Institute Day)	Best teaching performance	Sept. 2008
2.	Arshinder Kaur	2008 Emerald/ eFMD Outstanding Doctoral Research Award.	Highly Commended Award Winner	For her Ph.D. thesis entitled ' <i>An Integrative Framework for Supply Chain Coordination</i> ', chosen by the Editors and judging panel of International Journal of Physical Distribution & Logistics Management	December 2008
3.	P. Padma, L.S. Ganesh and C. Rajendran	Literati Network Awards for Excellence 2009.	Highly Commended Award Winner For the year 2008	For their paper entitled " <i>A study on the ISO 14000 certification and organizational performance of Indian manufacturing firms</i> "	Dec. 2008

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Co-author
Books:				
1.	Dr. G. Arun Kumar			

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.	--	May to June 2008

4.11.5 Research and Consultancy:**Sponsored Research Projects:**

Sl. No.	Title	Period	Funding Agency	Amount (Rs. lacs)	Co-ordinators
1.	A. Thillai Rajan	"Venture Capital Investment in Indian Firms : Trends value addition, and performance of investee companies"	I C & S R, IIT Madras	Rs.6.03 lakhs	===

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1.	G. Srinivasan and Rahul R. Marathe	Statistical Analysis and Development of a Predictive Model	Vertex Systems Ltd, Chennai	===

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

1. The University of Karlsruhe and Technical University of Munich under DAAD Student Exchange Programme.
2. The Nyenrode Business Universiteit, Netherlands for Students Exchange and Research Collaboration.
3. University Duisburg-Essen, Germany for Students Exchange and Research Collaboration

Journal Editorial Boards:

Sl. No.	Name of faculty	Level	Journal
1.	Prof. C. Rajendran	Member of the Editorial Board	International Journal of Mathematics in Operational Research (IJMOR)
2.	Dr. A. Thillai Rajan	Member of the Editorial Board	AIMS International Journal of Management
3.	Dr. M. Thenmozhi	Member of the Editorial Board	International Journal of Indian Culture and Business Management

Research Publications:

Total No. of papers published in Refereed National Journals	...	10
Total No. of papers published in Refereed International Journals	...	16
Total No. of papers presented in National Conferences	...	Nil
Total No. of papers presented in International conferences	...	Nil

In Refereed National Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	M. Thenmozhi and M. Sony Thomas	<i>"Price Discovery and Volatility Spillover in Spot and Futures Market: Evidence from India"</i>	Indian Journal of Capital Markets Issue pg 1 – 29, 2008	=====
2.	Thenmozhi, M. and S. Priya,	<i>"Volatility Spillover in Bullion and Energy futures and Spot Markets"</i>	Journal of Emerging Financial Markets, Vol.1, No.1, pp.85-108	=====
3.	A. Thillai Rajan, S. Vaishno Devi, and M.B. Ragupathy	<i>"Recent equity offerings in Indian capital markets: An analysis".</i>	Indian Journal of Capital Market. 2(1), April – June issue: 16-23.	=====
4.	A. Thillai Rajan and Gaurav Sawhney	<i>"Can we have global models for Corporate Community Relations? The Case of IBM India"</i>	Metamorphosis – A Journal of Management Research. 7(1): 93–115.	=====
5.	Sapna Poti, Sanghamitra Bhattacharyya	<i>"OD Interventions For Employer Branding : An ROI-based Approach"</i>	National publication NHRD Network Journal, July 2008 Vol.2 Issue 3, pg.81-88.	=====
6.	Thenmozhi, M, Sony Thomas and R. Balaji	<i>"Expiration Day and week effects of derivatives on Spot Market trading Volume, Price Reversal and Volatility: Evidence from India"</i>	Indian Journal of Capital Market, July-September, pp.35-45 2008	=====
7.	A. Thillai Rajan and Gaurav Sawhney	<i>"Can We Have Global Models for Corporate Community Relations ? The Case of IBM India"</i>	IIM Lucknow Management Magazine, pg.96, 2008	=====
8.	Thenmozhi, M. and Radha S	<i>"Forecasting interest rates using ARIMA and GARCH models",</i>	Indian Journal of Capital Market, Jan-Mar, pp.17-28. 2008	=====
9.	M.P.Ganesh and Gupta M	<i>"Nurturing Team Performance by Managing Virtualness"</i>	Journal of Psychosocial Research. 3(2), pp. 251-264, 2008	=====
10.	Manish Kumar and Thenmozhi, M.	<i>"Forecasting Stock Index Movement: A Comparison of Support Vector Machines and Random Forest"</i>	IIMB Management Review, Vol. No. 21 (1) pp March 2009	=====

In Refereed International Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	Thenmozhi, M. and Radha S	<i>"Dynamic Interactions among stock returns, short term interest rate, spread and expected inflation"</i>	<i>International Journal of Indian Culture and Business Management</i> , Vol. 1, No. 3, pp. 296-318, 2008	=====
2.	Mathew Cherian, Myrna Flores and Luca Canetta	<i>"Scenarios to Collaborate with Emerging Markets: Initial Focus India" (A Chapter)</i>	In the Book <i>Pervasive Collaborative Networks</i> was published by Springer Boston Volume 283, Pgs.599-610, 2008	=====

3.	Srikantha Dath, C. Rajendran, and T.N. Narashiman	<i>"A Study on Supply Chain Management from the retailer's perspective"</i>	International Journal of Procurement Management, Vol. I, No.4, pp.453-471, 2008.	=====
4.	P. Padma, L.S. Ganesh and C. Rajendran	<i>"A Study on the Critical factors of ISO 9001:2000 and Organizational Performance of Indian Manufacturing Firms"</i>	International Journal of Production Research, Vol.46, No.18, 4981-5011, 2008.	=====
5.	P. Padma, L.S. Ganesh and C. Rajendran	<i>"A study on the critical factors of Capability Maturity Model and organizational performance of Indian Software Firms"</i>	Quality Management Journal, Vol. 15, No. 2, 2008	=====
6.	Arun Prasad and T.J. Kamalanabhan	<i>"Evaluation of Knowledge Strategies in the Indian Software Industry"</i>	Journal of Transnational Management Vol.13 No.2 Pg.48-169, 2008	=====
7.	Mayuri Duggirala, C. Rajendran and R.N.Anantharaman	<i>"Patient-perceived Dimensions of Total Quality Service in Healthcare"</i>	Benchmarking: An International Journal Vo.15 No.5 Pg.560-583, 2008	=====
8.	Mayuri Duggirala, C. Rajendran, R.N. Anantharaman	<i>"Provider-perceived Dimensions of Total Quality Management in Healthcare"</i>	Benchmarking : Emerald Group of Publications – Vol.15, No.6, pp.693 – 722, 2008	=====
9.	Mathew Cherian, Myrna Flores and Claudio Boer	<i>"Towards a Sustainable Innovation Framework to Assess New Indo-Swiss Collaboration Scenarios" (a Chapter)</i>	Book <i>Pervasive Collaborative Networks</i> - Springer Boston Volume 283, Pg.555-566, 2008	=====
10.	M. Ganesh, S Raghunathan and C. Rajendran	<i>"The Value of Information Sharing in a Multi-product Supply Chain with Product Substitution"</i>	IIE Transactions – pg.1124-1140 Vol.40, 2008	=====
11.	P.N. Ramkumar, T.T. Narendran	<i>"Integer Programming Formulation for Convoy Movement Problem"</i>	International Journal of Intelligent Defence Support Systems (Inderscience) - Volume /Issue No : 1 (3), Page No's: 177–188, 2008	=====
12.	Duggirala Mayuri, Rajendran C., and R.N. Anantharaman	<i>"Provider-perceived dimensions of total quality management in healthcare"</i>	Benchmarking: An International Journal, Vol. 15, 693-722, 2008	=====
13.	Arshinder, Kanda, A. and Deshmukh, S. G.	<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	=====
14.	B. Narayan, C. Rajendran, L. Prakash Sai and R. Gopalan	<i>"Dimensions of service quality in tourism – an Indian perspective"</i>	<i>Total Quality Management & Business Excellence</i> , Vol. 20, 61-89, 2009	=====
15.	Chandrasekaran, C. Rajendran, O.V.K. Chetty and D. Hanumanna	<i>"A two-phase metaheuristic approach for solving economic lot scheduling problems"</i>	<i>International Journal of Operational Research</i> , Vol. 4, 296-322, 2009	=====
16.	P.N. Ramkumar, T.T. Narendran	<i>"A Mathematical Approach for Variable Speed Convoy Movement Problem"</i>	Defence & Strategic Analysis, 25 (2), 2009	=====

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Prof. T. Scott, Stanford University, USA	April 9, 2008	Invited guest lecture to our MBA students
2.	Mr. R. Srinivasan, Corporate Director, ITC Limited, Mumbai	April 12, 2008	Shared his experiences in the CEO Connect with MBA students
3.	Mr. Ganesh Mandalam, CEO, Zerago Analytics, Chennai	April 15, 2008	Special invited Guest Lecture for MBA students
4.	Mr. A. Kottai Director, TCS Ltd, Bangalore	April 24, 2008	Special invited Guest Lecture for MBA students and Research Scholars
5.	Prof. Mogens Kuhn Pedersen, HoD and Dr. Sudhanshu Rai, Project Leader - Dept of Informatics, Copenhagen Business School, Denmark	April 24, 2008	Discussions for a possible collaboration on an international research project
6.	Dr. Ravi Ravindran, Professor of Industrial Engineering, Pennsylvania State University, USA	June 23, 2008	An invited lecture on 'Global Sourcing and Vendor Risk Management in Supply Chains' to MBA students, Research Scholars and faculty members.
7.	Dr. S.P. Raj, Distinguished Professor of Marketing, Whitman School of Management, Syracuse University, Syracuse, USA	July 2008 (short-term; one month)	Gave special sessions to MBA students, guided Research Scholars and interacted with faculty members during his short stay.
8.	Prof. Ananth Krishnamurthy, Associate Professor, Industrial Systems Engineering and Director-Manufacturing Systems Engineering Program, The University of Wisconsin, Madison, USA	August 12, 2008	Discussed with faculty members and interacted with Research Scholars on the curriculum offered by us and a possible collaborative effort between the two sides.
9.	Mr P. Murugan, L & CO Manager, Modern Trade, Cadbury India Ltd, Mumbai	August 21, 2008	Invited lecture on 'Supply Chain Management' in Cadburys" to our MBA students and research scholars
10.	Dr. S. Narayanan, (Former Finance Secretary and Economic Advisor to the Prime Minister)	September 2, 2008	An Invited lecture-cum-interactive session on the topic "Resolving economic policy-making dilemmas in real-life situations" for our MBA students under the aegis of MIST (Management Insights for Social Transformation), a Forum of the Department of Management Studies
11.	Mr Jayakumar, CEO - mPhasiS Consulting	October 7, 2008	Shared his experience with MBA students at the CEO CONNECT, an event organized by DoMS as part of the MBA Programme.
12.	* Mr. David Awcock – Group Head of Technology, Standard Chartered Bank ; * Mr. Akshaya Gaur - Head, Software Solutions, SCOPE, Chennai * Mr. Venkat Raghavan – Head, Financial Markets Systems Development and Others	October 23, 2008	Signed an MoU between SCOPE (fully owned by Standard Chartered Bank) and IIT Madras, for academic related activities between the two Institutions.
13.	Prof. Dr. Fauzias Mat Nor, (Finance); Dr. Noor Azuddin Yakod, Sr. Lecturer – Universiti Kebangsaan Malaysia, Malaysia	November 05, 2008	Met the faculty members and interacted with Research Scholars on the MBA curriculum offered by our Dept and also for other Research programmes.

14.	Mr. A. Krishna, Vice President HR - Bosch Limited	November 06, 2008	An invited lecture on "Ethics and Values in Business" to MBA students at the CORPORATE WISDOM, an event, organized by DoMS, as part of the MBA Programme
15.	Dr. Thamayanthi Chelladurai, Treasury & Risk Management - Canadian Imperial Bank of Commerce, Toronto, Canada	December 24, 2008	An invited lecture on 'Financial Engineering – an Introduction'
16.	Mr. Sam Santosh, Chief Executive Officer, California Software Ltd, Chennai	January 07, 2009	Shared his experience with MBA students at the CEO CONNECT, an event organized by DoMS as part of the MBA Programme.
17.	Dr. Kirti Sarda, FPM, Indian Institute of Management - Calcutta	February 04, 2009	Gave a seminar talk entitled "Do Those with Common Afflictions crowd together? : The Search For Configurations of BPO Firms" for the Research Scholars.
18.	Mr. Charath Narsimhan, CEO, Indian Terrain, Chennai	February 08, 2009	Shared his experience with MBA students at the CEO CONNECT Programme organized by DoMS as part of the MBA Programme
19.	Mr. S.N.Subrahmanyam, Executive Vice President and Business Head, L&T.	February 11, 2009	An invited lecture on "The challenges for infrastructure development and financing in India", as part of Infrastructure Finance subject, to the MBA students
20.	Mr. Indranil Deb, Principal, Mobius Strip Capital Advisors (specialist PE & M&A Advisory)	February 14, 2009	Gave a talk on "The Impact of the Global Financial Crisis on the Indian Markets" at Corporate Wisdom, a forum of MBA Students' initiative.
21.	Development Team, Browser Industry, Opera Software Ltd. – OSLO and UK	March 24, 2009	Conducted a seminar on REVENUE MODELS AND EMERGING TRENDS IN THE BROWSER INDUSTRY for MBA students and Research Scholars

Other Activities:

1. K. Balaraju, MS (Entrepreneurship) and Dasari Suresh (MBA II Yr) have won the II prize and prize money of Rs.75,000/- at "Vishishth – The PAN-IIT Business Plan competition held at IIT Delhi and organized by Bain & Co., on April 10, 2008.
2. **Dr. S. Jayachandran visited Bangalore on 29th April 2008 as an AICTE expert.**
3. Dr. Rahul R. Marathe has received the "ISO – 9001 Lead Auditor" certificate awarded by TUV, Germany
4. Prof. T. J. Kamalanabhan served as an 'External Expert' in the Selection Board Meeting of DRDO between 22nd and 23 May in New Delhi.
5. Prof. M. Thenmozhi served as the External Referee for a Ph D viva voce examination at Bharathiar University on 23 May.
6. Prof. L. S. Ganesh presented a talk on "Knowledge Management Principles for Operations Management" at the National Seminar on "Research Issues in Operations Management" organized by Anna University on 23 May.
7. 61 MBA, 3 M.S. and 11 Ph.D. students were awarded their degree during this year's Convocation.

8. 65 fresh students have joined the MBA programme this year (Batch 2008-10)
9. Prof. L.S. Ganesh delivered a keynote address, "Education – What about Character?" at the Golden Jubilee Celebrations of PSBB School, Chennai
10. Mr. S.M. Satish participated in SAARC/IAESTE (International Association for Exchange of Student for Technical Experience of Japan) – Japan Academic Internship Programme at the University of Tokyo, Japan during August 3 – 30, 2008.
11. On invitation by AICTE, Dr. M. Thenmozhi, as an Accreditation Expert Committee Member, went to NITIE Bombay for accreditation work between 18th and 20th August 2008.
12. Dr. M. Thenmozhi attended a meeting of the Board of Studies of the School of Management Studies at Tamil Nadu Open University, Chennai, as a Member on August 26, 2008.
13. Dr. A. Thillairajan co-ordinated in Round Table/Workshop on Value Creation from VC & PE Investments: The Indian Experience during Sept 19, 2008 – Media Resource Centre, Central Library, IIT Madras.
14. Dr. L.S. Ganesh organized One-day Workshop on "Institutional Planning and Development" for Principals of CBSE Schools on Sept. 25, 2008 at Kochi
15. Dr. C. Rajendran organized 3-day workshop on "Multivariate Statistical Analysis – Part I & II" during Sept 12-14, 2008 at Department of Management Studies
16. Abhishek Ratna and Tushar Agrawal, II Year MBA students won Cash Prize of Rs.10,000/- (3rd) in the B-Plan competition organized at the All India Management Students' Convention, 2008 organized by Madras Management Association held on Sept 27, 2008.
17. On invitation as External Member, Dr L. Prakash Sai participated in the Ph.D. Doctoral Committee meeting of L. Manigandan, Research Scholar, Department of Management Studies, National Institute of Technology, Tiruchirappalli - on October 10, 2008; and J.Ashok Babu, Research Scholar, Department of Management Studies, Anna University, Chennai on October 21, 2008
18. Abhishek Ratna, Chetna, Karthik, Rajat Parnami, Sanket Singh and Tushar Agrawal (II Year MBA students) won the **OVERALL TEAM CHAMPIONSHIP** and THE ROLLING SHIELD (**For the 4th Successive Year**) at the PARADIGM 2008 Business School Festival organized by the Dept of Management Studies, Ethiraj College for Women, Chennai on October 10, 2008.
19. Sahiti Paleti, Sharad Nirwal, Vijayaraghavan V (I Year MBA students) were the RUNNERS UP with a cash prize of Rs.5000/- at the CRESCITA 2008 Competition organized by the Bharathidasan Institute of Management, Trichy during October 18-19, 2008.
20. Amit Tiwari, Mayuresh Silothri, Mohit Gupta and Saarthak Malik (II Year MBA students) won the STRATEGY CHAMPIONSHIP with a cash prize of \$ 1000/- in the event *Quadriga* at the AVENUES '08 B-Festival organized by SJM SOM , IIT Bombay during October 18-19, 2008.
21. Abhishek Bharadwaj, Indranil Das, Mayank Maheshwari, Rajat Parnami, Sai Vaasav and Vishal Chourasia (II Year MBA) have won the Third Prize (Cash prize of Rs.15,000) in **Confluence 2008 (online Strategy Game)** organized by Indian Institute of Management Ahmedabad on 8th November 2008.
22. Prof. L.S. Ganesh served as an Expert Member of the National Board of Accreditation (Management Programme) meeting organized by AICTE, Delhi on November 7-9, 2009.
23. Dr. A. Thillai Rajan has been awarded the Dr. Harisingh Gour Award for Teaching Excellence in Management for the academic year 2008-09 by the Infotech Education Society, Bhopal on November 21, 2008.
24. Chetna (II MBA) won the CRISIL Young Thought Leader 2008 award in the National Paper Presentation competition organized by CRISIL, Mumbai on Dec 8, 2008.
25. Anuradha Venkatesan (I MBA) won the 1st prize (cash prize:Rs.2000) in the Online Quiz and Case Analysis contest (BLITZKREIG) organized by SDM Institute for Management Development, Mysore on Dec 15, 2008
26. Dr. A. Thillai Rajan was selected by the The Association of Indian Management Scholars International for a Young Management Researcher Award (December 2008).
27. K. Karthik Narayanan and V. Vijayaraghavan (I MBA) have won the First Prize (Cash Prize Rs.15000) at CHRYSALIS 2009 (B-Plan Management Festival) organized by Loyola Institute of Business Administration on March 01, 2009.

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 | |
| 16. Inventory and Reliability | |

4.12.2 ACADEMIC PROGRAMMES:

New Courses Introduced:

S.No.	Course No.	Title
1.	MA510	Partial Differential Equations
2.	MA589	Numerical Linear Algebra
3.	MA202	Differential Equations
4.	MA524	Numerical Analysis
5.	MA574	Software Lab
		Introduction to Differential Topology

2.4. Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.	27	29	--	--	--	56
M.Tech.	10	7	--	--	--	17
Ph.D	3	8	3	6	25	45
Total	40	44	3	6	25	118

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	Date and Venue	Financial Assistance from
Conference:					
1.	Mrs. R. Indhumathi	MA04D008	PNAI Group of Centrum Voor Wiskunde en Informatique (CWI)	May – August 2008 Amsterdam, Netherlands	
2.	Mr. D. Venku Naidu	MA04D007	23 rd Annual Conference of the Ramanujan Mathematical Society	May 19-23, 2008	
3.	Mr. G. Sankara Raju Kosuru	MA07D004		IIT Kanpur	
4.	Mr. G. Sankara Raju Kosuru	MA07D004	Advanced Training Programme in Functional Analysis	June 2-13, 2008	
5.	Mr. Debhashisha Mishra	MA07D003		ISI, Bangalore	
6.	Mr. G. Ramesh	MA03D003			
7.	Mr. T. Karthick	MA05D007	International Conference on Discrete Mathematics 2008	June 6-10, 2008	
8.	Ms. S. Lavanya	MA03D008		University of Mysore	
9.	Mr. Bappaditya Bhowmik	MA04D009	Advanced Instructional School in Complex Analysis	June 3- July 3, 2008	
10.	Mr. M. Panchatcharam	MA08D002	Advanced Instructional School on PDE and National Symposium on Hyperbolic PDE	June 19-July 19, 2008 IIT Bombay	
11.	Mr. V.B. Surya Prasath	MA04D011	First International Conference on Emerging Trends in Engineering and Technology	July 16-18, 2008 G.H. Rasoni College of Engineering, Nagpur	
12.	Mr. T. Karthick	MA05D007	Workshop on Algorithms	August 8-10, 2008	
13.	Ms. S. Lavanya	MA03D008		NIT Trichy	
14.	Mr. A. Chandrashekar, Mr. I Jeyaraman	MA05D003 MA06D005	Research Workshop in Optimization Theory and Applications	Sep. 3-6, 2008 IIT Kanpur	
15.	Mr. P. Rajkumar	MA04D014	2 nd National Conference on Mathematical Techniques: Emerging Paradigms for Electronics and IT Industries (MATEIT – 2008)	September 25-29, 2008 IIT Kanpur	
16.	Dr. Swadesh Kumar Sahoo		Research Work (Visits Abroad)	October 1 – December 31, 2008 University of Turku, Finland	

17.	Mr. Bappaditya Bhowmik	MA04D009	New Directions in the Theory of Universal Zeta and L-functions	October 6-10, 2008 Wurzburg University, Germany	
18.	Mr. V.B. Surya Prasath	MA04D011	New Trends in Statistics & Optimization (ICONTSO 2008)	October 20-23, 2008 University of Kashmir Srinagar, J & K.	
19.	Mr. Jajati Kesari Sahoo	MA05D001			
20.	Mr. G. Sankara Raju Kosuru	MA07D004	Advanced Training in Mathematics School	November 1-18, 2008 Bhaskaracharya Institute of Mathematics Vishnupant Dasmile Path, Pune – 411 004	
21.	Mr. Debashisha Mishra	MA07D003			
22.	Mr. A. Chandra Shekharan	MA05D003	National Meet of Research Scholars of Mathematical Sciences - 2008	December 3-13 2008 I.I.T. Kanpur	
23.	Mr. Jitendriya Swain		Workshop on Harmonic Analysis and Partial Differential Equations	December 5-13, 2008 I.I.Sc. Bangalore	
24.	Mr. R. Rajkumar	MA04D014	National Seminar on Algebra, Analysis and Discrete Mathematics	Dec. 15-18, 2008 University of Kerala, Kerala	
25.	Mr. R. Rajkumar	MA04D014	24 th Annual Conference of the Mathematical Society	Dec. 29, 2008 – Jan. 2, 2009 Banaras Hindu University, Varanasi	
26.	Mr. T. Karthick	MA05D007	Jubilee Conference on Discrete Mathematics and Pre Conference Workshop	January 4-15, 2009 Banasthali University, Jaipur	
27.	Mr. Nachiketa Mishra	MA05D009	Lecture series on Hyperbolic Conservation Laws	March 16-28, 2009 TIFR, Bangalore	
Workshop:					
Research Collaboration and PDF:					
1.	Mr. Ritabrata Sengupta	MA05D010		Feb 4 – April 11, 2008 IISER, Mohali	

2.	Dr. Saroj Kumar Dash		Joined as a PDF w.e.f. 1.1.2009 under the supervision of Dr. A.K.B. Chand	NBHM (DAE Mumbai)
International Conference				
1.	Mr. T. Karthick		International Conference on Graph Theory and Applications	Amrita University Coimbatore Dec. 11-13, 2008
2.	Mr. Vasudevarao Allu		PRE-ICM International Mathematical Sciences	University of Delhi Delhi Dec. 16 – 22, 2008
3.	Mr. Jajati Kesari Sahoo		VI International Symposium on Optimization and Statistics	Aligarh University Aligarh Dec. 26-Jan 2, 2009

Name of students/scholars who won institute convocation/institute day prize

SI.No	Name of the Student / Scholar	Roll No.	Name of Prizes	Name of Donor
1.	Shah Maulik Pradipkumar	MA06C024	Institute Merit Prize	IITM
2.	Pawan Kumar Sharma	MA06M007	Institute Merit Prize	IITM

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) PDF (Univ. Grenoble)	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
Asst. Professors:		
A.K. B. Chand	Ph.D. (IIT Kanpur)	Fractals, Approximation Theory and Wave Lets
A.V. Jayanthan	Ph.D.(IIT Bombay)	Commutative Algebra and Algebraic Combinatorics
R. Radha	Ph.D. (IMSC. Chennai)	Harmonic Analysis, Wavelets, Sampling Theory
K.C. Sivakumar	Ph.D. (IIT Madras)	Functional Analysis and Mathematical Programming
Ch. Srinivasa Rao	Ph.D.(IISc. Bangalore)	Non-linear Differential Equations
W.B. Vasantha	Ph.D. (Ramanujan Institute for Advanced study in Mathematics, Chennai)	Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra
Sounaka Mishra	I.S.I. Kolkota	Approximation Algorithm / Combinatorial optimization/ Comp laxity 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
Manam Srinivasa Rao	Ph.D. (IISc. Bangalore)	Applied Mathematics
A.J. Shaiju	Ph.D (IISc. Bangalore)	Game Theory and Optimization Analysis
Kalpna 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 University)	Fuzzy logic connectives, Functional Equations, Approximate Reasoning

Senior Scientific Officer (Gr.I) :

K. Swaminathan Ph.D. (Agra University, Fluid Dynamics, Ship Hydrodynamics,
Agra) Mathematical Problems related to Naval
Architecture and Ocean Engineering

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

Sl. No.	Co-ordinator(s)	Title	Period
Conference			
1.	Prof. Arindama Singh	Logic and its Applications	Jan 11-14, 2009
2.	Dr. T.E. Venkata Balaji	Indo-French Conference in Mathematics	Dec. 15 th to 19 th 2008
Workshop:			
1.	A.V. Jayanthan V. Uma and T.E. Venkata Balaji	Golden Jubilee Workshop on Multiplicity Conjectures, Resolution of Singularities and Toric Geometry	Dec. 22, 2008 to Jan. 03, 2009
2.	T.E. Venkata Balaji	Internation Workshop on Principal Bundles in Geometry held in Chennai at the Institute of Mathematical Sciences and the Chennai Mathematical Institute.	23 rd February to 06 th March 2009
3.	S. Sundar & A. Avudainayagam	"Computational Models and Methods Driven by Industrial Problems", conducted in 3 phases under the auspices of the Indo-German Workshop – Cum – Lecture Series	Nov. 17-28, 2008, Jan. 5-16, 2009, Feb. 16-27, 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
Symposium:					
1.	S. Sundar	FEM for Moving boundary problems	One day Symposium on "Computational Mathematics"	Sona College of Engg. Salem	September 19, 2008
2.	A.K.B. Chand	Mathematical Methods and Applications GJNSMMA 2008	National Symposium	I.I.T. Madras	December 22, 2008
3.	V.Vetrivel	Introduction to Nonlinear Programming	Symposium on Game theory and Optimization	Indian Statistical Institute, Chennai	Feb. 7 th 2009
Conference:					
1.	S.A. Choudum	"National Workshop on Some Recent Research Directions in Graph Theory"	National Workshop	IIT Kharagpur	May 29-30, 2008

		First-fit and on-line algorithms	Current Trends of Discrete Mathematics in Science and Social Systems	Govinda Dasa College Surathkal	Feb. 26, 2009
		Height Balanced Trees into Hypercubes	International Conference on Discrete Mathematics	Mysore University, Mysore	June 6-10, 2008
2.	S. Kalpakam	"Value of Information sharing in a serial supply chain"	International Conference	School of Mathematics, M.K. Univ., Mysore	Dec. 16-18, 2008
		Benefits of Information sharing in a serial supply chain	Probability Theory and Stochastic Processes	Cochin Univ. of Science and Tech. Cochin	Feb. 6-9, 2009
		Analysis of Perishable Inventory models under modified base-stock policy	Stochastic Modeling	Alagappa University, Karaikudi	Feb. 12-14, 2009
		Queuing Theory	Operations Research and its Applications	ISI, Chennai Centre	Feb. 16-17, 2009
3.	S.H. Kulkarni	Banach Algebras	Advanced Training in Mathematics in Functional Analysis	ISI, Bangalore	June 5-13, 2008
		Introduction to Fuzzy Metric Spaces	AICTE Programme	NIT Tiruchirapalli	June 18, 2008
4.	P.V. Subrahmanyam	Iterative methods	Two Lectures on Indo-German Workshop on CMMDIP	IIT Madras	Jan. 15-16, 2009
5.	P.R. Parthasarathy	Applied Stochastic Models	Young Mathematicians Meet in Bonn	DAAD and University of Bonn	July 3 – 5, 2008
		Transient State-dependent queue			Jan. 8, 2009
6.	M.Thamban Nair	Regularization of ill-posed operator equations	National Seminar on Analysis and Differential Equations	University of Calicut	June 26-27, 2008
		Ill-posedness and regularization of inverse problems.			
7.	Y.V.S.S.S. Raju	Three lectures of One and half hour duration on Compact Higher Order Schemes		Pondicherry Engg. College Pondicherry	March 31-April 1, 2008
		STTP on Scientific Computing & Modelling	National Workshop	NIT Warangal	May 5-6, 2008

		Two lectures of one and Half hour duration on Compact Higher Order Schemes		Pondicherry University Pondicherry Engg. College	May 5-10, 2008
		Mathematical Techniques and their Applications to Engineering and Physical problems (WOMTECH-08)		Maharaj Vijayaram Gajapathi Raj College of Engg., Vizianagaram	May 22-23, 2008
		"Mathematical behaviour of fluid flow equations"	Computational fluid dynamics by STTP	IIT Madras	June 2-7, 2008
		Finite Volume method to fluid equations	AICTE sponsored STTP Computational Fluid Dynamics	IIT Madras	June 2-7, 2008
		Advances in Fluid Dynamics with special emphasis on non-Newtonian fluid flows	Pressure correction schemes	NIT Warangal	June 23-27, 2008
		Application of Partial Differential Equations to Engineering problems	Applications of Mathematics Related to Engineering	Aditya Institute of Technology and Management (AITAM) Tekkali	August 29-30, 2008
		Higher Order finite difference schemes	Computational Methods for PDE	JNTU Ananthapur	Jan. 28, 2009
		Advanced Computational Techniques	Grid Generator Technologies	NIT Warangal	Jan. 29, 2009
8.	P. Veeramani	VII Iberoamerican Conference on Topology and its Applications	Dept. of Pure and applied Mathematics Polytechnical University	Vallencia Spain	June 23-July 22, 2008
		National Level Conference on Applications of Fuzzy Logic	Applications of Fuzzy Theory	Govt. Arts College, Coimbatore	Oct. 21 – 22, 2008
		Introduction to Fuzzy Dynamic Programming	Mathematics Modelling	Gandhigram Rural University, Gandhigram	Feb. 23, 2009
9.	Arindama Singh	Two lectures on Theorems of Goedel, Turing, and Chaitin	Mathematical Aspects of Computer Science	Sambalpur University	March 14-15, 2009
10.	S. Sundar	"Optimal Control of Film Casting Processes"	Nonlinear Evolution Equation	IISc., Bangalore	April 19, 2008
		Domain Decomposition Using Particle Methods	National Seminar on Advances in Applied Mathematics	Bharathiar University Coimbatore	March 23, 2009

11.	R. Radha	Fourier Multipliers for Sobolev Spaces on the Heisenberg Group	Ramanujan Symposium on Fourier Analysis and its applications	Ramanujan Institute for Advanced Studies in Mathematics	Feb. 27, 2009
		Holomorphic Hermite Sobolev spaces and Paley-Wiener theorem	23 rd Annual Conference	Ramanujan Mathematical Society, IIT Kanpur	May 19-21, 2008
12.	Manam Srinivasa Rao	i) Expansion formulae in wave-structure interaction problems ii) Complimentary mild-stope models in water waves	Indo German Workshop on CMMDIP	IIT Madras	Feb. 16-27, 2009
13.	A.K.B. Chand	Fractal Interpolation functions	Two lectures on Indo-German Workshop on CMMDIP	IIT Madras	Jan. 14, 2009

Seminar:

1.	S.H. Kulkarni	Condition Spectrum	National Seminar on Functional Analysis	Devaswom Board Pampa College, Parumala, Mannar Kerala	September 26, 2008
2.	M. Thamban Nair	Ill-posedness of compact operator equations			

Workshop:

1.	Arindama Singh	Mathematical Aspects of CS		Sambalpur Univ.	March 11-12, 2009
2.	M. Thamban Nair	i) Ill-posedness and regularization of inverse problems. ii) Regularized approximations for integral equations of the first kind	Indo German Workshop	IIT Madras	Feb. 10-27, 2009

Summer School:

1.	V. Uma	Summer School on Geometric Methods in Representation Theory	Mathematics	Institute Fourier Grenoble	June 16, 2008 – July 5, 2008
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Refresher Course:

1.	P. Veeramani	Refresher Course	Applications of Fuzzy Theory	Bharthidasan University, Tiruchirapalli	Nov. 20-21, 2008
2.	R. Radha	Refresher Course	Real Analysis : Equicontinuity	Ramanujan Institute	Nov. 7, 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Name of the Conference	Title of the talk	Institution	Period
1	S.A. Choudum		Series of Lectures on Algorithmic Graph Theory	Karnataka University Dharwar	March 21-27, 2009
2	A. Singh		Linear Algebra	Pondicherry University	June 2008

3	A. Singh		Godel, Turing and Chaitin	Sambalpur Univ.	March 11-12, 2009
4	S. Sundar		Domain Decomposition of Euler and Boltzmann Equations using Particle Methods	AG Technomathematik, TU-Kaiserslautern, Germany	July 23, 2008
5	Balasubramaniam Jayaram		(S,N)- and R-implications: A state of the art survey	Dept. of Knowledge-Based Mathematical Systems, Johannes Kepler Univ., Linz, AUSTRIA	April 22, 2008
			On the law of importation in Fuzzy Logic	Inst. For Research and Applications in Fuzzy Modeling, Univ. of Ostrava, CZECH, REPUBLIC	June 11, 2008
			On Special Fuzzy Implications	Inst. for Research and Applications in Fuzzy Modeling, Univ. of Ostrava, CZECH, REPUBLIC	June 16, 2008
			Fuzzy Logic, Fuzzy Connectives and Approximate Reasoning	School of Technology and Computer Science, TIFR, Mumbai, INDIA	August 1, 2008

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Period of Visit	Purpose of Visit	Funding from
1.	R. Usha	USA	Sep. 2007 to August 2008	On Sabbatical Leave to collaborate with Prof. Richard Braun at Univ. of Delaware, Newark, Delaware, USA	
2.	S. Sundar	University of Kaiserslautern, Germany	May 1 – July 3, 2008	Research	
3.	Satyajit Roy	Centre for Differential Equations, Continuum Mechanics University of Witwatersrand, Johannesburg, South Africa	June 16- August 15, 2008	Research Collaboration	
4.	V. Uma	France	16 June 2008-4 July 2008	Participated in Summer School on "Geometric Methods in Representation Theory	Organizers of the Summer School
5.	Balasubramaniam Jayaram	Austria	April 21-28, 2008	Academic Collaboration	
		Czech Republic	June 1-17, 2008	Academic Collaboration	
		Poland	June 18-30, 2008	Academic Collaboration	
		Slovakia	April 1-July 31, 2008, excluding the above periods	Academic Collaboration	

Honours and Awards obtained by faculty :

S.No	Name of faculty	Name of Award	Awarded by	Date of award
1.	Dr. T.E. Venkata Balaji	The Ramanujan Prize in Mathematics 2008	University of Madras	October 2008

Books/Monographs authored or co-authored:

S.No	Name of faculty	Title	Publisher	Author/Co-author
Books				
1.	Balasubramaniam Jayaram	Fuzzy Implications	Springer Verlag, Heidelberg	Dr. Michal Baczynski, University of Silesia, Poland.

Fellowships of Academies and Professional Societies:

Sl.No.	Name of Faculty	Year of Admission	Details
1.	Dr. A.K.B. Chand	2009	ARAGON(Spain) Govt. Research Fellowship May 2009- July 2009
2.	P.V. Subrahmanyam	2009	Vice President, Forum for Interdisciplinary Mathematics 2009
3.	Dr. Balasubramaniam Jayaram	2008	SAIA-NSP fellowship of the Government of Slovak Republic

Journal Editorial Boards:

Sl.No.	Name of Faculty	Level	Journal
1.	Dr. P.V.Subrahmanyam	Member	Jl. Of Differential Equations and Dynamical Systems
2.	Dr. A.K.B. Chand	Member	Int. Jr. of Bio-Science and Tech.
3.	Dr. A.K.B. Chand	Member	Int. Jr. of Medical Science and Tech.
4.	Dr. A.K.B. Chand	Member	Int. Jr. of Life Science and Tech.

New facilities added and Major equipment procured through procured funds:

Sl.No.	Name of Equipment	Value (Rs. in lakhs)
1.	Sony Laptop	1.3
2.	Dell XPS System	1.00

4.12.5 RESEARCH AND CONSULTANCY:**Sponsored Research Projects:**

SL. No.	Title	Period	Funding Agency	Amount (Rs.in lacs)	Co-ordinators
1.	National Fusion Program		Institute for Plasma Research, Ahmedabad	26.95	Prof. S. Sundar with Prof. V. Subramanian (Physics)

2.	Graph theoretical approach to fault tolerance issues in computer and communication system	2008- 2011	DST	9.45	Prof. S. A. Choudum and Dr. Sounaka Mishra
3.	Fractal Spline interpolation functions and applications	2008-2011	ICSR, IIM	5.00	Dr. A.K.B. Chand
4.	A study on computability models based on Graph splicing systems	July 2008 – July 2010	DST	6.00	Prof. R. Rama

New Faculty Scheme :

Exchange programme with other Universities:

Sl. No.	Programme Name	Name of University	Student Name	Guide Name
	DAAD Network Exchange Programme	TU-Kaiserslautern, Germany		

Research Publications:

Total No. of papers published in Refereed National Journals	...	5
Total No. of papers published in Refereed International Journals	...	46
Total No. of papers published in Proceedings of National Conferences	...	Nil
Total No. of papers published in Proceedings of International Conferences	...	7

Details:

In Refereed National Journals:

Sl. No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S.H. Kulkarni and G. Ramesh	Some properties of unbounded operators with closed range	Proceedings of Indian Academy of Sciences, Vol. 118, No. 4 (2008) 613-625
2.	R. Usha & B. Uma	Weakly Nonlinear stability Analysis of counter-current + gas-liquid film down an inclined plane	Non-linear Dynamics, Vol. 52, 115 – 128 (2008)
3.	Y.V.S.S. Sanyasiraju and G. Chandhini,	Local Radial Basis Function Based Gridfree Scheme for Unsteady Incompressible Viscous Flows	Journal of Computational Physics, 227, 8922-8948, 2008
4.	Y.V.S.S. Sanyasiraju and Nachiketa Mishra	Spectral Resolved Exponential Compact Higher Order Scheme (SRECHOS) for Convection – Diffusion Equations	Computer methods in applied mechanics and Engineering, 197, 4737, 4744, 2008
5.	Y.V.S.S. Sanyasiraju and G. Chandhini	RBF based gridfree upwind schemes for steady convection diffusion equations.	Proceedings of National Conference on Engineering oriented Mathematics, conducted at SRM Univ. during January 2008, Page 51-66, 2008

In Refereed International Journals:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S.A. Choudum and V. Sunitha:	Automorphisms of augmented cubes,	International Journal of Computer Mathematics, Vol. 85, Issue II (Nov. 2008) 1621-1627
2.	S.A. Choudum, T.Karthick and M.A. Shalu	Linear Chromatic bounds for 3k1-free graphs,	Graphs and Combinatorics, Vol. 24, No.5 (Oct. '08) 413-428
3.	S.A. Choudum and S. Lavanya:	Embedding Complete ternary trees into Hypercubes	Discussiones Mathematicae - Graph theory, Vol. 28, No.3 (2008) 463 – 476
4.	M.Thamban Nair and Santosh George	A modified Newton-Lavrentiev regularization for nonlinear ill-posed Hammertein-type operator equations	Journal of Complexity, Vol. 24, Issue 2 (2008) 228-240
	M Thamban Nair and Ravishankar	Regularized versions of continuous Newton's method and continuous modified Newton's method for under general source conditions	Numerical Functional Analysis and Optimization Vol. 29, Nos. 9-10 (2008) 1140-1165
	M Thamban Nair and U. Tautenhahn	Convergence rates for Lavrentiev-type regularization in Hilbert scales	Computational Methods in Applied Mathematics Vol. 8 (2008) No. 3, Pages 279-293
	M Thamban Nair and Pallavi Mahale	Simplified generated Gauss Newton method for nonlinear ill-posed problems	Mathematics of Computation Vol. 78 (2009) 171-184
5.	R. Usha, S. Mukhopadhyey and E.G. Tulapurkara	Numerical Study of concentrated fluid – particle suspension flow in away channel	International Journal for Numerical Methods in Fluids Vol. 59, 1125-1155 (2009)
6.	B. Bhowmik and S.Ponnusamy	Region of variability of concave univalent functions	Analysis (Munich) 28 (2008), 333-344
7.	B. Bhowmik and S. Ponnusamy	Coefficient inequalities for concave and meromorphically starlike univalent functions	Ann. Polon. Math. 93 (2008), 177-186
8.	B. Bhowmik and S. Ponnusamy and K.J. Wirths	Unbounded convex polygons, Blaschke products and concave schlicht functions	Indian Journal of Mathematics 50(2) (2008), 339-349
9.	M. Huang, S. Ponnusamy, and X. Wang	Decomposition and removable properties of John domains	Proc. Indian Acad. Sci. (Math. Sci), 118(3)(2008), 357-370
10.	M. Huang, X-Wang, and S. Ponnusamy, S.K. Sahoo	Uniform domains and quasi-isotropic domains	J. Math. Anal. And Appl. 343(1)(2008), 110-126
11.	R. Parvatham, S. Ponnusamy and S.K. Sahoo	Norm estimates for Bernardi integral transforms of functions defined by subordination	Hiroshima Math. J. 38(1)(2008), 19-29
12.	S. Ponnusamy and F. Ronning	Integral Transforms of a Class of Analytic functions	Complex Var. Elliptic Equ. 53(5)(2008), 423-434
13.	S. Ponnusamy and T. Sugawa	Norm estimates and univalence criteria for meromorphic functions	J.Korean Math. Soc. 45(6)(2008), 1661-1676

14.	S. Ponnusamy and S.K. Sahoo	Norm estimates for convolution transforms of certain classes of analytic functions.	J. Math. Anal. And Appl. 342(2008), 171-180
15.	S. Ponnusamy, A. Vasudevarao, and H. Yanagihara	Region of variability of univalent functions $f(z)$ for which $zf'(z)$ is spirallike	Houston J. Math. 34(4)(2008), 1037-1048
16.	S. Ponnusamy, A. Vasudevarao, and H. Yanagihara	Region of variability for close-to-convex functions	Complex Var. Elliptic Equ. 53(8) (2008), 709-716
17.	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, Pages 2471-2483
18.	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
19.	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
20.	Tanmay Basak, S. Roy, Pawan Kumar 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, Volume 52, Issues 9-10, April 2009, Pages 2224-2242
21.	P. Saikrishnan, S. Roy, I. Mohammed Rizwan Sadiq, Bishun D. Pandey	Non-uniform double slot suction (injection) into water boundary layer flows over cylinder	International Journal of Heat and Mass Transfer, Volume 52, Issues 3-4, 31 January 2009, Pages 894-898
22.	Tanmay Basak, S. Roy, Amit 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, Volume 52, Issues 1-2, 15 January 2009, Pages 70-78
23.	Param Jeet Singh, S. Roy, R. Ravindran	Unsteady mixed convection flow over a vertical wedge	International Journal of Heat and Mass Transfer, Volume 52, Issues 1-2, 15 January 2009, Pages 415-421
24.	Tanmay Basak, S. Roy, S. Krishna Babu, A.R. Balaakrishnan	Finite element analysis of natural convection flow in a isosceles triangular enclosure due to uniform and non-uniform heating at the side walls	International Journal of Heat and Mass Transfer, Volume 51, Issues 17-18, August 2008, Pages 4496-4505
25.	Tanmay Basak, S. Roy, S. Krishna Babu	Natural convection and flow simulation in differentially heated isosceles triangular enclosures filled with porous medium	Chemical Engineering Science, Volume 63, Issue 13, July 2008, Pages 3328-3340
26.	Tanmay Basak, S. Roy	Role of 'Bejan's heatlines' in heat flow visualization and optimal thermal mixing for differentially heated square enclosures	International Journal of Heat and Mass Transfer, Volume 51, Issues 13-14, 1 July 2008, Pages 3486-3503

27.	Tanmay Basak, S. Roy, S. Krishna Babu, I Pop	Finite Element simulation of natural convection flow in an isosceles triangular enclosure filled with a porous medium: Effects of various thermal boundary conditions	International Journal of Heat and Mass Transfer. Volume 51, Issues 11-12, June 2008, Pages 2733-2741
28.	Param Jeet Singh, S. Roy, I. Pop	Unsteady mixed convection from a rotating vertical slender cylinder in an axial flow	International Journal of Heat and Mass Transfer, Volume 51, Issues 5-6, March 2008, Pages 1423-1430
29.	S. Roy, P. Saikrishnan	Multiple slot suction/injection into an exponentially decreasing free stream flow	International Communications in Heat and Mass Transfer, Volume 35, Issue 2, February 2008, Pages 163-168
30.	Param Jeet Singh, S. Roy	Mixed convection along a rotating vertical slender cylinder in an axial flow	International Journal of Heat and Mass Transfer, Volume 51, Issues 3-4, February 2008, Pages 717-723
31.	E. Natarajan, Tanmay Basak, S. Roy	Natural convection flows in a trapezoidal enclosures with uniform and non-uniform heating of bottom wall	International Journal of Heat and Mass Transfer, Volume 51, Issues 3-4, February 2008, Pages 747-756
32.	K. Selvanayagam, Thomas Goetz, S. Sundar & V.Vettrivel	Optimal Control of Film Casting Processes	International Journal for Numerical Methods in Fluids Vol. 59, pp. 1111-1124, 2009
33.	Maddu Shankar & S. Sundar	Asymptotic Analysis of Extrapolation Boundary Conditions for LBM	International journal of Computers and Mathematics with Applications, Vol. 57, pp. 1313-1323, 2009
34.	S. Sundar, K. Venkataraman and Jaya Krishna	Numerical simulation of free convection in isotropic porous medium	Proceedings of the ISHMT-ASME, 2008
35.	R. Radha and D. Venku Naidu	Image of $L_p(R^n)$ under Hermite semigroup,	Int. Journ. Math and Mathematical Science 2008 ID 287218, 13 pages
36.	R. Radha and S. Sivananthan	Local reconstruction from a non-uniform sampled data	Appl. Num. Math., 59 (2009), 393-403
37.	S.H.Kulkarni, R. Radha, S. Sivananthan	Non uniform sampling problem	J. applied Funct. Analysis 4, (n.1), (2009) 58-74
38.	R. Radha and S. Thangavelu	Holomorphic Sobolev spaces, Hermite and special Hermite semigroups and a Paley-Wiener theorem for the windowed Fourier transform	J. Math. Analysis Application 354 (2009) 564-574
39.	Ch. Srinivasa Rao and E. Satyanarayana	A Symphonic N-wave solution of the non plan as burger equation,	Studies in Applied mathematics, 121, 191-221, 2008
40.	T.E. Venkata Balaji & V.B. Mehta	Singularities of Moduli Spaces of Vector Bundles over Curves in Characteristic 0 and p	Michigan Math. Journal, Volume 57 in Honour of Melvin Hochster, August 2008
41.	Balasubramaniam Jayaram and Radko Mesiar	I-Fuzzy equivalence relations and I-fuzzy partitions	Information Sciences, 179 pp. 1278-1297, 2009
42.	A.K.B. Chand and M. A. Navascues	Natural Bicubic Spline Fractal Interpolation	Non-linear Analysis: Theory, Methods Applications Vol. 69 (11) 3679-3691

43.	A.K.B. Chand and G.P Kapoor	Stability of Affine Coalescence Hidden Variable Fractal Interpolation Functions	Non-linear Analysis: Theory, Methods Applications Vol. 68 (12), 3757-3770
44.	Balasubramaniam Jayaram	Rule Reduction for Efficient Inferencing in Similarity Based Reasoning	Intl. Journal of Approximate Reasoning, 48 pp. 156-173, 2008
45.	Balasubramaniam Jayaram	On the law of Importation ($a \rightarrow (b \rightarrow c) = (a^b) \rightarrow c$ in Fuzzy Logic"	IEEE Transaction on Fuzzy Systems, 16 pp. 130-144, 2008
46.	M. Baczynski and Balasubramaniam Jayaram	(S.N) and R-implications: A State-of-the-art Survey	Fuzzy Sets and Systems, 159 pp. 1836 – 1859, 2008

In Proceedings of International Conferences:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	VBS Surya Prasath & A. Singh	Edge detectors based diffusion for enhancement of digital images, in computer vision, Graphics and Image processing	2008, ICVGIP'08, Pages 33-38
2.	S.Mishra, V. Raman, S. Saurabh, S.Sikdar	Konig deletion sets and vertex covers above the matching size.	1SAAC-2008, LNCS 5369 Springer 2008 Page 836-847
3.	L. Jeganathan, K. Krithivasan, R. Rama	Graph Splicing systems	TMFCS 2008, Michal Sipser et al (eds). Pp. 72-79, 2008.
4.	L. Jeganathan, R. Rama, Ritabrata Sengupta	A proposal to a generalised theory of splicing with self-assembly approach	DNA Computing, A. Goel et al (eds), 14 th Intl. Workshop on DNA Computing, DNA 14, pp. 184-85, 2008.
5.	M. Baczynski and B. Jayaram	On the distributivity of fuzzy implications over representable uninorms,	Proceedings of 11th International Conference of Information Processing and Management of Uncertainty in Knowledge-Based Systems, IPMU 2008, pp. 1318 – 1325.
6.	B. Jayaram and M. Baczynski	Some new results on T-norms, their natural negations and their residuum"	Proceedings of the 9th Intl. Conf. on Fuzzy Set Theory and Applications. FSTA 2008, pp. 63-64.
7.	B. Jayaram and M Baczynski	Algebra of (S.N) – Implications	Proceedings of the 9th Intl. Conf. on Fuzzy Set Theory and Applications. FSTA 2008, pp. 61-62.

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
1.	Prof. Francois Rousset, France	March 7-10, 2009	Gave a seminar talk on Non-Newtonian Film Flow Down an Inclined Plane and interacted with faculty members
2.	Prof. Dr. Martin R. Weber, Germany	March 3-19, 2009	For research collaboration with faculty members. Gave two seminar talks entitled. 1. On Positive Invertibility of Operators in Ordered Vector Lattices 2. Finite Elements in Vector Lattices

Other Activities:

SEMINAR TALKS:

Sl. No.	Name of the Faculty	Title	Date
1.	Prof. Dr. Sergei Pereverzyev Johann Padon- Institute for Computational and Applied Mathematics Austrian Academy of Science	Adaptive learning via the balancing principle	April 23,2008
2.	Prof. S. Somasundaram Dept. of Mathematics, Manonmanian Sundaranar University, Tirunelveli	Application of a Fixed Point Theorem to Second Order Differential Equations	April 25,2008
3.	Prof. D.P. Patil Dept. of Mathematics, I.I.Sc., Bangalore	Arf rings and type sequences	May 1, 2008
4.	Prof. Rekha Kulkarni Indian Institute of Technology Bomay, Powai, Mumbai	Improvement by Iteration of approximate solution of second kind Integral Equations	May 29, 2008
5.	Dr. Ananthnarayan Hariharan University of Kansas, U.S.A.	The Garsenstein Colength of an Artirian Local Ring	June 16, 2008
6.	Prof. Sambhavi Lakshminarayanan, School of Business, SUNY, USA	Creating Maximally Diverse Groups; An Application of Quadratic Programming	August 8, 2008
7.	Dr. S. Pushpavanam Head, SAIF Dept. of Chemical Engg. IIT. Madras	Applications of Mathematics in Chemical Engineering	August 22, 2008
8.	Dr. Balasubramaniam Jayaram	Fuzzy Implications and Approximate Reasoning.	September 5, 2008.
9.	Dr. Norbert Henze Prorektion University of Karlsruhe	Some Paradoxes in Probability	September 9, 2008
10.	Dr. R. Parthsarathy Retd. Professor Dept. of Electrical Engg.	My World of Mathematics	September 19, 2008
11.	Dr. Yogesh Mani Tripathi Univ. of Sherbrooke Canada	Estimating Normal Quantities when the mean is bounded	September 26, 2008
12.	Dr. Yogesh Mani Tripathi University of Sherbrooke, Canada	Estimating Normal Quantities when the mean is bounded	October 10, 2008
13.	Dr. Sampangi Raman Indian Statistical Institute Chennai Centre	Six Sigma	October 17, 2008
14.	Dr. S. Kalpakam Dept. of Mathematics IIT Madras	Introductory Applied Probability	October 23, 2008
15.	Dr. Kalpana Mahalingam Dept. of Mathematics IIT Madras	Palindromic – free words	October 24, 2008
16.	Prof. A. Avudainayagam Dept. of Mathematics IIT Madras	Sparse solutions of under determined system	November 7, 2008
17.	Prof. S.A. Choudum Dept. of Mathematics IIT Madras	Journey from job Assignment Problem to Axiom of Choice	November 14, 2008

18.	Dr. B.S. Panda I.I.T., Delhi, New Delhi	Tree 3 – spanners in Directed Path Graphs	December 2, 2008
19.	Dr. Prabhu Manyem Centre for Informatics and Applied Optimization School of IT and Mathematical Sciences University of Ballarat, Australia	Polynomial-Time Maximization Classes: Syntactic Hierarchy	December 23, 2008
20.	Dr. V.B. Johri Professor (Retired) Dept. of Mathematics I.I.T. Madras	Gravitational Lensing	January 2, 2008
21.	Prof. P.R. Parthasarathy Professor (On sabbatical leave) Dept. of Mathematics I.I.T. Madras	Transient state-dependent queue University of Bonn	January 8, 2009
22.	Dr. Rajesh Ganesan Systems Engineering and operations Research George Mason University U.S.A.	Approximate Dynamic Programming: Mitigating the Curse of Dimensionality to Increase ADP's Practical Viability	January 9, 2008
23.	Prof. S.P. Singh Memorial University (Retired) Newfoundland, Canada	On Ky Fan Best Approximation Theorems January 30, 2009	January 30, 2009
24.	Prof. Trilochan Sahoo Dept. of Ocean Engg. & Naval Architecture IIT Kharagpur	Contemporary Approaches in Wave Structure Interaction Problems	February 4, 2009
25.	Dr (Ms.) Lakshmi Bai Northeastern University USA	Singularities of some Toric varieties	February 6, 2009
26.	Dr. Srisairam Achuthan Researcher, Neuro Science Centre of Excellence and Dept. of Ophthalmology, LSU Health Science Centre, New Orleans, USA	Phase Resetting Curves Determine Synchronization.	February 9, 2009
27.	Prof. P.K. Jain University of Delhi Delhi	Properties of some generalized Orlicz spaces	February 13, 2009
28.	Prof. M.Vanninathan TIFR, Bangalore	Homogenization in PDE via Bioch Waves	Marh 6, 2009
29.	Prof. U.B. Tewari Department of Mathematics I.I.T. Kanpur	Amenability of Fourier Algebras	March 13, 2009
30.	Prof. Swadhin Pattanayak Director, Institute of Mathematics and its Applications, Bhubaneswar	Toeplitz Operators	March 19, 2009
31.	Prof. G.S.R. Murthy ISI Hyderabad	Decision Support Systems for Industrial Problems: Some Case Studies	March 20, 2009
32.	Prof. V. Raghavendra Dept. of Mathematics & Statistics I.I.T. Kanpur	On nonlinear Elliptic equations	March 23, 2009
33.	Dr. Parag Ravindran Dept. of Mechanical Engg. I.I.T. Madras	Experiments and Theory: Development of a Constitutive Model for Asphalt Bound Mixtures	March 27, 2009

Ph.D. Viva – Voce Examination:

Sl. No.	Name of the Ph.D. scholar	Title of the thesis & Viva date
1.	Mr. E. Natarajan	Study of Natural Convection Flows within Trapezoidal Enclosures May 21, 2008
2.	Mr. Sachindranath Jayaraman	Weak Monotonicity and Nonnegative Generalized Inverses May 23, 2008
3.	Mr. Param Jeet	Numerical Studies of Mixed Convection Boundary Layer Flows May 26, 2008
4.	Mr. K. Vasudevan	Queueing Models with a Varying Gate Mechanism May 28, 2008
5.	Mr. S. Sivananthan	Sampling Theorems and Reconstruction Methods May 28, 2008
6.	Mr. H. Ramesh	Some Variants of Computationally Complete P Systems June 20, 2008
7.	Mr. Swadesh Kumar Sahoo	Inequalities and Geometry of Hyperbolic-Type Metrics, Radius Problems and Norm Estimates June 20, 2008
8.	Mr. T. Kurmayya	Nonnegative Moore-penrose Inverses of Operations between Hilbert Spaces. July 14, 2008
9.	Mr. K. Selvanayagam	Optimal Control of Film Casting Process September 15, 2008
10.	Ms. S. Lavanya	Optimal Embedding of Trees in Interconnection Networks December 2, 2008
11.	Ms. Pallavi Mahale	Regularization of non-linear ill-posed problems under general source conditions. December 18, 2008
12.	Mr. G. Ramesh	Approximation Methods for Solving Operator Equations Involving Unbounded Operators December 19, 2008
13.	Mr. K. Paramasivam	Optimal Embedding of Trees in Interconnection Networks January 1, 2009
14.	Mr. Jitendriya Swain	Characterization of Fourier multipliers on the Heisenberg group February 13, 2009
15.	Mr. V. Sankar Raj	On Existence of Fixed Points and Best Proximity Points March 23, 2009

Ph.D. Seminar Talks:

Sl.No	Name of the scholar	Title	Date
1.	Ms. Pallavi Mahale	On Iterative Regularization of Nonlinear ill posed Operator Equations	April 24, 2008
2.	Mr. K. Pramasivam	A Study on k-Strongly Edgemagic Graphs.	May 7, 2008
3.	Mr. G. Ramesh	Projection Methods and Operator Equations	May 14, 2008
4.	Mr. K. Selvanayagam	Optimal Control of Film Casting Process.	May 21, 2008
5.	Ms. S. Lavanya	Embedding trees into hypercubes and its variations.	May 30, 2008

6.	Mr. V. Sankar Raj	On Existence of Fixed points and Best Proximity points	May 30,2008
7.	Mr. P. Ravi Shankar	Regularized versions of continuous Newton type methods	August 28, 2008
8.	Mrs. J. Anuradha	On Proximal Point-wise Contraction	September 24, 2008
9.	Mr. Bappaditya Bhowmik	"Extreme points of the class of concave univalent functions"	December 30, 2008
10.	Mr. V.B. Surya Prasath	"Regularization and PDE based methods for Image Processing Part-I"	January 20, 2009
11.	Mr. T. Karthick	Linear Chromatic Bounds	January 27, 2009
12.	Mr. Maddushankar	Analysis of Extrapolation Boundary conditions for Lattice Boltzmann Method	January 29, 2009
13.	Mr. L. Jegannathan	Controlled crossover of words and languages Self-assembly of graphs	February 10, 2009 February 11, 2009
14.	Mr. Nachiketa Mishra	Development and Analysis of Higher Order Exponential Compact Schemes for Convection-Diffusion Equations	March 2, 2009
15.	Mr. Vasudevarao Allu	Region of variability problems for certain classes of univalent functions.	March 20, 2009

Other Activities of the Department/Centre:

Sl.No	Name of the Faculty	Activity
1.	S.A. Choudum	Selection Committee Expert NIT Surathkal Oct 24-26, 2008
		Faculty recruitment at Madurai – Kamaraj University, Madurai on Feb. 3 & 24, 2009
2.	S. Kalpakam	Inaugural address in the "Conference on Recent Trends in Applied Stochastic Methods" Dec. 16-18, 2008
3.	S.H. Kulkarni	Ph.D Viva-voce Examiner I.I.T. Guwahati June 30-July 3, 2008
4.	P.R. Parthasarathy	An Area Editor in the field of Stochastic Modeling for the journal "OPSEARCH" published by the Operations Research Society of India
5.	P.V. Subrahmanyam	Member, Selection Committee meeting NIT, Calicut Dec. 6-7, 2008 Co-ordinated KVPY interviews in I.I.T. Madras on Jan. 22-23, 2009
6.	M. Thamban Nair	Board of studies meeting in Mathematics IIST Trivandrum September 22, 2008 Selection Committee Expert University of Calicut Nov. 11, 2008 Expert Committee member in connection with starting of new Mathematics Dept. University of Kannur Nov. 15-16, 2008 Participated as Expert in Board of Studies in mathematics at VNIT, Nagpur on Jan. 30, 2009
7.	R. Usha	Ph.D Viva-voce Examiner at I.I.T. Kanpur on Feb. 5-6, 2009

8.	P. Veeramani	Staff Selection Committee Meeting Anna University, Tiruchirapalli August 1, 2008
		UGC-SAP Advisory Committee meeting MS University. August 11, 2008
		Gave an inaugural address to the "Conference on Recent Trends in Applied Stochastic Methods" in IIT Kanpur on Jan 5, 2009.
		Ph.D Viva-voce Examiner at School of Studies in Mathematics, Ravishankar Shukla Univ. Raipur on Feb. 6-7, 2009
9.	S. Ponnusamy	Appointed as a Senior Associate of the Abdul Salem International Centre for Theoretical Physics (ICTP, Trieste, Italy) 1 st January 2008 until 31 st December 2013.
		Discussion with Mathematics Faculty for Collaborative Research Sastra University, Tanjore September 11, 2008
		Selection Committee Expert NIT, Trichy Oct 22-23, 2008
		Attended the Selection Committee meeting in Bharathiar University, Coimbatore on January 20, 2009
		Ph.D Viva-voce Examiner at NIT, Trichy, Gandhigram Rural University, Gandhigram and also gave lectures from Feb. 16-20, 2009
10.	Satyajit Roy	Ph.D Viva-voce Examiner Viswabharathi University May 7-9, 2008
11.	S. Sundar	Ph.D Viva-voce Examiner Aligarh Muslim University August 30-31, 2008
		Ph.D Viva – voce Examiner Mysore University, Karnataka Dec. 18-19, 2008
		Ph.D Viva-voce Examiner IIT Mumbai September 17, 2008
		Co-ordinated KVPY interviews in I.I.T. Madras on Jan. 22-23, 2009
12.	R. Radha	Held discussions with Prof. H.G. Feicher, Head, Numerical Harmonic Analysis Group (Worldwide) and attend his lectures in I.I.Sc. Bangalore on Jan. 19, 2009
13.	Ch. Srinivasa Rao	Research Collaboration I.I.Sc. Bangalore July 30-31, 2008
14	V.Vetrivel	Ph.D. Viva-voce Examiner IIT Delhi January 2009.

Socially relevant activities carried out by the Department:

Golden Jubilee National Symposium on Mathematical Methods and Applications (GJNSMMA 2008) was held on 22nd December 2008 to commemorate the birthday of Srinivasa Ramanujan (1887-1920) .

The symposium was inaugurated by Prof. V.G. Idichandy, Dean, Students. There were 80 participants. The program consisted of 3 invited lectures and 15 paper presentations on various branches of Mathematics.

The invited lectures were given by

- Prof. Hema Srinivasan, Univ. of Missouri, Columbia, USA: Free Resolutions and Graph Theory
- Prof. G.D. Veerappa Gowda, TIFR Centre, Bangalore: A finite difference scheme for a hyperbolic system of conservation laws modelling polymer flooding
- Prof. S.A. Choudum, Dept. of Mathematics, IIT Madras Recent Trends in Graph Theory

The valedictory address was delivered by Prof. S. Santhakumar, Dean, Academic Courses

The Department organized a half-a-day programme on 28.2.09 under Nostalgia. The Head of the Department gave a presentation of the progress of the department since 2005. The following retired faculty members participated in the programme and were honoured: Professors K.R. Parthasarathy, H.S. Paul, P. Bhattacharyya, S.N. Venkatarangan, S.N. Majhi, C.V. Raghava Rao, P. Achuthan, U.N. Srivastava and A. Avudainayagam and Y. Nagendra.

Among the Alumni Prof. K.N. Ranganathan (RKM Vivekananda College, Chennai) and Prof. Sundaresan, (SRM University) also participated.

Major infrastructure development made in the Department

Modernization of M.Sc and M.Tech classrooms.

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:

New Courses introduced:

Sl. No.	Course No.	Title
1	ME 553	Heat and Mass Transfer in Biological Systems
2	ME 555	Flow and Thermal Instabilities

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	63	54	54	58	3	232
Dual Degree	50	43	50	44	49	236
M.Tech.	78	81	--	--	--	159
M.S.	12	21	23	20	14	90
Ph.D.	12	17	24	35	80	168
Total	215	216	151	157	146	885

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.	S.Swaminathan	ME03D022	Young Scientists Round Table Meet on Energy - 2008	16.6.2008 to 20.6.2008 Tech. Univ., Freiberg, Germany	German Govt.
2.	S.Swaminathan	ME03D022	Int. Conf. on Mechanical and Mfg. Engg. 2008	21.5.2008 to 23.5.2008 Johar, Malaysia	IIT Madras

3.	M.Sreekumar	ME04D035	The Fifth International Conference on Computational Intelligence, Robotics and Autonomous System(CIRAS 2008)	19.6.2008 to 21.6.2008 at Linz, Austria	Institute
4.	R.M.Kuppan Chetty	ME05D007	IEEE International Conference on Robotics and Biomimetics (ROBIO) 2008	22.2.2009 to 25.2.2009 Bangkok, Thailand	50% airfare from CSIR
5.	R Elansezhian	ME06D029	The 35th International conference on Metallurgical coatings and Thin films (35 th ICMCTF),	28.04.2008-02.05.2008 Sa Diego, California,	DST
6.	R Elansezhian	ME06D029	The 7 th international conference on materials processing for properties and Performance(MP3), The 3 rd asian thermal spray conference,	01.11.2008-07.11.2008 Singapore	CCSTDS & Alumni
7.	Dinesh Thakur	ME06D036	2 nd International Conference on Advanced Tribology (IICAT2008),	03.12.2008 05.12.2008 Singapore,	IIT Alumni/DBAT University
8.	Sadiq A.	ME06D033	International conference on Advanced Tribology.	03.12.2008-05.12.2008 Singapore	IITM Alumni Association
India					
1.	K. Ravikumar	ME07D022	Int. Congress on Renewable Energy (ICORE – 2008)	16.10.2008 to 17.10.2008 Hotel La-Royal Meridien, Chennai	IIT Madras
2.	K. Ravikumar	ME07D022	India-UK Young Scientists Networking conference	23.03.2009 to 24.03.2009 Hotel Taj Mount, Chennai	NA
3.	P. Balasubramani	ME07D016	5th International Conference (Creep, Fatigue and Creep-Fatigue Interaction)	24.09.2008 26.09.2008 IGCAR, Kalpakkam	N/A
4.	GNDS Sudhakar	ME08S007	IUTAM symposium on Rotor dynamics	23.03.2009-26.03.2009 IIT Delhi	Institute
5.	RM Kuppan Chetty	ME05D007	2 nd International and 23 rd All India Manufacturing Technology Design and Research Conference (AIMTDR)	15.12.2008 – 17.12.2008 IIT Madras	N/A
6.	Muralidhara	ME05D036	2 nd International and 23 rd All India Manufacturing Technology Design and Research Conference (AIMTDR)	15.12.2008 – 17.12.2008 IIT Madras	N/A

7.	Muralidhara	ME05D036	International Conference on Micro Electro-Discharge Machining of Silicon(MEMS)	3.1.2009 – 5.1.2009 IIT Madras	N/A
8.	T.Periyasamy	ME06D018	Third IEEE international Conference on Industrial and Information Systems	8.12.2008-10.12.2008 IIT Kharagpur	AICTE
9.	S. Jayavel	ME06D015	Advances in Fluid Flow and Thermal Sciences 2008	22.5.2008-24.5.2008 SVNIT, Surat	Institute
10.	Pratish P. Patil	ME06S020	Advances in Fluid Flow and Thermal Sciences 2008	22.5.2008-24.5.2008 SVNIT Surat	Institute
11.	L. Harikrishnan	ME07S004	Advances in Fluid Flow and Thermal Sciences 2008	22.5.2008-24.5.2008 SVNIT, Surat	Institute
12.	N.Lakshmi Narasimhan	ME06D001	22 nd National Symposium on Cryogenics	4.12.2008-6.12.2008 IISc Bangalore	Institute
13.	R. SathyaMeher	ME06D019	22 nd National Symposium on Cryogenics	4.12.2008-6.12.2008 IISc Bangalore	Institute
14.	H. Gurudath Nayak	ME07D007	22 nd National Symposium on Cryogenics	4.12.2008-6.12.2008 IISc Bangalore	Institute
15.	K. Rajesh Reddy	ME08S005	22 nd National Symposium on Cryogenics	4.12.2008-6.12.2008 IISc Bangalore	Institute
16.	R.Elansezhian	ME06D029	2 nd International & 23 rd All India Manufacturing Technology, Design and Research Conference	15.12.2008-17.12.2008 IIT-Madras	Institute
17.	Dinesh Thakur,	ME06D036	Intl Symposium for research scholars(ISRS),	10.12.2008-12.12.2008 IIT Madras	Institute
18.	R.Elansezhian	ME06D029	Intl Symposium for research scholars(ISRS),	10.12.2008-12.12.2008 IIT Madras	Institute
19.	A. Murugarajan	ME06D031	IISc Centenary- Intl. Conference on Advances in Mechanical Engineering (IISc-ICAME-2008)	02.07.2008 – 04.07.2008 IISc Bangalore	Institute
20.	S. Denis Ashok	ME05D026	Intl. Conference on Digital Factory (ICDF) 2008	11.08.2008-13.08.2008 CIT, Coimbatore	Institute
21.	S. Denis Ashok	ME05D026	24 th ASPE Annual Meeting * Paper is communicated	04.10.2008-09.10.2008 Monterey, CA, USA	Institute

22.	S. Rajakumar	ME06D007	International conference on digital factory (ICDF-2008)	11.08.2008-13.08.2008 CIT- Coimbatore	Institute
23.	S. Rajakumar	ME06D007	2 nd International & 23 rd All India Manufacturing Technology, Design and Research Conference	15.12.2008-17.12.2008 IIT-Madras	Institute
24.	S. Rajakumar	ME06D007	International Conference on Industrial Tribology (ICIT'08), New Delhi, India.	06.11.2008-08.11.2008 New Delhi	Institute
25.	S. Rajakumar	ME06D007	International Symposium for Research Scholars	10.12.2008-12.12.2008 IIT Madras	Institute
26.	Shital S Chiddarwar	ME05D027	2 nd International and 23 rd All India Manufacturing Technology, Design and research conference	15.12.2008-17.12.2008 IIT Madras	Institute
27.	R. K. Vimal Nandhan	ME06D022	2 nd International and 23 rd All India Manufacturing Technology, Design and research conference	15.12.2008-17.12.2008 IIT Madras	Institute
28.	Shital S Chiddarwar	ME05D027	Indo-US workshop on Smart Machine Tools Intelligent Machining Systems and Multi-Scale Manufacturing	18.12.2008-20.12.2008 PSG Tech	Institute
29.	Kanthababu M.	ME04D011	2 nd International and 23 rd All India Manufacturing Technology, Design and Research conference	15.12.2008-17.12.2008 IIT Madras	Institute
30.	Divi Karuna Sri.	ME03B103	2 nd International and 23 rd All India Manufacturing Technology, Design and Research conference	15.12.2008-17.12.2008 IIT Madras	Institute
31.	M. Ashok Kumar	ME06D003	35 th National Conference on Fluid Mechanics and Fluid Power	Dec. 10-13, 2008 Bangalore	Institute
32.	M. Ashok Kumar	ME06D003	2 nd National Conference on CFD Applications in Power and Industry Sectors	Jan 28-29, 2009 Hyderabad	Institute

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.	I.A.Palani	ME06D017	Kyushu University Friendship Scholarship Award – One year research scholarship at Kyushu University, Japan From July 2008 to June 2009	Kyushu University, Fukuoka, Japan

2.	S.Karunanidhi	ME04D017	Dr.V.M. Ghatage Award for Excellence – 2008	The Aeronautical Society of India and presented at the 60 th AGM scheduled held in New Delhi on Jan.16,2009.
3.	Muralidhara	ME05D036	The paper entitled Investigations on Proposed Tool Wear Compensation Technique for Micro Electro-Discharge Machining of Silicon	International Conference on MEMS held during January 3 to 5,2009 at IIT Madras
4.	R.Elansezhian	ME06D029	Best Paper award	Intl Symposium for research scholars(ISRS), Dec 10-12, 2008

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.	Ananya Sunil Shah	ME05B003	Institute Merit Prize	IITM
2.	Ananya Sunil Shah	ME05B003	Silver Medal	Sri Raghavendra Memorial Prize
3.	Sukamal Adhikary	ME06M087	Institute Merit Prize	IITM

4.13.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization
Professor:	
Shunmugam M.S., Ph.D. (Head)	Metrology and Manufacturing, Manufacturing Automation and Robotics, Computer Aided Manufacturing Systems and Control.
Ajit Kumar Kolar, Ph.D.	Fluidised Bed Combustion, Biofuels, Fuel Cells
Balabaskaran V., Ph.D	Fluid Mechanics, Pumps and Hydroturbines, Computational Fluid Dynamics
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
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
Prمود 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, Computer Aided Inspection, Metal cutting Manufacturing processes
Ramesh Babu N., Ph.D.	Laser Beam Machining (LBM), Abrasive Finishing Process, Abrasive Waterjet Machining (AWJM), Process Modeling, Computer Aided Manufacturing, CNC, PLC
Ramesh A., Ph.D.	IC Engine Combustion and Emissions, Electronic Engine Management, Alternative Fuels
Seshadri Sekhar A, Ph.D.	Rotordynamics, Tribology, Condition-monitoring
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
Venkateshan S.P., Ph.D.	Heat Transfer, Instrumentation
Vijayaraghavan L., Ph.D.	Machining, CAD, Surface Engineering, Grinding
Associate Professor:	
Babu Viswanathan, Ph.D	CFD, High speed reacting flows, High performance computing
Chakravarthy Balaji, Ph.D.	Fundamental Heat Transfer, Optimization of Thermal Systems, Inverse Problems in Heat Transfer, Satellite Meteorology
Raghu Prakash V, Ph.D.	Experimental Fatigue Analysis, Structural integrity, Test systems design
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	Manufacturing Automation and Robotics, Computer Application in Manufacturing, Metal Cutting
Arunn Narasimhan, Ph.D.	Heat Transfer and Fluid Flow in Porous Media, Phase Change and Convection
Balakrishna C Rao	Micro Machining, Process Simulation/Modeling, Computer Aided Manufacturing
Dhiman Chatterjee, Ph.D.	Cavitation, Turbomachines, Microscale Flows
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.	Micro Machining, CAD-CAM, Metrology and Computer Aided Inspection
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
Shankar Krishnapillai, Ph.D.	Structural vibrations, Design optimization, System identification
Somashekhar S H	Fluid Power Systems, Mechatronics, FEM, Hybrid Machining Techniques
Srinivas Reddy K., Ph.D.	Renewable Energies, Solar Energy, Energy Conservation, Energy Environment, Heat Transfer in Two-Phase Systems

Viswanath K., Ph.D.

Turbomachinery noise

Visiting Faculty:

Ramamurthi K., Ph.D.

Combustion, Propulsion, Explosions

Andrew William Batchelor, Ph.D.

Tribology, Machine Design

Henry Ford Chair Professor:

M.K. Gajendra Babu, Ph.D.

I.C. Engine Combustion & Emission, Alternative Fuels, Energy Conservation

Technical Superintendent:

P V Manivannan

Microprocessors and Control System, Mechatronics and Embedded system, Automotive Electronics

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Dr. Srinivasa Murthy Dr. M.P.Maiya	National Conference on Refrigeration and Airconditioning (NCRAC – 2009)	January 8 -10, 2008
2.	Dr. M S Shunmugam Dr. B. Ramamoorthy Dr. N Ramesh Babu Dr. G. L .Samuel Dr. L. Vijayaraghavan	2 nd International and 23 rd All India Manufacturing Technology, Design and research conference (AIMTDR)	December 15 – 17, 2008
Workshop:			
1.	Dr. Amitava Das Gupta, Dr. S. Santhakumar Dr. Dhiman Chatterjee	7th Indo-German Winter Academy 2008	December 13-19, 2008
Short term Course:			
1.	Dr. Sujatha Srinivasan	Understanding Customer Needs	June 30, 2008
2.	Dr. N. Siva Prasad Delivered by: Dr. N. Siva Prasad Dr. M. M. Mayuram Dr. G. Muthuveerappan Dr. V. Raghu Prakash	Training for Satyam Associates, Satyam Technology Center, Hyderabad	Nov 17-28, 2008
3.	Dr. M. P. Maiya	A Continuing Education Program on Developments in Air Conditioning and Ventilation	Aug. 16-22, 2008

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. S. Narayanan	Control of Chaos in nonlinear dynamical systems	IIT Kanpur	March 13-15,2009
2.	Dr. S. Narayanan	Control of Chaotic vibrations of composite plate in the presence of noise using sliding model method.	IIT Kanpur	March 13-15,2009
3.	Dr.P. Chandramouli	Clearance non – linearity: Experimental & simulation	IIT Kanpur	March 13-15,2009
4.	Dr.S. Narayanan	Workshop on Nonlinearity and Geometry in Mechanics	IIT Kanpur	March 12-15, 2009
5.	Dr.K.Srinivas Reddy	Solar Thermal Power Generation	IIT Bombay	April 28, 2008
6.	Dr. M.Govardhan	Workshop on "Turbine Rim Seal Technology" at the Propulsion Division,	NAL, Bangalore	May 03, 2008
Seminar:				
1.	Dr. V. Raghu Prakash	Fatigue Analysis Using Finite Element Methods.	IIT Madras	June 13, 2008
2.	Dr. Parag Ravindran	Constitutive Modelling of Sand Asphalt Mixture	IIT Madras	March 27, 2009
3.	Dr. G. L .Samuel	Technical Appreciation Programme on Gauging	IIT Madras	Feb 2009
4.		Technology Seminar on FineBlanking	IIT Bombay	June 12, 2008
5.		High Speed Machining	Pune	Nov 3-4, 2008
Symposia:				
1.	Dr. S. Narayanan	IUTAM Symposium on Multi Functional Material Systems and structures	IISc Bangalore	Dec 10 -12, 2008
2.	Dr. A. S. Sekhar	IUTAM symposium on Rotor dynamics	IIT Delhi	March 23-26, 2009
3.	Dr. A S Sekhar	Some recent studies on cracked rotors	IUTAM , IIT Delhi	March 23 -26 2009
4.	Dr. A S Sekhar & GNDS Sudhakar	Rotor Crack identification using modified operating deflection shapes	IUTAM,IIT Delhi	March 23 -26 2009
5.	Dr.K.Srinivas Reddy	National Level Technical Symposium, STECCONT 2008	Adhiparasakthi Engg. College, Melmaruvathur	Sept.11, 2008
Conference:				
1.	Dr.Raghu Prakash	Novel methods of damage characterization using cycle indersration, infrared thermography and non-linear ultrasonic techniques	Bangalore	June 16, 2008

2.	Dr. Raghu Prakash	Structural crash worthiness assessment for a 3-wheeler passenger vehicle (International Conference on Research into Design-09)	IISc Bangalore	Jan 7-9, 2009
3.	Dr. Raghu Prakash	Aircraft fatigue management and role of materials in enhancing safety and operating life (International Conference on Materials & Materials Technology)	SVCE, Chennai	Jan 19-20, 2009
4.	Dr. Sujatha Srinivasan	Disability & Assistive Technology	INAE - ISAAC	March 14 -15, 2009
5.	Dr.Somashekhar, S.H	3 rd International Conference on Mechatronics (ICOM'08),	International Islamic University, Malaysia	Dec. 18-20, 2008
6.	Dr. C. Balaji	Megha-Tropiques – Science and Applications	ISRO Bangalore	March 23-25, 2009
7.	Dr. B. Ramamoorthy	Intl Conference on Digital Factories (ICDF-2008)	CIT,CBE	Aug. 11-13, 2008
8.	Dr. B. Ramamoorthy	2 nd International & 23 rd AIMTDR Conference	IITMadras	Dec. 15-17, 2008
9.	Dr. B. Ramamoorthy	Indo US Workshop	PSGCT,CBE	Dec.18, 2008
10.	Dr. B. Ramamoorthy	Pan-IIT Global Conference, 2008	IITMadras	Dec. 19 -21, 2008
11.	Dr. N Ramesh Babu	Pan-IIT Global Conference, 2008	IIT Madras	Dec.19-21, 2008
12.	Dr. L. Vijayaraghavan	2 nd International & 23 rd AIMTDR Conference	IIT Madras	Dec. 15-17, 2008
13.	Dr. G. L .Samuel	4 th India-Japan Joint Seminar on Micro/Nano Manufacturing Science	Symbiosis Institute, Pune	March 8-14, 2009
14.	Dr. G. L .Samuel	PAN-IIT Global Conference	IIT Madras	Dec 19-21, 2008
15.	Dr. Kumaraswamy, S.	Utopia and the City	Goethe-Institute, Max Mueller Bhavan and IIT Madras	Nov. 14 – 15, 2008
16.	Dr. Kumaraswamy, S.	2nd International and 23rd All India Manufacturing Technology, Design and Research Conference	IIT Madras	Dec. 15 – 17, 2008
17.	Dr. Kumaraswamy, S.	Nostalgia – A Golden Jubilee Event of IIT Madras	IIT Madras	Feb. 27 – 28, 2009
18.	Dr. BVSSS. Prasad	35 th National Conference on Fluid Mechanics and Fluid Power	Bangalore	Dec. 10 – 13, 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. V. Raghu Prakash	Concepts in Engineering Design	Bannari Amman Institute of Technology, Sathyamangalam	May 19, 2008
2.	Dr. V. Raghu Prakash	Novel Methods of Fatigue Damage Estimation	CF-5, IGCAR, Kalpakkam	Sept.24-26, 2008
3.	Dr. Sujatha Srinivasan	Biomedical Device Design for ID 110	IIT – Hyderabad	Nov 14, 2008
4.	Dr. V. Raghu Prakash	Fretting fatigue behavior of SS-304 stainless steel	New Delhi	Nov 6 - 8, 2008
5.	Dr. V. Raghu Prakash	Crash worthiness assessment of automotive structures	IISC, Bangalore	Nov 21 - 22, 2008
6.	Dr. V. Raghu Prakash	Role of Fatigue in Design, Operation & Maintenance of Structures	Government College of Engineering, Trivandrum	Jan 30, 2009
7.	Dr. Raghu Prakash & Dr. K. Balasubramaniam	Aircraft Fatigue Management	SERC Madras	Feb 11 – 13, 2009
8.	Dr A. S. Sekhar	Some recent studies on Cracked Rotors	IIT Delhi	March 26, 2009
9.	Dr S. Narayanan	Control of Chaos in Nonlinear Systems.	IIT Kanpur	March13-15, 2009.
10.	Dr S. Narayanan	Functionally Graded Shells with distributed Piezoelectric sensors and actuators for Active Vibration Control	IISc, Bangalore	Dec10-12, 2008
11.	Dr. J.M. Mallikarjuna	Hydrogen as an I.C. Engine Fuel	NIT Warangal	June 4, 2008
12.	Dr.J.M. Mallikarjuna	Hydrogen as an I.C. Engine Fuel and Design of Combustion Chambers for I.C. Engines	JNTU, Kakinada	June 18,2008
13.	Dr. A. Ramesh	Biofuels in Engines	JNTU, Kakinada	June 18, 2008
14.	Dr. J.M. Mallikarjuna	Hydrogen as an I.C. Engine Fuel	Dr.Ambedkar Institute of Technology, Bangalore	June 23, 2008
15.	Dr.J.M. Mallikarjuna	Homogeneous Charge Compression Ignition Engine Technology	-do-	June 24, 2008
16.	Dr. A. Ramesh	Engine Control	SAE-National Instruments Seminar IC&SR, IIT Madras	June 25, 2008
17.	Dr. A. Ramesh	Cylinder Pressure Measurement in Engines	Dr. Ambedkar Institute of Technology, Bangalore	June 27, 2008

18.	Dr. A. Ramesh	Diesel Engine Management	SAE-Ashok Leyland sponsored course for Army Engines ,IIT Madras	July10, 2008
19.	Dr.M.K.Gajendra Babu	Diesel Engine Cycle Simulations	SAE-Ashok Leyland sponsored course for Army Engines ,IIT Madras	July 9, 2008
20.	Dr. A. Ramesh	Bio-fuels in Engines	NIT Suratkal	July 23, 2008
21.	Dr. A. Ramesh	Status of Gasoline Direct Injection Engines	NAL, Bangalore	Aug. 29, 2008
22.	Dr. J.M. Mallikarjuna	Hydrogen as an I.C. Engine Fuel	BMS Engg. College, Bangalore	Aug. 28, 2008
23.	Dr.M.K. Gajendra Babu	Sustainable Energy Options for India's Future	Al-Ameer College of Engineering, Viskhapatnam	Oct. 17, 2008
24.	Dr.M.K. Gajendra Babu	S.I. Engine Combustion (Two-day workshop on Combustion Engines and Transmissions)	Bangalore, EASI Technologies	Dec.13, 2008
25.	Dr. M.K. Gajendra Babu	Fuel Efficient Engines	MNIT, Bhopal	Aug.16, 2008
26.	Dr. A. Ramesh	Trends in Gasoline Engine Management	Symposium conducted by M/s National Instruments, USA, in Chennai	Dec.18, 2008
27.	Dr. V. Ganesan	Energy Demand and Strategy Need for Bio Fuel Policies	Jeppiaar Engg. College, Chennai	Jan.27, 2009
28.	Dr. A. Ramesh	Engine Sensors and Instrumentation for CVRDE Scientists	CVRDE, Avadi, Chennai	Feb.16, 2009
29.	Dr. A. Ramesh	Current Development in Automobiles	Annamalai Univ.	Feb. 28, 2009
30.	Dr.J.M. Mallikarjuna	Hydrogen as an I.C. Engine Fuel	BIET Davanagere & GMIT, Davanagere	Feb.13, 2009
31.	Dr.Somashekhar, S.H.	'Hydraulic Systems Components and Operations"	MAXSOFT, Bangalore	Jan 30, 2009
32.	Dr.Somashekhar, S.H.	The role of control elements and Hydraulic break valves	VTU-Bosch Rexroth Center of Competence in Automation Technology, Mysore	Feb.2, 2009
33.	Mr. P.V.Manivannan	Recent trends in Engine Control	CVRDE, Chennai	Feb.16, 2009
34.	Dr.Somashekhar, S.H.	Proportional and Servohydraulics	VTU-Bosch Rexroth Center of Competence in Automation Technology, Mysore	Feb.28, 2009
35.	Dr.Somashekhar, S.H.	Recent advances in Fluid power and power generating elements	IIT Madras	Mar.21,2009

36.	Dr.Somashekhar, S.H.	Control Elements	University College of Engineering, Osmania University, Hyderabad and Sreenidhi Institute of Science and Technology, Ghatkesar, Hyderabad	Mar.25, 2009
37.	Dr.Somashekhar, S.H.	Different types of Actuators and their applications	IIT Madras	Mar.28, 2009
38.	Dr.M.Singaperumal	Constructional features and applications of Control Elements	IIT Madras	Mar.28, 2009
39.	Dr. K.Srinivas Reddy	Power Generation through Dish-Stirling Route	IIT Bombay	Apr.28, 2008
40.	Dr.S.P. Venkateshan	Simultaneous Retrieval of Total Hemispherical Emissivity and Specific Heat from Multi-mode Heat Transfer Experiments	IIT Guwahati	Apr.25, 2008
41.	Dr.K.Srinivas Reddy	Advances in Power Generation	M/s Ke-Burgmann Flexibles India Pvt. Ltd, Chennai	July 12,2008
42.	Dr. C. Balaji	Estimation of Rainfall from Satellite Microwave Radiances	IIT Kanpur	Aug.16, 2008
43.	Dr. Ajit Kumar Kolar	Advanced Coal Technology for Power Generation in India Fuel Cells for Energy Sustainability<	NIT, Surathkel	Aug.14, 2008
44.	Dr.K.Srinivas Reddy	Advances in Thermal Power Generation	Rajalakshmi Engineering College, Chennai	Aug.12, 2008
45.	Dr. C. Balaji	Optimization Techniques for use in Atmospheric Sciences	Air Force Administrative College, Redfields, Coimbatore	Dec. 17-18, 2008
46.	Dr. C. Balaji	Determination of Geo-Location of a Cyclone using Microwave Imagery		
47.	Dr. C. Balaji	Retrieval of Temperature and Humidity Profiles in the Atmosphere using IR Satellite radiances		
48.	Dr. C. Balaji	Design in Nature and Engineering	Kumaraguru College of Technology, Coimbatore	Dec.18, 2008
49.	Dr.K.Srinivas Reddy	Solar Power Systems for Sustainable Energy	CAPE Institute of Technology, Tirunelveli	Jan.27, 2009
50.	Dr. C. Balaji	Design in Nature and Engineering	KCG College of Engg., Chennai	Jan.30, 2009
51.	Dr. C. Balaji	Creativity in Research	Vellammal College of Engg., Chennai	Feb.23, 2009
52.	Dr.K.Srinivas Reddy	Solar Power Systems	Anna University, Chennai	Feb.26, 2009
53.	Dr A.Mani	Solar energy for rural India	Arunai Engineering College,Tiruvannamalai	Aug. 29, 2008

54.	Dr A.Mani	Solar refrigeration	Shaastra University, Tanjore	Mar.20, 2009
55.	Dr. K. Srinivasan	Higher order spectral analysis for Aero acoustics	IIT Bombay	May 2008
56.	Dr U.S.P. Shet	Swirl Combustion and Eco-friendly Burner System	Velammal Engineering College, Chennai	March 19-21, 2009
57.	Dr. M S. Shunmugam	Mechanical Micro Machining (M ³) and Nano metrology	PSG college of Technology, Coimbatore.	Dec.18-20, 2008
58.	Dr. B. Ramamoorthy	Research Methodologies in Metrology	Anna University, Trichy	April 2008
59.	Dr. B. Ramamoorthy	Introduction to Measurements	ISNT, GUINDY	May 2008
60.	Dr. B. Ramamoorthy	Laser interferometer applications	IIT Madras	July 2008
61.	Dr. B. Ramamoorthy	Machine vision applications in Metrology	CVRDE, Avadi	Aug 2008
62.	Dr. B. Ramamoorthy	Impact of Engineering Education, ISTE Chapter inauguration	Gnanamani Inst of Technology, Salem	Sept. 5, 2008
63.	Dr. B. Ramamoorthy	Science, Engineering and education, Inaugural of Waves Science society	Velammal Institute of Technology, Chennai	Oct. 16, 2008
64.	Dr. N Ramesh Babu	Micro Abrasive Waterjet Machining	IIT Bombay	June 2008
65.	Dr. N Ramesh Babu	Micro Abrasive Waterjet Machining	IIT Kanpur	Oct.10, 2008
66.	Dr. N Ramesh Babu	Rapid Response Manufacturing	Al-Ameer College of Engineering & Technology	Oct.18, 2008
67.	Dr. L. Vijayaraghavan	Life cycle Management	Bharathiar college of Engineering	March 2, 2009
68.	Dr. G. L .Samuel	Advanced Materials and Micro machining	NIT, Surathakal	June 16, 2008
69.	Dr. G. L .Samuel	Optimization Techniques	RVS College of Engg and Technology, Dindugal	June 18, 2008
70.	Dr. G. L .Samuel	Recent Advances in Manufacturing	Karapagam College of Engg, Coimbatore	August 21, 2008
71.	Dr. G. L .Samuel	Flexible Manufacturing Systems	IIT Madras	Oct.21, 2009
72.	Dr. G. L .Samuel	Design Gauges and Types of Gauges	TI Cycles, Chennai	Jun 26, 2008
73.	Dr. M. Govardhan	Fluid Mechanics for Engineers	TVS Chennai	April '08
74.	Dr. M. Govardhan	Fluid Mechanics & Design of Turbomachinery	FL. SIMDT, IIT Madras	June '08
75.	Dr. BVSSS. Prasad	Expert lecture in CFD in Turbomachines	PES Institute of Technology, Bangalore	July 04, 2008
76.	Dr. M. Govardhan	Expert lecture in 2 day seminar	M.S. Ramaiah School of Advanced Studies, Bangalore	Sept.25-26, 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. C. Sujatha	Greece	2.9.2008 5.9.2008	Presented 2 paper one invited and one contributed in the 9th International Conference on Computational Structures Technology (CST 2008)	-
2.	Dr. P. Chandramouli	USA	22.9.2008 – 26.9.2008	-	-
3.	Dr.P. Chandramouli	USA	9/2008	Project	Project
4.	Dr. A Ramesh	Germany	12.12.2008 13.12.2008	To participate in the organizing committee meeting of the Indo-German Frontiers of Engineering Symposium	German Govt.
5.	Dr. J.M.Mallikarjuna	Detroit, USA	13.04.2008 25.04.2008	To present a paper at SAE 2008 World Congress	DST, Govt. of India
6.	Dr.M.Singaperumal	Univ.of Karlsruhe, Stuttgart & Kaiserslautern, Paris	05.08.2008 to 29.08.2008	Visit to Europe under brief visit	Without Institute financial commitment
7.	Dr.Somashekhar, S.H	International Islamic Univ., Kuala Lumpur, Malaysia	18.12.2008- 20.12.2008	For paper presentation	IIT Madras
8.	Dr. Shaligram Tiwari	Japan	10-10-08 to 25-10-08	International Conference	Yokohama National University
9.	Dr. G. L .Samuel	UNCC, USA	June 2008	For research collaboration/exchange visit	UNCC
10.	Dr. BVSSS. Prasad	Berlin, Germany	June 9-13, 2008	ASME Turbo Expo Conference	IIT, Madras
11.	Dr Shankar Krishnapillai	Melbourne, Australia	May 23-31, 2008	Endevavour Fellowship	Australian Govt.

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Honours:					
ii. Awards:					
1.	Dr. C. Balaji	Swarnajayanthi Fellowship	DST, Govt. of India – 2007-2008	Research in Earth and Atmospheric Sciences	Dec. 2008

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr. K. Gopinath	Power Metallurgy for the 21st Century	Transactions of powder Metallurgy association of India	P.Ramakrishnan, Paramanand Singh & K. Gopinath
2.	Dr. A. S. Sekhar	Dynamic Analysis of Rotating Systems and Applications -- ISBN 0906-522-34	Multi Science Publishing Ltd,,UK	Prof. B.S. Prabhu, Formally Professor at IIT Madras
3.	Dr. P. Chandramouli	Theory of Vibration with Applications	Pearson India	W. T. Thomson and M. Dahleh
4.	Dr. V. Ganesan	Internal Combustion Engines	Tata McGraw Hill, (3 rd Edn.) New Delhi	--
5.	Dr. S.P.Venkateshan	Mechanical Measurements	Ane Books India and CRC Press USA	Sole Author
6.	Dr.S.K. Das	Nanofluids Science & Technology	John Wiley & Sons, NY	S.U.S.Choi, Y.Wu & T. Pradeep
7.	Dr. S.K. Das	Fundamentals of Heat & Mass Transfer (In Press)	Narosa Publishing House, New Delhi	Sole Author
8.	Dr. V. Babu	Propulsion	Ane books	Sole Author

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Humboldt Fellowship:		
1.	Dr. M.K. Gajendra Babu was conferred the Honorary Fellowship of Indian National Academy of Environment by former President Dr. A.B.J. Abdul Kalam	July 16, 2008
INAE:		
1.	Dr. M.K. Gajendra Babu was conferred the Honorary Fellowship of Indian National Academy of Environment by former President Dr. A.B.J. Abdul Kalam	July 16, 2008
ISTE/CSI:		
1.	Dr. G. L .Samuel	2006
2.	Dr. L. Vijayaraghavan	Life Member
Others:		
Prof. M. S. Shunmugam		
1.	Institution of Engineers (India)	Fellow
2.	Fluid Power Society of India	Life Member
3.	Indian Society for Technical Education	Life Member
4.	Indian Society of Manufacturing Engineering	Member
5.	Indian Institution of Quality Assurance	Member
Prof. B. Ramamoorthy		
1.	MSI (Metrology Society of India)	2008
Prof. L. Vijayaraghavan		
1.	M.I.E (Member in Institution of Engineers)	Fellow

2.	FPSI- Fluid Power Society of India	Member
3.	IIFE- Indian Institution of Plant Engineering	Life Member
Dr. G. L .Samuel		
1.	M.I.E (Member in Institution of Engineers)	1997
Life Member, Desalination Society		
1.	Dr A.Mani	2007

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	Dr. S. Narayanan	Member, Editorial Board	Int. J. of Computational Mechanics, World Scientific
2.	Dr. S. Narayanan	Member, Editorial Board	Acoustical Society of India
3.	Dr. S. Narayanan	Board Member	International Association of Structural Control and Monitoring, USA
4.	Dr. S. Narayanan	Member Editorial Board	Int J .Probabilistic Engineering Mechanics, Elsevier
5.	Dr. S. Narayanan	Member Editorial Board	Journal of engineering Science and Applied Mathematics, Springer Verlag
6.	Dr. M.K. Gajendra Babu	Member of the Editorial Board	Journal of Automobile Engineering published by Institution of Mechanical Engineers, U.K.
7.	Dr. M.K. Gajendra Babu	Chairman Publication Board	SAE India
8.	Dr.M.Singaperumal	Member	International Journal of Automation & Control
9.	Dr.M.Singaperumal	Chairman	PG 18 of the Bureau of Indian Standards
10.	Dr. S.K. Das	Editor-in-Chief	International Journal of Micro-Nano Scale Transport, U.K.
11.	Dr. M S Shunmugam	Member, Editorial	Journal of Mechatronics and Intelligent Manufacturing
12.	Dr. B. Ramamoorthy	Member Of The Editorial Board	Intl.Journal of Tribology and Surface Engineering
13.	Dr. M. Govardhan	Member	Journal of Thermal Science

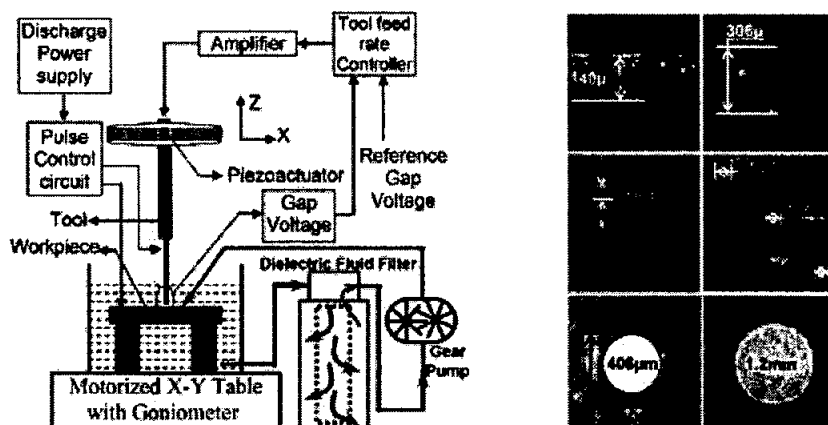
Design and Development Activities:

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	Particle Image Velocimetry (PIV)	100
2.	Two Numbers of Pioneer P-3DX Mobile Robot Research Platform	6.3
3.	Webots Virtual Robot Simulator Dongle Licence	0.17
4.	Hall Effect Sensor	0.35
5.	PZT actuator and drives	1.00
6.	FARO Laser tracker system Robot Calibration Software - Dynacal Software - CompuGauge 3D Software	79.66
7.	Micro Machining Centre	300
8.	Laser Sheet Metal Cutting Machine	150
9.	Sheet Metal Bending Machine	150

Major equipment developed:-

1. Micro EDM Machine with PZT actuator tool feed mechanism and inprocess tool wear compensation.



Micro EDM machine Setup

Patents:

Patents filed:

Sl. No.	Name of faculty	Topic of patent
1.	Dr. M. Singaperumal Dr. A. Ramesh Mr. P.V. Manivannan	A new method of Air-fuel Ratio Estimation using Binary Exhaust Oxygen Sensor
2.	Dr.M.Singaperumal Mr.P.V.Manivannan Mr.A.Ramesh	A method of measuring the air fuel ratio of a spark ignitron engine
3.	Dr Shankar Krishnapillai	Automatic Coir Machine

Patents awarded:

Sl. No.	Name of faculty	Topic of patent
1	Prof.Y.G.Sreenivasa Prof.K.Narayanaswamy	Extrude Honing
2	Dr. Kumaraswamy, S., Dr. Madhusudana Rao, M., C.R. Deepak and Dr. Ravindran, M.	Jet Pump

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 S Sekhar
3.	Sanctioned for a project under the socially Relevant Projects Scheme.	May 2008	-	4.4	Dr. Sujatha Srinivasan
4.	Augmentation of Research Facilities	2006-2008	DST	158.00	Dr. V. Ganesan Dr. J.M. Mallikarjuna
5.	Use of Straight Vegetable Oil in I.C. Engines	2008-2010	TIFAC-DST	36.84	Dr. Pramod S. Mehta Dr. Shamit Bakshi
6.	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
7.	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	34.68	Dr. A. Ramesh Dr. M.K. Gajendra Babu
8.	Measurement of elemental species for space-exploration by using laser-induced breakdown spectroscopy technique	2008-2011	Indian Space Research Organization (ISRO)	19.53	Dr.M.Singaperumal Dr.N.J.Vasa Dr.A.S.Laxmiprasad (ISRO)
9.	Proportional Solenoid Valves	2008 – 2010	ISRO	13.37	Dr..M.Singaperumal Dr.T.Asokan Dr.Somashekhar, S.H.
10.	Study on development of MEMS based RF-ion mobility spectrometer for chemical pollutants	2009-2010	DRDE	9.84	Dr. M.Singaperumal Dr.N.J.Vasa Prof.Vivek Agarwal (IITB)
11.	Low Cost Flexible Automation Using Robotic Arms (LCFA)	Jan. 2008 – Aug. 2009	TIFAC IIT Madras	503.00	Dr.M.Singaperumal Dr.T.Asokan
12.	Investigations into mechanical micromachining of metals and non-metals	3 years	DST & IITM	353.35	Dr.M.S.Shanmugam Dr.M.Singaperumal

13.	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
14.	Unit of Nano Science Technology (UNANST-DST)	1.12.2004 to 30.11.2009	DST	230.00	Dr. T. Pradeep Dr. Sarit K. Das Dr. T. Sundararajan
15.	Experimental and Modelling Studies of Free Breathing Fuel Cells	2 years	Ministry of New & Renewable Energy	15.35	Dr. Ajit Kumar Kolar Dr. K. Srinivas Reddy
16.	Retrieval of Atmospheric Temperature and Humidity Profiles from Satellites Infrared Sounder Observations	3 years	Space Appln. Centre, ISRO, Ahamedabad	13.15	Dr. C. Balaji Dr. S.P. Venkateshan
17.	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
18.	The Role of Size and Volume Fraction of Nano-particles to Enhance Heat Transfer Property of Nanofluids	2 years	DRDO Defence Materials & Stores & Development Establishment (DMSRDE)	9.70	Dr. S.K. Das Dr. T. Sundararajan
19.	Studies on Compact bubble absorber of the vapour absorption refrigeration system	3 years	DST	23.89	Dr A.Mani
20.	Modernization and process development of toilet soap manufacturing in village industry	2 years	DST	16.57	Dr. A.Mani
21.	Development of Compression-Desiccant Hybrid Systems for low Humidity Air Conditioning	3 years From 24-04-2008	DST	26.00	Dr. M. P. Maiya Dr. Shaligram Tiwari
22.	Studies of flame chive from invibrating burner	2 years	ARDB	17.53	Dr.K. Srinivasan Dr. V. Raghavan
23.	Investigations into Micro-mechanical machining of metals and Non-metals	2007-2010	DST	353.35	Dr. M S Shunmugam Dr. M. Singaperumal

24.	"Development of Setup for Investigation of Mechanical Micromachining of Composites"	2006-2008	Aeronautics Research & Development Board, New Delhi	22.06	Dr. M.S. Shunmugam Dr. G.L. Samuel
25.	Development of Ice bonded Abrasive Polishing	2007 - 2010	ARDB	16.32	Dr. N Ramesh Babu
26.	In process measurement and evaluation of surface roughness using non contact sensor based measurement	2008-2010	CSIR, New Delhi	10.91	Dr. G. L .Samuel
27.	Exploratory studies on a cavitation-induced ignition system for non-hypergolic propellant rockets	2 years	ISRO-IIT(M) Cell	18.66	Dr. Dhiman Chatterjee & Dr. Kumaraswamy, S.
28.	Experimental Studies on Hydraulic Transport of Large Solids in Hoses	4 years	National Institute of Ocean Technology	29.82	Dr. Kumaraswamy, S.
29.	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	1 year	Rural Technology Action Group	1.80	Dr. Balabaskaran, V. & Dr. Kumaraswamy, S.
30.	Augmentation of Research Facilities	March 2005- Feb. 2010	DST	38.00	Dr. M. Govardhan Dr. N. Sitaram BVSSS Prasad Dr.
31.	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
32.	Multisensor Hot Film Anemometry for Periodic Flow Measurements	April 2009 – March 2010	ARDB	04.73	Dr. N. Sitaram
33.	Hot air calibration of five hole probes	3 years	BARC, Mumbai	33.16	Dr. N. Sitaram Dr. M. Govardhan

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr. P. Chandramouli & Dr. S. Swarnamani	Seismic test of 96 kV Lightning Arrester	CGL Ltd.,	1.29
2.	Dr. P. Chandramouli & Dr. S. Swarnamani	Seismic test of 245 kV / 420 kV CT, Siemens	CGL Ltd.,	2.60

3.	Dr. K. Gopinath & Dr. A. S. Sekhar	Design calculations on wire rope and rope head fork.	M/S Neyveli Lignite Corp.	0.30
4.	Dr. K. Gopinath	Design calculation of gas pipe line,	M/s Jindal Pipes Ltd.,	0.30
5.	Dr. K. Gopinath & Dr. A. S. Sekhar	Evaluation ball bearing life and dynamic load capacity	Fenner India Ltd. Chennai	0.42
6.	Dr. P. Chandramouli	Power Steering Fluid Reservoir Endurance Test	Rane TRW	0.60
7.	Dr. P. Chandramouli	Seismic Test of GL32 VCB	Areva T & D Chennai (with ASS)	1.05
8.	Dr. P. Chandramouli	Seismic testing of CT/VT	Vijai Elect. (with SS)	3.5
9.	Dr. P. Chandramouli	Seismic testing of VCB	Crompton greaves (with SS)	1.2
10.	Dr. P. Chandramouli	Seismic testing of 66 kV/1200 kV CVT/CTs	Areva T & D Bangalore	3.10
11.	Dr. P. Chandramouli	Seismic testing of 66 kV/1200 kV CVT/CTs	Areva T & D Chennai	1.06
12.	Dr. P. Chandramouli	Seismic testing of 66 kV/1200 kV CVT/CTs	CGL Nashik	1.06
13.	Dr. S. Swarnamani	Seismic testing of 72.5/245 kV CVT	CGL	2.25
14.	Dr. Raghu Prakash	Durability of Testing of The Cast Component	Sundaram-Clay ton Madras	1.65
15.	Dr. A. Ramesh & Dr. Krishna Vasudevan (EE)	Modelling and Simulation of Diesel Engine and Three Phase Traction alternator of a Diesel Multiple Unit (DEMU) using MATLAB & SIMULINK	BHEL, Bhopal	10.5
16.	Dr. A. Ramesh	Bio-diesel Engine Performance , Emissions and Combustion Study	M/s Reliance Industries Ltd., Maharashtra	5.62
17.	Dr. Pramod S. Mehta	Testing of MK20 HSP Greaves Cotton Petrol Engine as per IS 7347	M/s Greaves Cotton Ltd., Chennai	1.51
18.	Dr. G. L .Samuel	Profile Evaluation of a machined component for antenna	M/s. SAMEER Centre for Electro-magnetics, Chennai	0.02
19.	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
20.	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
21.	Dr. Kumaraswamy, S.	Expert Opinion on Pump Test Rig Arrangement	Titanium Tantalum Products Ltd	0.30

22.	Dr. Kumaraswamy, S.	Pump Testing and Verification of Guarantees	Flowell Pump Industries	0.25
23.	Dr. Kumaraswamy, S.	Review of DPR for Mini Hydel Scheme	Ceebros Power Generation Pvt.ltd	0.50
24.	Dr. Kumaraswamy, S.	Consultancy for development of pumps	Beacon weir Ltd.	1.00
25.	Dr. Kumaraswamy, S.	Expert technical opinion on the proposed sizing of the Pump	Titanium Tantalum Products Ltd	0.10
26.	Dr. Kumaraswamy, S.	Consultancy for reviewing the design of a pump	Beacon Industries and Pumps Ltd.	0.20
27.	Dr. Kumaraswamy, S.	Analysis of Cooling water pump performance curve	Praxair India Pvt. Ltd	0.10
28.	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
29.	Dr. Kumaraswamy, S.	Trouble shooting the cause for the damage of the impeller	Titanium Tantalum Products Ltd	0.15
30.	Dr. Kumaraswamy, S.	Design and development of a pump	Vita Technology Pvt. Ltd.	2.00
31.	Dr. K.Srinivas Reddy	Thermal Conductivity Test for LRB Mattresses and Calcium Silicate	M/s Lloyd Insulations (India) Ltd., Chennai	0.33
32.	Dr. C. Balaji Dr. Balaji Srinivasan Dr. Harishankar Ramachandran	Distributed High Temperature Sensor for Flue Gas Monitoring – Technology Demonstration	BHEL, Thiruchirappalli	3.96
33.	Dr. BVSSS. Prasad	CFD Modeling of Banking Oven	Britania Industries, Chennai	2.00
34.	Dr. M.Govardhan	Calibration of venturameter	Presflex Solution, Chennai	0.30

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr.P. Chandramouli, C. Dr.Sujatha and Dr.S. Swamamani	Vehicle dynamics for ARJUN tank simulator	CVRDE	49.2
2.	Dr.P. Chandramouli and Dr.S. Narayanan	Breathing wave speed measurement	NPOL	9.0
3.	Dr. V. Ganesan	Modeling of Steady Flow Through Intake and Exhaust Manifolds	Infosys Technologies Ltd., Bangalore	15.00
4.	Dr. V. Ganesan	CFD Modeling and Analysis of Intake and Exhaust System	e-Engg Solution, L & T Technology, Vadodara	12.00

5.	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, Chennai	9.2
6.	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
7.	Dr. V. Ganesan	Characterization of Urea Spray Delivery, Mixing and Hydrolysis in a SCR Device	M/s General Motors, Bangalore	15.33
8.	Dr.M.Singaperumal Dr.T.Asokan Dr.Somashekhar, S.H	Development of Mathematical Model for Jet Pipe Servo valve RCI(DRDO)	RCI (DRDO), Hyderabad	9.54
9.	Dr.M.Singaperumal Dr.T.Asokan Dr.A.Mahindrakar	AUV development	NSTL, Vizag	38.30
10.	Dr.M.Singaperumal Dr.T.Asokan	Design and Development of 6 DOF Parallel Manipulator for underwater applications Auto Desk Products	AUTO DESK, Singapore	10.8
11.	Dr.A.Ramesh Mr.P.V.Manivannan Dr.Mallikarjuna Dr.V.Ganesan	Development of Hydrogen Fueled IC Engine for bus	TATA Motor	93.6
12.	Dr.M.Singaperumal Dr.T.Asokan Dr.Somashekhar, S.H	Analysis of Solenoid Valve	Honeywell, Bangalore	4.51
13.	Dr. M S Shunmugam	Bend Sequence Planner (2006-2009)	Amada Soft (India) Ltd	12.00
14.	Dr. N Ramesh Babu	Design Recovery, Analysis and representation of PLC logic code (2006-2009)	General Motors Pvt. Ltd. Bangalore	19.01
15.	Dr. N Ramesh Babu	Development of intelligent algorithms for Nesting of 2D shapes in 2D sheets (2008-2010)	Amada Co. Ltd., Japan	19.83
16.	Dr. G. L .Samuel	Improvement of the existing model of combination switch for heavy vehicles	Electron Electronics, Chennai.	1.75
17.	Dr. G. L .Samuel	Design and development of double lever combination switch	Electron Electronics, Chennai.	2.5

18.	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
19.	Dr. Kumaraswamy, S Dr. Balabaskaran, V. & Dr. Dhiman Chatterjee	Development of methodology for CFD Analysis for Kaplan Turbine	BHEL, Bhopal	18
20.	Dr. Kumaraswamy, S.	Configuration and design of high pressure hydraulic booster turbopump	LPSC, Trivandrum	4.75
21.	Dr. M. Govardhan	CFD analysis of KKK fan with TLT blade profile	BHEL, Ranipet	8.50
22.	Dr. M. Govardhan	Performance improvement of BAB2 fan using CFD analysis	BHEL, Ranipet	7.50
23.	Dr. BVSSS. Prasad	Flow & conjugate thermal analysis of vikas Engine turbo pumps	LPSC, Trivanthapuram	2.00
24.	Dr. BVSSS. Prasad	Review of CFB Design & Component Performance Prediction	BHEL, Trichy	15.00
25.	Dr. BVSSS. Prasad	Experiments analysis and survey of profiles for airpreheaters	BHEL, Trichy	4.00
26.	Dr. BVSSS. Prasad	CFD analysis for flow distribution in the passages of PEM fuel cell stack.	CFCT, Chennai	4.00
27.	Dr. BVSSS. Prasad	Gas flow modeling of triple pressure reheat HRSG behind gas turbine exhaust	BHEL, Trichy	6.00
28.	Dr. BVSSS. Prasad	CFD study of 182MW gasifier along with loop seal pressure balance and the effect of recycling	BHEL, Trichy	10.00
29.	Dr. BVSSS. Prasad	Analysis of pressurised heat recovery system for IGCC application	BHEL, Trichy	20.00

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr P. Chandramouli	Noise & Vibration of Air Compressors	ELGI Industries	0.50
2.	Dr P. Chandramouli	Nonlinear dynamics of aircraft engines	Boeing USA	2.50
3.	Dr. Kumaraswamy, S.	Retainer Consultancy services	Anticorrosive equipment Pvt. Ltd., Gundlav	2.4

Exchange programme with other Universities including Institutions/Universities under MOU;

Sl. No.	Name of faculty	Name of the student	Participation details	Name of University/Institution
1	Dr. G. L .Samuel	Kim Seung Yeon	Student Exchange Program	Kyngpook National University, Daegu, South Korea
2	Dr. G. L .Samuel	U. N. Preeetha	Summer Internship	PSG College of Technology, Coimbatore

Faculty members participation with other institution under MoU:

Sl. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
1.	Dr M.Singperumal	MoU with MAXSOFT	MAXSOFT Bangalore
2.	Dr.Somashekhar, S.H.	MoU with MAXSOFT	MAXSOFT Bangalore

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	009
Total No. of papers published in Refereed International Journals	...	163
Total No. of papers presented in National Conferences	...	023
Total No. of papers presented in International conferences	...	075

Details:

In Refereed National Journals:

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45. Kanthababu M., Shunmugam MS., Singaperumal M., Selection of Process Parameters for Honing of Cylinder liners using Design of Experiments Approach, Proceedings of 2nd International and 23rd All India Manufacturing Technology, Design and Research conference, 405-410, December 15-17, 2008.
46. Mohan L.V., Shunmugam MS., CAD Simulation of Milling of Worms and Arrive at Milling Cutter Profile using Solid Models. Proceedings of 2nd International and 23rd All India Manufacturing Technology, Design and Research conference, 1023 -1027, December 15-17, 2008.
47. Divi Karuna Sri., Shunmugam MS., Intelligent Monitoring of End Milling by Vibration Measurement and Wireless Transmission. Proceedings of 2nd International and 23rd All India Manufacturing Technology, Design and Research conference, 1115 -1120, December 15-17, 2008.
48. R.Elanshezian, B.Ramamoorthy, P.Kesavan Nair, Effect of surfactants on the mechanical properties of Electroless (Ni-P) coatings, The 35th International conference on Metallurgical coatings and Thin films (35th ICMCTF), Presented by first author – Sa Diego, California, April 28-May 2,2008.
49. R.Elanshezian, B.Ramamoorthy, P.Kesavan Nair, Influence of surfactants on efficiency of Electroless (Ni-P) coating process, The 35th International conference on Metallurgical coatings and Thin films (35th ICMCTF), Presented by first author(Poster presentation) – Sa Diego, California, April 28-May 2,2008.
50. CH R. Vikram Kumar, B. Ramamoorthy, P. Kesava Nair, Modeling of sputtering process to predict thickness of nano coatings, IISc Centenary – International Conference on Advances in Mechanical Engineering(IC – ICAME), B'lore, India, July 2-4 , 2008.

51. R.Elansezhian, B.Ramamoorthy, P.Kesavan Nair, Influence of friction and wear behaviour of electroless nickel coatings, The 7th international conference on materials processing for properties and performance(MP3), The 3rd asian thermal spray conference,Singapore, 1-4, Nov 5-7 2008
52. R.Elansezhian, B.Ramamoorthy, P.Kesavan Nair, A study on the deposition rate and adhesion based on the influence of surfactants in Electroless nickel coating process, 2nd Intl, 23rd national AIMTDR conference, IITMadras, 163-170,Dec 15-17, 2008.
53. Dinesh Thakur, L.Vijayaraghavan, B.Ramamoorthy, Tool wear studies in High speed machining of Inconel 718 using Tungsten Carbide (K20) insert, 2nd International Conference on Advanced Tribology(iCAT2008), Singapore, 247 -249, Dec 3-5 2008
54. Dinesh Thakur, L.Vijayaraghavan, B.Ramamoorthy, Monitoring of machinability issues in high speed turning of super alloy inconel 718, 2nd Intl, 23rd national AIMTDR conference IITMadras, 699-704, Dec 15-17, 2008.
55. Dinesh Thakur, L.Vijayaraghavan, B.Ramamoorthy, High speed machining of (turning) super alloy inconel 718, Intl Symposium for research scholars(ISRS), Dec 10-12, 2008.
56. R.Elansezhian, B.Ramamoorthy, P.Kesavan Nair, Study on the influence of surfactants on coating efficiency,crySTALLINITY,wear and corrosion behaviour of electroless nickel coating, Intl Symposium for research scholars(ISRS), Dec 10-12, 2008 (Recd Best Paper award).
57. John Rozario Jegaraj, J., and Ramesh Babu, N., Monitoring of the cutting force exerted by jet with variation in orifice and focusing nozzle size in Water Jet Cutting, Proc. Of 2nd International and 23rd All India Manufacturing Technology, Design and Research conference, December 15-17, 2008, 429-436.
58. Madhu Mohan Reddy B.V., Ramesh Babu N. and Yadav D.R., Influence of orifice and focusing nozzle diameters on abrasive waterjet machining of Inconel 690, Proc. Of 2nd International and 23rd All India Manufacturing Technology, Design and Research conference, December 15-17, 2008, 437-442.
59. Shital S Chiddarwar and Ramesh Babu N., Inverse kinematics of 6R robot using radial basis function based approach, Proc. Of 2nd International and 23rd All India Manufacturing Technology, Design and Research conference, December 15-17, 2008, 895-900.
60. Vimal Nandhan R. K. and Ramesh Babu N., A modified state space based heuristic approach for design intent recovery of ladder logic diagrams, Proc. Of 2nd International and 23rd All India Manufacturing Technology, Design and Research conference, December 15-17, 2008, 1061-1066.
61. S.Rajakumar, L.Vijayaraghavan and M.M.Mayuram, "Optimization of Process Parameters for D-Gun Coating of Fused Alumina Zirconia Powder Using Taguchi Method", International conference on digital factory (ICDF-2008), pp.1413-1419, August 11-13, 2008, CIT- Coimbatore, India.
62. S.Rajakumar, L.Vijayaraghavan and M.M.Mayuram, "Flexure Response of D-Gun Sprayed Functionally Graded Coating of Alumina and Alumina-Titania Ceramic Composite", Proceeding of the 2nd International & 23rd All India Manufacturing Technology, Design and Research Conference (AIMTDR '08), pp.183-188, December 15-17, 2008, IIT-Madras, India.
63. S.Rajakumar, L.Vijayaraghavan and M.M.Mayuram,"Characterization and Response Evaluation of D-Gun Sprayed Fused Alumina-Zirconia (AZ-23) Ceramic Composite Deposition, International Conference on Industrial Tribology (ICIT'08), pp. , New Delhi, India.
64. S.Rajakumar, L.Vijayaraghavan and M.M.Mayuram, "Tribo-Performance Evaluation of Functionally Graded Ceramic Coating by D-Gun", International Symposium for Research Scholars, (ISRS'08), SE-P4, December 10-12, 2008, IIT Madras, India.
65. S. Denis Ashok and G.L.Samuel, Regression model and algorithm for evaluation of spindle error motion, proceedings of international conference on Digital factory 2008, CIT Coimbatore, pp54-59.
66. Murugarajan and G.L.Samuel, Modeling and prediction of surface undulations using data from capacitance sensors, IISC centenary internal conference on advances in mechanical engineering, July 2-4, 2008, PP 57.

67. Sitaram.N, Nitin Gupta and Mahendran.M, "An Improved Rotatable Single Hole Pressure Probe for Three Dimensional Flow Measurements". Proceedings of the International Conference on Emerging Research and Advances in Mechanical Engineering, March 19-21, 2009, Chennai, India.
68. Shikhar Pant, Anish.S and Sitaram.N "Single/Two Hole Pressure Probe for Three-Dimensional Turbomachinery Flow Measurements", International Conference on Aerospace Science and Technology, Paper No. 2008-108, June 26-28, 2008, Bangalore, India
69. Mahendran.M, Sitaram.N, Gaurav Kumar Jain and Promod.E, "Design and Commissioning of a Subsonic Cascade Tunnel with Automatic Data Acquisition Capabilities", International Conference on Aerospace Science and Technology, Paper No.2008-P005, Poster session, June 26-28, 2008, Bangalore, India.
70. Nitin Gupta, Sitaram.N and Mahendran.M, "A Six Position Single Hole Pressure Probe for Three Dimensional Flow Measurements", International Conference on Aerospace Science and Technology, Paper No. 2008-P006, Poster session, June 26-28, Bangalore, India.
71. Swapnil Keshari, Anish.S and Sitaram.N, "Measurement of Periodic Static Pressure on the Walls of Vaneless Diffuser of a Centrifugal Compressor", International Conference on Aerospace Science and Technology, Paper No.2008-P008, Poster session, June 26-28, 2008, Bangalore, India.
72. Sreenivas Jayanti., Govardhan, M., Kumaraswamy, S., Prasad, B.V.S.S.S., Satyamoorthy, M., Gopalsamy, K., Babu, B., Panwalkar, A.S., "Computational fluid mechanics modeling to study and optimize ID Fan design against fly ash erosion in an Indian coal fired power plant", International Conference on Industrial Electronics, Technology & Automation (IETA 08), International Joint Conferences on Computer, Information, Systems Sciences and Engineering (CIS2E 08), University of Bridgeport, CA, USA, December 5-13, 2008.
73. Lakshmana Sampat, D., and Govardhan, M., "Flow Field and Performance Improvement of a Cross Flow Fan - Effect of Casing Geometry" paper accepted for 12ACFM, Daejeon, South Korea, September 17-21, 2008.
74. Ramakrishna, P.V., Govardhan, M., "Performance Improvements of Axial Flow Compressor Stage with Forward Blade Sweep", ASME Turbo Expo 2009, June 8-12, 2009, Orlando, Florida, USA, GT2009-59840, 2008.
75. Shaligram Tiwari, Koichi Nishino, Effect of suppression of natural convection and heated ambient air on onset of instability in liquid bridges of high Pr fluids, The 4th International Marangoni Association Conf. on Interfacial & Micro Fluid Dynamics & Process (IMA4), 21st-23rd Oct. 2008, Tokyo University of Science, Japan.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. Andrew William Batchelor, Visiting Faculty	August 2008 to January 2009	Short Term Courses
2.	Mr. Raj Sekar Manager, Engine Research Laboratory Argonne National Laboratory, Chicago, USA	24.7.2008	To deliver a talk on Transportation Research in Argonne National Lab.
3.	Prof. T. Obokata, Gunma University, Japan	2.3.2009	To deliver a lectures in I.C.E Lab.
4.	Dr. Araki, Gunma University, Japan	2.3.2009	To deliver a lectures in I.C.E Lab.
5.	Prof. Subhash C. Misra Dept. of Mech. Engg. IIT Guwahati	4.6.2008	To deliver a seminar in HTTP Lab
6.	Prof. P.K. Das Dept. of Mech. Engg. IIT Kharagpur	23.6.2008	-do-
7.	Dr. K.G. Narayanan Director, SSN Energy Research Centre Chennai	20.2.2009	For discussion regarding possible cooperation in Renewable Energy Research and Continuing Education programs for the Centre's Engineers

8.	Ram Narayanamoorthy, V.P. Research and Development PVT Solar Systems Berkeley.	20.02.2008	Commercialization of solar Thermal Energy Technologies
9.	Dr. Lutes Retired Professor Germany	05.03.2009	Golden jubilee year celebration
10.	Ramesh Kymal Managing Director Vestas India, Chennai	13.03.2009	Commercialization of solar Thermal Energy Technologies
11.	Dr. Tadhg. S. O'Donovan & Dr. Tapas.K. Mallick Heriot-Watt University, U.K.	16.03.2009 - 24.03.2009	a) India-UK (UKIERI) Project b) Delivered talk on Jet Impingement : An Investigation of Steady and Unsteady Fluid Flow and Surface Heat Transfer & Development of a Solar Concentrator for Water Desalination
12.	G. M. Pillai, IAS Director General World Institute of Sustainable Energy Pune	10.04.2009	Commercialization of solar Thermal Energy Technologies
13.	Prof. Ganesh Raman Associate Dean (Research)	24.12.2008	Seminar
14.	Prof. K. Seshadri	23.12.2008	Seminar
15.	Mr. Toshio Takagi, MD, AMADA Co., Japan	17.12.2008	Inauguration of Sheet Metal Research Center
16.	Dr. B.C. Bhaoyal, Associate Vice President, Research & Technology Centre (ARTEC), India, Mather and Platt Pumps Ltd., Pune	28.08. 2008	Possible collaborative activities
17.	Dr. F.-H. Wurm, General Manager, Research & Technology Centre, Prokurist, Wilo AG Germany	28.08. 2008	Possible collaborative activities
18.	S. Ganesh, Technology Manager, Germanischer Lloyd Industrial Services, GMBH, Bangalore	11.11.2008, 26.11.2008, 02.01.2009, 20.02.2009	R & D activities and placement
19.	Mathias Steck, Department Manager, Renewable energy Asia region, Germanischer Lloyd Industrial Services, GMBH, Mumbai	26.11.2008, 20.02.2009	R & D activities and placement
20.	Dr.P. Muthukumaran, Associate Professor and Concordia Research Chair of Concordia University, Canada	02.01.2009- 02.03.2009	On Sabbatical leave from Concordia University - Served as Visiting Associate Professor at IITM
21.	Mr. Jaidev Singh, Director, Anticorrosive Equipment Pvt. Ltd., Gundlav	12.01.2009	Possible consultancy work and placement
22.	Prof. Dr.-Ing. Wolfgang Scheer, Germany	21.02.2009- 12.03.2009	Participate as the Founder head, Turbomachines Lab. IIT Madras in Nostalgia 2009, a Golden Jubilee event organised by IITM

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)

- K. Ramesh Kumar (M.S); Guide: S. Narayanan.

Thesis Title: "Optimal Location of sensors and actuators in active vibration control"

Summary: Piezoelectric collocated actuator/sensor patches are optimally determined minimizing the LQR norm and vibration energy using finite element modeling and genetic algorithms. Results show that the proposed method's effectiveness in the vibration control of beam and plate structures subjected to transient and harmonic excitations.

- L. V. V. Gopala Rao (Ph.D); Guide: S. Narayanan.

Thesis Title: "Optimal control of vehicular response to random road excitation"

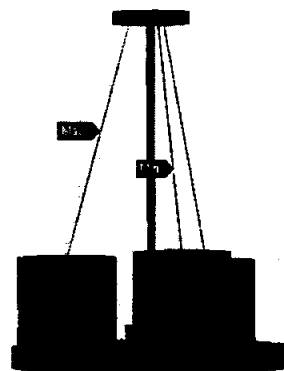
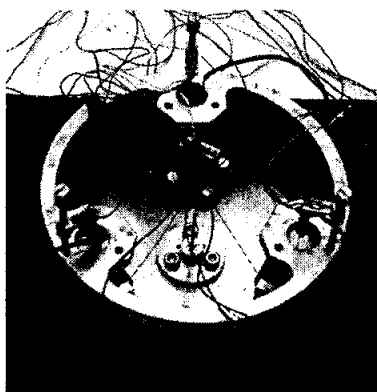
Summary: The vibration control of linear and nonlinear vehicle models traversing random rough roads for better ride quality, safety and handling characteristics is effected by use of semi-active shy-hook dampers matching the performance of fully active suspensions based on stochastic optimal control with and without preview. Results of equivalent linearization method of random vibration to linearize the nonlinear model are verified by Monte-Carlo techniques.

- V. Balamurugan (Ph.D); Guide: S. Narayanan

Thesis Title: Finite Element Modeling and Active Vibration Control of Piezolaminated smart composite plates and shells.

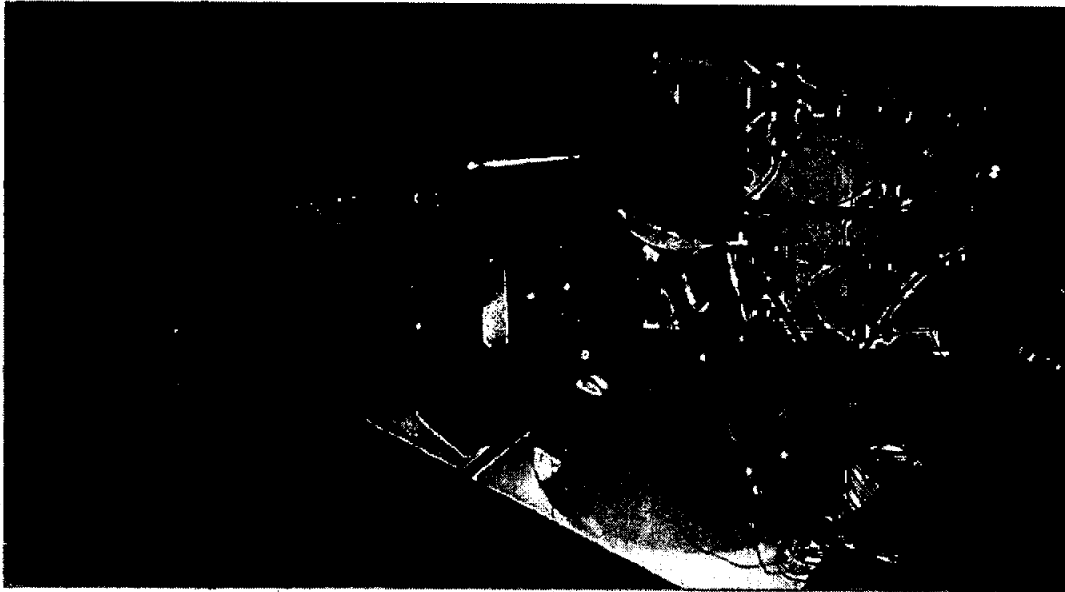
Summary: Higher order and degenerated shell finite element models are developed for the vibration analysis of composite, stiffened and functionally graded plates and shells with bonded piezoelectric actuator and sensor layers including the electro-mechanical and thermal coupling effects and used in the active vibration control of these structures subjected to transient, harmonic and random excitations and the results verified by experiment on limited samples.

- Rajasekhar V, N J Vasa and Y G srinivasa carried out state space modeling of a two shaft gas turbine engine and investigated the transient and steady state behavior of the candidate gas turbine plant at different operating conditions by estimating the effect of altitude, flight speeds and ambient conditions.
- Sreekumar M, Nagarajan T and Singaperumal M designed and developed Shape memory alloy actuated compliant parallel mechanism for applications such as orbital eye prosthesis, micro mirrors and antenna positioning systems etc., using elastica modeling approach, validating experimentally.



Shape memory alloy actuated compliant parallel mechanism and its Ansys Model

- Satheesh Kumar G, Nagarajan T and Srinivasa Y G proposed a solution to develop a complete design tool for a reconfigurable Stewart platform for two identified applications, using variable geometry approach through the formulation of dimensionless parameters, validating it experimentally.



Reconfigurable Stewart Platform

- PhD - N.Santhoshkumar Guide Dr.B. Ramamoorthy - Experimental Investigations have been carried out to improve debris eviction by using permanent magnet and then by optimizing process parameters, surface quality was improved in Electro Discharge Machining.
- PhD - Binu Eldose, Guide Dr.B. Ramamoorthy - An experimental study has been carried out to achieve quality of Burnishing using DC Magnetron Sputtering PVD Coated and Uncoated Rollers

Inter disciplinary group achievements of the Departments.

ISRO Project on development of Microvalve for space application with Dept.of Electrical Engg.

ISRO Project on Laser Spectroscopy, DRDO projects on Servovalve, AUV and MEMS Spectrometer with Dept.of Engineering Design

Socially relevant activities carried out by the Department

International collaboration achievements by the Department

Student visit

R.M. Kuppan Chetty, Ph.D Research Scholar- Short term research visit at IIR, National Institute of Informatics, Tokyo, Japan - 01st Feb.2008 to 30th April 2008.

I.A.Palani, Ph.D Research Scholar - Long term research scholarship at Kyushu University, Fukuoka, Japan – July 2008 to June 2009.

Activities initiated

Dr. A. Ramesh, participated in a meeting in NAL and Aero Space Developme Establishment (ADE) on the Wankel Engine Development being under taken by NAL and ADE as a Expert Member on 29.8.2008 .

Dr. A. Ramesh, selected as an Expert member of the committee formed by the Govt. of Karnataka to suggest suitable alternative technologies for speed control of buses and trucks. He participated in the meeting held on 18.12.2008 in KSRTC, Bangalore

Dr. M.K. Gajendra Babu, Chaired the Committee of SAE India Foundation Board Meeting to finalize the SAE India Kalpana Chawla Award for the best women engineer in India for the year 2008 at Maruti Udyog Ltd. Gurgaon, Harayana between 20-21st Oct. 2008

Dr. M.K. Gajendra Babu, served as a member of Jury to decide the best Indian and foreign papers presented in the Symposium on International Automotive Technology (SIAT 2009), held at ARAI Campus, Pune, between 21 & 24th Jan. 2009

Dr. M.K. Gajendra Babu, was the Chairman of the Technical Session XXIV for the Symposium on International Automotive Technology (SIAT 2009), held at ARAI Campus, Pune, between 21 & 24th Jan. 2009.

Dr. M.K. Gajendra Babu, was the member of the Technical Committee for reviewing the papers in SIAT 2009 and also served as the Chairman of the Editorial Committee.

Dr. A. Ramesh, attended an Expert Committee Meeting in CVRD, Avadi for the development of 1000 HP Tank Engine Development on 28.1.2009

Dr. C. Balaji with Dr. Shankar Narasimhan (Dept. of Chem. Engg.) coordinated a Technology Appreciation Program on "Optimization of Engineering Systems" at ICSR, IIT Madras on 29.4.2008

Dr. Ajit Kumar Kolar has been invited to be a member of the International Scientific Committee and the Lead Scientist for India for the International Conference on Experimental Heat Transfer & Fluid Mechanics, EX HFT 2009 to be held in Poland.

Dr. Ajit Kumar Kolar was an invited participant and Chief Rapporteur on "Power from Coal" session at the Indo-US-China Technology Policy Workshop, National Institute of Advanced Studies, Bangalore, during 8-10, July 2008.

Dr. Ajit Kumar Kolar was an invited participant and speaker on "Simulation of Underground Coal Gasification" at the Indo-US-Workshop on underground Coal Gasification, Mysore, July-17-19, 2008 (Organised by CSTEP, Bangalore)

Major infrastructure development made in the Department

1. Establishment of Particle Image Velocimetry facility at I.C.E. lab under DST-FIST project
2. Establishment of a Robot Calibration System with DST Support

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

New courses introduced

Sl. No.	Course No.	Title
1	MM525	Additive Manufacturing
2	MM527	Practical Transmission Electron Microscopy
3	MM529	Stability of Microstructures
4	MM546	Physical Ceramics
5	MM548	Advanced Phase Transformations
6	MM570	Topics in Nano-materials

Students on roll:

Programme	I year	II year	III year	IV year	V year & others	Total
B.Tech.	23	22	26	21	1	93
Dual Degree	8	9	9	8	13	47
M.Tech.	17	17	--	--	--	34
M.S.	4	4	3	7	1	19
Ph.D.	8	4	10	12	20	54
Total	60	56	48	48	35	247

Endowment prize(s) instituted

Prof. Dr.-Ing. Dr.h.c. Hans Wilfried Wagener of University of Kassel, Germany instituted Endowment Prizes (A Cash of Rs.50, 000) for the best oral paper and best poster presentation in respect of the ISRS conducted by MME once in every two years.

Names of students/scholars who attended conference/seminar and symposia abroad or in India

Sl. No.	Name of the student/scholar	Roll No.	Name of the conference/seminar/symposium/workshop	Date and venue	Financial assistance from
Abroad					
1	Ganesh Niranjana		Conference of the International Deep Drawing Research Group	16/06/2008 Sweden	
2	Patil Basavaraj		METAL 2008	Prague, Czech Republic, May 2008	IITM Alumni Association
3	R.V.S. Prasad	MM06D001	5th International Conference on Solidification and Gravity	01-04/09/2008 Miskolc, Hungary	Indian Institute of Metals, CSIR and Project Contingency
4	R.C. Shivamurthy		TMS 2009, 138 th annual meeting and exhibition.	15 th -19 th Feb. 2009 San Francisco, USA	IIM, Institute, DST, CSIR
In India					
5	V.M.J. Sharma		5 th International Conference on Creep, Fatigue and Creep-Fatigue Interaction, IGCAR Kalpakkam	30/09/2008 IGCAR Kalpakkam	
6	Vani		5 th International Conference on Creep, Fatigue and Creep-Fatigue Interaction, IGCAR Kalpakkam	30/09/2008 IGCAR Kalpakkam	
7	R.C. Shivamurthy		IIW International Congress 2008	08-10 th January'08 Chennai	Institute
8	R.C. Shivamurthy		6 th International Conference on Industrial Tribology (ICIT-08),	6th to 8th of November (2008), New Delhi	PROJECT
9	R.C. Shivamurthy		3 rd International Symposium for Research Scholars (ISRS 2008),	10 th to 13 th of December IIT Madras, Chennai.	MME
10	D. Kesavan		6 th International Conference on Industrial Tribology (ICIT-08),	6th to 8th of November New Delhi	PROJECT
11	D. Kesavan		3 rd International Symposium for Research Scholars (ISRS 2008),	10 th to 13 th of December IIT Madras, Chennai.	DEPT
12	Sree Vardhan Lalam		IIW International Congress 2008	08-10th January'08 Chennai	DMRL
13	B. Arivazhagan,		International welding symposium	13-15 th February 2008, NewDelhi, India.	Institute
14	B. Ch. S. Ganesh		IIW International Congress 2008	08-10 th January'08 Chennai	Institute
15	Khalid Rafi H	MM08D002	NMD-ATM 2008	Nov. 14-16, Greater Noida, Delhi	Naval Research Board
16	Khalid Rafi H	MM08D002	ISRS 2008	Dec. 10-12, IIT Madras, Chennai	-

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	MM06D015	2009 Shri Ram Arora Award (\$1000 cash prize and upto \$1500 in travel support to attend the 2009 TMS Annual Meeting in San Francisco, California, USA.	The Minerals, Metals & Materials Society.
2	R. Sangeetha	MM07S014	Prize for the paper "Influence of substrate properties on the adhesion modelling of barnacles" by R. Sangeetha, N. V. Ravi Kumar, R. Venkatesan and Mukesh Doble.	Asian Bioceramics Conference 2008
3	Vani (IGCAR)		Second Prize in the Best Poster Competition	5 th International Conference on Creep, Fatigue and Creep-Fatigue Interaction, IGCAR Kalpakkam
4	K. Balachandar P. Gerald Tennyson Nagaraj Vinayagam Samyukta Sethuraman	MM05D007 MM07D012 MM05B018	Material Advantage Chapter of Excellence Award for 2007-08	ASM International; The American Ceramic Society; The Minerals, Metals & Materials Society; and Association for Iron & Steel Technology
5	G. Amirthan	MM05D004	Monbukagakusho Scholarship to carry out part of Ph.D work in Osaka-Prefecture University, Japan. (September 2008 to March 2010)	Japanese Ministry of Education, Culture, Sports and Science

Names of students/scholars who won Institute Convocation or Institute Day prizes:

Sl. No.	Name of the student/scholar	Roll No.	Name of the prize	Name of the donor
1.	Nikhil D Kamath	MM05B013	Institute Merit Prize	IITM
2.	Nagaraj Vinayagam G	MM06M008	Institute Merit Prize	IITM

4.14.3 FACULTY AND THEIR ACTIVITIES

Faculty

Sl. No. Name & qualification Major areas of specialisation (Only 3 areas)

Professors:

- | | | |
|---|---|--|
| 1 | Kesavan Nair, P. [Head]
Ph.D. (IIT Madras) | X-ray diffraction, residual stress analysis, electroless coatings, synthesis and characterization of carbon nanotubes |
| 2 | Achar, D.R.G.
Ph.D. (IIT Madras) | Metallurgical engineering and welding technology: materials behaviour subjected to welding; dissimilar materials welding; failure analysis of weldments; modelling, simulation and other computer applications in welding; structure-property correlations |
| 3 | 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 |

- | | | |
|----|--|---|
| 4 | 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 |
| 5 | 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. |
| 6 | 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 |
| 7 | Prasad Rao, K.
Ph.D. (IIT Madras) | Welding, Surface Engineering (corrosion) |
| 8 | 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 |
| 9 | 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 |
| 10 | 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 |
| 11 | 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 |

Associate Professors

- | | | |
|----|--|--|
| 12 | Balasubramanian, M.
Ph.D. (IIT Madras) | Sol-gel processing of Ceramics and Composites, Development of Polymer Composites |
| 13 | Bhattacharya, S.S.
Ph.D. (IIT Madras) | Superplasticity of Materials (Analytical and Experimental) Superplastic Forming, High Temperature Deformation Behaviour of Materials, Metal Forming, Advanced Materials Testing |
| 14 | Ganesh Sundara Raman, S.
Ph.D. (IIT Madras) | Fatigue, Fracture Mechanics, Fretting Fatigue, Short Cracks, Mechanical Behaviour of Materials |
| 15 | 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 |
| 16 | Kamaraj, M.
Ph.D. (IIT Madras) | Surface Engineering, Development of Wearsurfacing materials; Tribological behaviour of surface coatings, Mechanical behaviour of materials (Creep and Fretting Fatigue), Metal matrix composites |
| 17 | Sampath, V.
Ph.D. (IISc Bangalore) | Shape Memory Alloys and Smart Materials, Composite Materials, Powder Metallurgy, Sol-Gel Processing, Physical Metallurgy, Structure-Property Correlations |

- 18 Sampath Kumar, T.S.
Ph.D. (IISc Bangalore) Biomaterials, Microwave processing, Surface science, Intermetallics, High Tc superconductors, Analytical Instrumentation
- 19 Uday Chakkingal
Ph.D. (Rensselaer Polytechnic Institute) Metal forming and materials processing, Severe plastic deformation processes, Aluminium Alloys, Fatigue

Assistant Professors

- 20 Bauri, R.
Ph.D. (IISc Bangalore) Metal Matrix Composites, Aluminium Alloys, Solid Oxide Fuel Cells
- 21 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
- 22 Janaki Ram, G.D.*
Ph.D. (IIT Madras) Joining of materials, rapid manufacturing, aerospace materials
- 23 Phanikumar, G.
Ph.D. (IISc Bangalore) Experimental and Computational studies on laser welding, laser surface alloying, solidification using electromagnetic levitation and bridgmann techniques. Transport phenomena in manufacturing processes. Microstructural evolution
- 24 Prathap Haridoss
Ph.D. (U. Wisconsin – Madison) Production and characterization of Carbon nanotubes, Synthesis of CdS nanocrystals, CO tolerant PEM fuel cell catalysts
- 25 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
- 26 Ravi Sankar, K.
Ph.D. (IISc Bangalore) High Temperature Deformation, Superplasticity, Nanocrystalline Materials, Size Effects in Plastic Deformation
- 27 Sankaran, S.
Ph.D. (IIT Kanpur) Mechanical Behaviour of Materials, Electron Microscopy, Structure Property Correlations
- 28 Subramanya Sarma, V.
Ph.D. (IIT Madras) Materials processing, development, characterization and microstructure-mechanical properties correlations in engineering materials

AICTE-INAE Distinguished Visiting Professor

- 29 Baldev Raj
Ph.D. (IISc Bangalore) Non-destructive Testing, Materials Development and Performance Assessment, Technology Management
- 30 Late Rodriguez, P.
Ph.D. (IISc Bangalore)
Passed away 31/8/2008 Mechanical Metallurgy, Welding Metallurgy, Nuclear Materials and Fast Breeder Reactor Technology

* Joined during 2008-09; * Re-employed Professor in Sep. 2007.

Short term courses/workshops/seminar/symposia/conferences organised by the faculty members:

Sl. No	Coordinator(s)	Title	Period
Conferences			
1	B.S. Murty, R.I. Sujith (AE) & G. Phanikumar	Third National Conference on Frontiers in Engineering	24/10/2008 to 25/10/2008
Symposia			
	Dr.T.S.Sampath Kumar	Discussion Meeting on Biomaterials	12/9/2008

Workshops			
2	B.S. Murty, A.S. Gandhi & S. Sankaran	A one-day Workshop on Electron Microscopy for School Students	1/11/2008
3	Prof. Krishnan Balasubramaniam and Dr. M. Kamaraj	A two-day course on Metallography and Non-Destructive testing Methods at MRC Hall, IIT M	22 nd and 23 rd August 2008
4	Dr.M.Kamaraj and Mr. G. Jothinathan	A two-day course on Failure Analysis of Industrial components at Hotel Radha Regent, Chennai	18 th & 19 th Dec.2008
Short term courses			
5	B.S. Murty, S. Sankaran & V. Subramanya Sarma	Training Programme on Transmission Electron Microscopy	16/12/2008 to 18/12/2008 and 24/1/2009 to 26/1/2009
6	B.S. Murty	Short term course on Science and technology of heat treatment	19/9/2008 to 20/9/2008
7	D.R.G. Achar	IITM-BHEL One Year Certification Course in Welding Engineering	23/6/2007 to 23/6/2008
8	D.R.G. Achar	Two-weeks Course on Welding and Inspection (for ONGC)	18/8/2008 to 28/8/2008
9	S.K. Seshadri, S. Raghavan, K.C. Hari Kumar, S. Sankaran & N.V. Ravi Kumar (MME component)	Technology Appreciation Programme for Tube Investments of India (Murugappa Group)	2008-09
10	S. Sankaran	Continuing Education Programme for HAL	Jan-Dec, 2008
11	S. Sankaran	Continuing Education Programme for F.L. Smith	Jul-Dec. 2008

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. G. Phanikumar	IISc Centenary Conference	Indian Institute of Science Bangalore	13/12/2008
2	Dr. Ashutosh S. Gandhi	Third National Frontiers of Engineering Symposium of INAE	Indian National Academy of Engineering & IIT Madras	24/10/2008 to 25/10/2008
3	Dr. V. Subramanya Sarma	15 th International Conference on Textures of Materials from	Carnegie Mellon University, Pittsburgh, USA	1/6/2008 to 6/6/2008
4	Dr. S.S. Bhattacharya	International Conference on Advanced Nano Materials (ANM-2008)	University of Aveiro, Portugal	22/06/2008 to 25/06/2008
5	Prof. D.R.G. Achar	13 th International Conference on applied Mechanics and Mechanical Engineering	Military Technical College, Cairo, Egypt.	27/05/2008 to 29/05/2008
7	Dr. Uday Chakkingal	Nanomaterials by Severe Plastic Deformation	Germany	18/8/2008 to 23/8/2008
8	Dr. M.Kamaraj	11 th International conference on creep and fracture of Engineering Materials and structures.	Bayreuth (Bad Berneck) Germany	May 4-9, 2008,
9	Dr. M.Kamaraj	13 th International conference on applied mechanics and mechanical engineering	Cairo, Egypt	May 27-29, 2008,
10	Dr. M.Kamaraj	5 th International conference on Creep, Fatigue and Creep-Fatigue Interaction (CF-5)	IGCAR, Kalpakkam	24-26 th Sept 2008

11	Dr. M.Kamaraj	2 nd International conference on advanced Tribology 2008 (iCAT 2008)	Singapore	3-5, Dec.2008.
Symposia				
12	Dr. K.C. Hari Kumar	Two-day symposium on 'The role of modelling in accelerating materials development.	IGCAR Kalpakkam	17/04/2008 to 18/04/2008
13	Dr. K.C. Hari Kumar	SERC School on Chemical Thermodynamics	IGCAR Kalpakkam	18/08/2008 to 23/08/2008
Workshops				
12	Dr. N.V. Ravi Kumar	Workshop on Antifouling Paint Effects (WAPEF2008),	NIOT Chennai	15/9/2008
13	Dr. Kottada Ravi Sankar	GLEEBLE Workshop	Mumbai	29/9/2008 to 30/9/2008
14	Dr. K.C. Hari Kumar	Workshop on 'Structure and Thermodynamics of Materials',	GE India Technology Center, Bangalore	21/04/2008 to 22/04/2008
	Dr. K.C. Hari Kumar	Computational Materials Science	IISC Bangalore	6/3/2009 to 8/3/2009

Special lectures delivered by the faculty members in other institutions:

Sl. No.	Name of the faculty member	Topic of lecture	Institution	Date
1	Prof. D.R.G. Achar	Welding of newer materials and on modelling and simulation of welding process	Department of Mechanical Engineering, National Institute of Technology, Tiruchirapalli	9/1/2009
2	Prof. D.R.G. Achar	Current Advances in Welding Research	Department of Metallurgical Engineering, National Institute of Technology, Tiruchirapalli	10/1/2009
3	Dr. N.V. Ravi Kumar	High temperature mechanical properties of amorphous Si-B-C-N ceramics in controlled atmosphere	Shanghai International Convention Centre, Shanghai, China	12/11/2008
4	Dr. N.V. Ravi Kumar	Novel advanced ceramic materials from polymer precursors	Shanghai Institute of Ceramics, Shanghai, China	19/11/2008
5	Dr. N.V. Ravi Kumar	Bioadhesives from marine organisms	Indira Gandhi Centre for Atomic Research (IGCAR), Kalpakkam	25/11/2008
6	Prof. D.R.G. Achar	Mechanical Behaviour of Engineering Materials	A two-day Workshop on "Mechanical Behaviour of Engineering Materials" 13 th and 14 th , October '08 at New Delhi, Crown Plaza Hotel & 15 th and 16 th October '08 at Mumbai, Ramada Plaza Palm Grove Hotel	13/10/2008
7	Prof. D.R.G. Achar	Welding Methods, Arc Welding Processes, Welding in the Fabrication of Large Structures, Residual Stresses and Distortion	Continuing Education Programme for FL Smidth on Mechanical Design, Chennai, Continuing Education Center, ICSR Building, IIT Madras	6/9/2008
8	Dr. M. Kamaraj	Effect of coating on Mechanical Behaviour	Invited lecture in DMRL Hyderabad	17/9/2008
9	Dr. Uday Chakkingal	Strain path dependent flow behaviour and workability of commercial purity Al processed by equal channel angular pressing	University of Queensland, Brisbane, Australia	3/7/2008

10	Dr. K.C. Hari Kumar	Thermodynamic Modelling	SERC School on Chemical Thermodynamics, IGCAR Kalpakkam	23/8/2008
11	Dr. K.C. Hari Kumar	Extractive Metallurgy	Vellammal School, Mogappair	30/8/2008
12	Dr. K.C. Hari Kumar	Demonstration of Thermo-Calc Classic user interface: a power user's perspective	Thermo-Calc Classic Training Programme, Comfort Inn Marina Towers	8/8/2008
13	Dr. N.V. Ravi Kumar	Ultra-high temperature boron modified siliconcarbonitrides for applications till 2000 deg C and beyond.	Vikram Sarabhai Space Centre, Thiruvananthapuram	9/7/2008
14	Dr. M. Kamaraj	High temperature coatings for industrial applications	Invited lecture at All India Seminar on Advances in Surface engineering, Chennai	12/07/2008
15	Dr. Ashutosh S. Gandhi	Thermal barrier coating systems: Top coats and bond coats	Invited lecture at the One-day Symposium on Thermal Barrier Coatings, DRDO Golden Jubilee Celebration, DMRL Hyderabad	18/07/2008
16	Dr. Placid Rodriguez	The India –US Nuclear Deal, an Upfront Analysis	Kollam, Kerala	10/06/2008
17	Dr. G. Phanikumar	Microstructure evolution during solidification through non-equilibrium routes	IM2NP, Marseille, France	25/06/2008
18	Dr. V. Subramanya Sarma	Development of ultrafine grained and nanostructured Al alloys and Al-based in-situ composites.	North Carolina State University	10/06/2008
19	Dr. S.S. Bhattacharya	Synthesis and Processing of Nanocrystalline Ceramics and Ceramic Composites	Laboratoire des Solides de Chemie (CNRS), University di Picardie Jules Verne, Amiens, France	19/06/2008
20	Prof. D.R.G. Achar	An Overview of Thermal Surfacing Processes (Invited Lecture)	Workshop on Thermal Spray, PES Institute of Technology, Bangalore	2/05/2008
21	Prof. P. Venugopal	Metal Forming Overview – Defects – Remedial Measures (Invited Lecture)	Indian Society for Non Destructive Testing, Guindy, Chennai	6/05/2008
22	Dr. V. Subramanya Sarma	Development of high strength Al alloys	Department of Materials Testing and Joining at the Otto von Guericke University, Magdeburg, Germany	20/05/2008
23	Dr. Placid Rodriguez	Our Metallurgical Heritage And Its Relevance to Modern Times	Shri Chandrasekhaendra Saraswathi Viswa Mahavidyalaya, Kanchipuram	2/04/2008
24	Dr. K.C. Hari Kumar	CALPHAD: Brief Introduction and Some Applications	Two-day symposium on 'The role of modelling in accelerating materials development', IGCAR Kalpakkam	17/04/2008
25	Dr. K.C. Hari Kumar	CALPHAD: Brief Introduction and Some Applications	Workshop on 'Structure and Thermodynamics of Materials', GE India Technology Center, Bangalore	22/04/2008
26	Dr. S.S. Bhattacharya	Bulk Nanocrystalline Ceramics: Synthesis, Consolidation and Properties	Technology Appreciation Programme titled, 'Energy, Environment and Biological Applications of Nanomaterials' (IIT Madras)	17/3/2008
27	Dr. M. Balasubramanian	Advances in composite Materials	Thiagarajar College of Engineering, Madurai	28/7/2008
28	Dr. G. Phanikumar	Phase Field Methods	IISc Bangalore	07/03/2009

29	Dr. K.C. Hari Kumar	Computational Thermodynamics	IISc Bangalore	07/03/2009
30	Dr. G.D. Janaki Ram	Fatigue of welded structures	Invited lecture, Workshop on creep, fatigue, and fracture, Andhra University, Visakhapatnam	23.03.2009 and 24.03.2009
31	Dr. G.D. Janaki Ram	Welding metallurgy of aluminium and titanium alloys	Invited lecture, Workshop on metallurgical aspects related to welding (MARWEL-08), IGCAR, Kalpakkam	26.09.2008
32	Dr. G.D. Janaki Ram	Welding of non-ferrous metals	Invited lecture, IWE/IWT welding certificate program, Indian Institute of Welding, Chennai	08.11.2008
33	Dr. G. D. Janaki Ram	Welding metallurgy of Ni-base superalloys Weld solidification cracking Weld reheat cracking	Invited lectures as a part of L&T sponsored M.Tech. program in welding at M.S. University of Baroda.	29.03.2009 to 01.04.2009
34	Dr. V. Sampath	Smart Materials - Fundamentals and Applications	Karpagam Institute of Technology, Coimbatore.	10/10/2008
35	Dr. V. Sampath	Smart Materials: Synthesis, Properties and Applications	Indian School of Mines, Dhanbad	25/5/2008
36	Dr. S. Sankaran	1. Introduction to steels and cast iron 2. Thermomechanical processing of steels	ASM Chennai Chapter Course on Science and Technology of Heat Treatment	September, 2008
37	Dr. S. Sankaran	Stereology and its applications	DST-SERC SCHOOL ON TEXTURE AND MICROSTRUCTURE Department of Materials Engineering, IISc, Bangalore	March 24th – 28th 2008
38	Dr.T.S.Sampath Kumar	nanoBIOMATERIALS: THE FUTURE OF MEDICINE	Aarupadai Veedu Institute of Technology (AVIT), Old Mahabalipuram Road, Paiyanoor, Chennai.	03/12/2008
39	Dr. T.S.Sampath Kumar	NANOBIOMATERIALS	National Institute of Technical Teachers' Training and Research, Chennai	12/02/2009

Visits abroad by faculty:

Sl. No.	Name of the faculty member	Country visited	Date	Purpose of visit	Funding source
1	Prof. B.S. Murty	South Africa	1/2/2009 to 4/2/2009	Delivered a Key Note Lecture in the Nano Africa 2009 International Conference to be held at Pretoria, South Africa.	IBSA (DST) and PCF
2	Dr. N.V. Ravi Kumar	China	11/11/2008 to 19/11/2008	Attend an international conference	IIT Madras
3	Prof. B.S. Murty	Hungary	1/9/2008 to 5/9/2008	To attend The 5 th International Conference on Solidification and Gravity	Conference organisers
4	Dr. T.S. Sampath Kumar	UAE	13/10/2008 to 14/10/2008	To chair a session at the Annual Conference of International Medical Sciences Academy (IMSACON) 2008	

5	Dr. V. Subramanya Sarma	USA	1/06/2008 to 12/06/2008	1. 15 th International Conference on Textures of Materials from 2. Visit to Department of Materials Science and Engineering, North Carolina State University.	IIT Madras
6	Dr. Uday Chakkingal	Australia	12/06/2008 to 19/07/2008	Visiting Scholar at University of Queensland, Brisbane, Australia	
7	Dr. S.S. Bhattacharya	France	19/06/2008 to 22/06/2008	Visit to Laboratoire des Solides de Chemie (CNRS), University di Picardie Jules Verne, Amiens, France.	Sponsored Project
8	Dr. S.S. Bhattacharya	Portugal	22/06/2008 to 25/06/2008	International Conference on Advanced Nano Materials (ANM-2008), University of Aveiro, Portugal. Venue: Hotelaria Quinta de Lagoa, Mira in Portugal	Sponsored Project
9	Dr. S.S. Bhattacharya	Germany	26/06/2008 to 01/07/2008	1. Visit to the Gemeinschaftslabor Nanomaterialien, FB Materialwissenschaft, Technische Universitaet, Darmstadt for collaborative programmes. 2. Visit to the Institut für Nanotechnologie, Forschungszentrum Karlsruhe to discuss collaborative activities	Sponsored Project
10	Prof. D.R.G. Achar	Egypt	27/05/2008 to 29/05/2008	To participate in the 13 th International Conference on applied Mechanics and Mechanical Engineering, at the Military Technical College, Cairo	
11	Dr. V. Subramanya Sarma	Germany	12/05/2008 to 31/05/2008	Lebniz institute for Solid State and Materials Research (IFW), Dresden	DST-DAAD Indo-German project
12	Dr. M. Kamaraj	Germany	04/05/2008 to 15/05/2008	1. To attend International Conference on Creep and Fracture of Engineering Materials and Structures, Bayreuth. 2. Visit to Ruhr-University of Bochum, Bochum.	Ruhr-University of Bochum
13	Dr. M. Kamaraj	Egypt	26/05/2008 to 01/06/2008	Invited presentation and Member in Scientific committee in the 13 th International Conference on Applied Mechanics and Mechanical Engineering	ICSR-PCF
14	Dr.M.Kamaraj	Singapore	3-5, Dec.2008.	To attend 2 nd International conference on advanced Tribology 2008 (iCAT 2008)	IIT Madras
15	Dr. M.Kamaraj	Changwon National University (CNU), korea	8-9 January 2009	3 rd International Symposium on Advanced Mechatronics(ISAM)	Changwon National University

16	Dr. G. Phanikumar	France	27/05/2008 to 25/09/2008	Visit to IM2NP, Marseille	SAFRAN – French Embassy Special Prize 2007
17	Dr. Uday Chakkingal	Germany	18/8/2008 to 23/8/2008	Present paper at international conference: Nanomaterials by Severe Plastic Deformation	IIT Madras

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	Prof. B.S. Murty	Member, International Advisory Committee, Rapidly Quenched Metals (2008-2011)	International Conference on Rapidly Quenched & Metastable Materials (RQ)	-	2008
2	Prof. B.S. Murty	Chairman, Materials Panel, Naval Research Board	Naval Research Board	-	2008
3	Dr. S. Ganesh Sundara Raman	Invitation as a Guest Scientist under NIMS Invitation Program 2008	National Institute for Materials Science (NIMS), Japan	For conducting research in the area of <i>surface engineering</i> for a period of one year	2008
4	Dr. M. Kamaraj	Nominated in International Scientific committee member for CREEP 2008	International Scientific committee member for CREEP 2008		2008
5	Prof. P. Venugopal	Technical Director Position (Honorary)	M/S Heatech Engineers Ltd., Chennai		2007
6	Dr. T.S. Sampath Kumar	Nominated Senate Member, Visvesvaraya National Institute of Technology, Nagpur (VNIT), Nagpur	Chairman, VNIT, Nagpur	-	2008
Awards					
6	Prof. B.S. Murty	Platinum Jubilee Award of Indian Science Congress	Indian Science Congress	Contribution to research	2009
7	Dr. N. V. Ravi Kumar	Dr. R. L. Thakur Memorial Award for Young Scientists	Indian Ceramic Society	Materials Engineering	2009
8	Dr. S. Sankaran	Charles Hatchet Award for the best paper on the science and technology of niobium and its alloys published in any scientific journal	Institute of Materials, UK sponsored by Companhia Brasileira de Metalurgia E Mineracao (CBMM)	Appreciation of Post-doctoral research in USA (prior to joining IIT Madras)	

Books, monographs authored/co-authored:

Sl. No.	Name of the faculty member	Title	Publisher	Co-author(s)
Books				
1	Prof. S.K. Seshadri	<i>Corrosion Science and Technology: Mechanism, Mitigation and Monitoring</i> , U. Kamachi Mudali and Baldev Raj (Eds.), ['Electro- and electroless plated coatings for corrosion protection', Chapter 6]	Narosa Publishing House, New Delhi, 2008. (Also published by CRC Press in USA and Alpha Publishers in Europe)	T.S.N. Sankara Narayanan
	Dr. T.S. Sampath Kumar (Ed.)	<i>Archives of BioCeramics Research Volume 8</i> (Proceeding of the Asian BioCeramics 2008, Chennai)	Asian BioCeramics Symposium Committee	
Monographs				
2	Dr. Placid Rodriguez	'Technology Management', Chapter 'Management of Creativity and Innovation'	Department of Scientific and Industrial Research	Prof M. L. Bhatia (ed.)
3	Dr. Placid Rodriguez	REPORTS ON STATE OF ENGINEERING IN INDIA: Section II Computer Science and Engineering, Section VI Electronics and Communication Engineering, Section VII Aerospace Engineering		Prof J. Srinivasan (IISc Bangalore)
4	Prof. P. Venugopal	a. Mathematical Treatment of metal Forming Machines, b. Subjective Aspects of Metal Forming machines	E-Book Bentham Publishers (2008)	-
5	Prof. P. Venugopal	a. Metal Forming Processes, Description, Defects and remedies, b. Mathematical Treatment of Metal Forming Processes, c. Press Tools For Metal Forming (III Volumes), d. Experiments in Metal Forming	Wood House Publishers (2008-09)	-

Fellowships of academies and professional societies:

Sl. No.	Name of the faculty member	Year of admission
Others		
2	Prof. B.S. Murty, Fellow of Indian Academy of Sciences	2008
3	Prof. B.S. Murty, Fellow of National Academy of Sciences	2008

Journal editorial boards

Sl. No.	Name of the faculty member	Position (editor/member)	Journal name
1	Prof. D.R.G. Achar	Member	Journal of Ocean and Ship Technology
2	Dr. K.C. Hari Kumar	Associate Editor	CALPHAD Journal

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	Simoloyer	38.0
2	Dilatometer	25.0
3	Microwave Sintering Furnace	3.0
4	EDAX and CCD Camera for TEM	80.0
5	Plasma Cleaner for TEM samples	20.0
6	FactSage@ 6.0 Software & Database for thermodynamic calculations	6.2
7	Microhardness tester	10.0
8	Olympus optical microscope IX71	15.0
9	Stereo microscope with zoom	1.5

Patents:

Patents filed:

Sl. No.	Name of the faculty member	Topic of patent
1	Prof. B.S. Murty, Dr. S. Kumar and Dr. V. Subramanya Sama	Functionally Graded Aluminum Alloy based in-situ Metal Matrix Composites (Indian Patent Application No. 115/CHE/2009)
2	Prof. B.S. Murty, Dr. A.B.S. Sastry	A Herbal Route for the Synthesis of Pure Nano Copper Powder (Indian Patent Application No. 264 CHE 2009)
3	Dr. S.S. Bhattacharya	NEO Titan: Nanopowders by Electrolytic Oxidation of Titanium to Titania. Patent Application No. 6/CHE/2009
4	Dr. S.S. Bhattacharya	NEO Zirconia: Nanopowders by Electrolytic Oxidation of Zirconium to Zirconia. Patent Application No. 5/CHE/2009
5	Dr. S.S. Bhattacharya	NEO Alumina: Nanopowders by Electrolytic Oxidation of Aluminium to Alumina. Patent Application No. 4/CHE/2009

Patents awarded:

Sl. No.	Name of the faculty member	Topic of patent
1	Prof. B.S. Murty (jointly with Prof. J. Banhart, Dr. N. Bobcsan, Dr. G.S. Vinod Kumar)	Method for the production of Metal foams (International patent WO 2008/003290 A2 (2008))

4.14.5 RESEARCH AND CONSULTANCY

Sponsored research projects (on-going and new):

Sl. No.	Title	Period		Funding agency	Amount (Rs. In Lakhs)	Co-Ordinators
		Start	End			
New Projects						
1	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 & Gnanamoorthy (ME)

2	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	33.52	Ashutosh S. Gandhi, M. Kamaraj & D. Srinivasa Rao (ARCI Hyderabad)
3	Understanding the adhesion mechanisms, quantification of adhesion strength and characterization of the adhesive of barnacles	09-05-2008	08-05-2010	Naval Research Board	41.20	N.V. Ravi Kumar, Mukesh Doble (Biotech)
4	Large scale production W based nanocomposites by mechanical alloying	13-05-2008	30-04-2010	Defence Metallurgical Research Laboratory	91.60	B.S. Murty.
5	Development and characterization of nano-electrode materials for novel complex hydride fuel cell	25-06-2008	24-06-2010	Department of Science & Technology	13.50	Balasubramanian M, N. Mani (Young Scientist)
6	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
7	Development of bulk nanocrystalline materials: nanoparticle synthesis and consolidation	06-08-2008	05-08-2011	Department of Science & Technology	215.42	B.S. Murty, S.S. Bhattacharya, V. Subramanya Sarma & Ashutosh S. Gandhi
8	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, Jörg Schneider (TU Darmstadt)
9	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	20.56	Ravi Kumar, Packirisamy (VSSC)
10	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	12.29	Prasanna Kumar T S
11	Mechanically activated leaching of chromite concentrates	29-01-2009	28-01-2012	Council of Scientific and Industrial Research	29.36	B.S. Murty, S. Srikanth (NML Chennai)

12	Semisolid processing of Al-TiB ₂ and Al-TiC in-situ composite foams	29-01-2009	28-01-2011	Naval Research Board	31.46	Sankaran S
13	Friction stir spot welding of aluminum alloy 2014	05-03-2009	04-03-2011	Indian Space Research Organisation	14.97	G.D. Janaki Ram, D.R.G. Achar & K. Prasad Rao
14	Ultra fine grain refinement of metals for implant applications			Defence Research and Development Organisation	14.96	T.S. Sampath Kumar
15	A rapid manufacturing approach to facilitate joining of stainless steel to titanium pipes	April 2009	March 2012	UGC-DAE and IGCAR	18.79	G.D. Janaki Ram Amol Gokhale (DMRL) Shaju K. Albert (IGCAR) H.C. Dey (IGCAR)
				Sub-total:	603.63	
On-Going Projects						
	Improvement of Notch Creep-Rupture Life of 718 Superalloy	20-03-2006	31-05-2009	Aeronautics Research & Development Board	15.5	B.S. Murty, K. Prasad Rao
	Development of High Strength Ultra Fine Grained Alloys through Cryorolling	20-02-2006	31-07-2009	Department of Science & Technology	28.15	V. Subramanya Sarma & B.S. Murty
	Integrated modelling of high temperature phase and micro-structural stability, and phase transformation kinetics of advanced high chromium ferritic steels with special emphasis on 9Cr-1Mo based derivatives	06-03-2008	05-03-2011	Indira Gandhi Centre for Atomic Research	25.60	K.C. Harikumar, Ashutosh S. Gandhi & Raju (IGCAR, Kalpakkam)
	Development and Characterization of Super-Elastic Ni-Ti Shape Memory Alloys for Biomedical and Dental Applications	27-03-2006	26-03-2009	Department of Science & Technology	27.12	Sampath V, Paramanand Singh
	Development of lead free nano ferroelectric and dielectric materials by mechanically activated synthesis	06-06-2006	05-06-2009	Department of Science & Technology	71.98	B.S. Murty & V.R.K. Murthy (Physics)
	Development and performance of boron carbide based coatings on 304L stainless steel	10-08-2006	31-03-2009	Indira Gandhi Centre for Atomic Research	10.20	M. Kamaraj
	Studies on micro-structure and creep properties of Fe-based nano-structured oxide dispersion strengthened (ODS) alloys	01-06-2007	31-05-2009	Department of Science & Technology (Indo-German project)	37.90	B.S. Murty & Martin Heilmeier (Otto-von-Guericke University Magdeburg, Germany)

	Microscopy & Microanalysis of Modern Materials	31-08-2004	30-08-2009	Department of Science & Technology	150.00	HoD-MME
	Synthesis of biocompatible ferro fluids and investigation of their stability in Biological media	14-08-2006	13-08-2009	Department of Science & Technology	19.26	Dr. Radhika Devi (Woman Scientist, Physics) & B.S. Murty
	Investigation of Microstructure and Mechanical Properties of Beta Titanium Alloy (15-3) Weldments	09-12-2005	06-11-2009	Indian Space Research Organisation	9.90	Dr Gandham Phani Kumar
	National Electromagnetic Levitation Facility at IIT (M), Chennai	04-12-2006	11-04-2009	Indian Space Research Organisation(Respond)	53.81	Dr Gandham Phani Kumar
	Development of Ultrafine Grained High Strength A1 Alloys	22-05-2006	30-06-2009	Naval Research Board	23.88	V. Subramanya Sarma, B.S. Murty
	Studies on friction surfaced coatings for wear and corrosion resistance	18-12-2006	31-12-2009	Naval Research Board	37.51	K. Prasad Rao
	Semisolid processing of Al-TiB ₂ and Al-TiC in-situ composite foams	29-01-2009	28-01-2011	Naval Research Board	31.46	S. Sankaran, B.S. Murty
	Porous Injectable Ceramic Bone Cements	17-11-2005	30-06-2009	Department of Science & Technology	23.95	Sampath Kumar T S
	Development of a severe plastic deformation process for producing ultra fine grained high strength aluminium alloys	15-02-2007	31-08-2009	Naval Research Board	12.24	Uday Chakkingal
	Electrospinning of ceramic nanofibers for biomedical applications	09-01-2008	08-01-2011	Council of Scientific and Industrial Research	8.46	Sampath Kumar T S
	TEM support facility	17-3-2008	16-3-2009	TATA Steel	100.00	B.S. Murty, S. Sankaran
				Total:	1314.11	

Industrial consultancy projects (on-going and new):

Sl. No.	Name of the faculty member	Title	Industry	Amount (Rs. In lakhs)
1	Prof. P. Kesavan Nair	Residual stress analysis on 9103 529A samples 3 nos (9 points)	Meenatchi Enterprises, Vadapalani, Chennai	0.50562
2	Prof. P. Kesavan Nair	Residual stress analysis on DFP3 drive shaft	Meenatchi Enterprises, Vadapalani, Chennai	0.5618
3	Prof. P. Kesavan Nair	Residual stress analysis	TPI India Ltd., Chennai.	0.5618

4	Prof. P. Kesavan Nair	Phase analysis on nitrated samples	Sundaram Fasteners Ltd., Chennai	0.22472
5	Prof. P. Kesavan Nair	Residual stress analysis	Madras Engineering Industries, Ambattur	0.44944
6	Prof. P. Kesavan Nair	X-ray Qualitative analysis	Malladri Drugs & Pharmaceuticals Ltd., Chennai	0.22472
	Dr. M. Kamaraj	Metallurgical characterization & dry erosion tests	BHEL, Trichy	1.51530
	Dr. M. Kamaraj	Mechanical, Torque and salt spray tests on stainless handcut	ML Auto Enterprises, Chennai	0.245
	Dr. S. Ganesh Sundara Raman	Fatigue testing of conrod samples	MM Forgings Ltd., Chennai	0.22472
	Dr. M. Kamaraj	Creep testing of pipe samples	Quality Network P.Ltd., Besant Nagar, Chennai	1.46250
	Dr. M. Kamaraj	Rotary bending fatigue testing	Wheels India Ltd., Chennai	0.49438
	Prof. B. Guha	High strain tensile test	Mahindra & Mahindra, Nashik	1.01124
	Prof. P. Kesavan Nair	Residual stress analysis	Madras Engineering Industries, Ambattur	0.33708
	Prof. S. D. Pathak	Fatigue behaviour of two grades of steel	Dr.P.Shanmugam, AGM, Corp. R&D, TICO-TPI, Avadi	0.450923
	Dr. V. Subramanya Sarma	SEM analysis	Sundaram Clayton Ltd., Padi	0.22472
	Prof. P. Kesavan Nair	Residual stress analysis	L&T Demag Machinery Ltd., Chembarapakkam	0.33708
	Dr. M. Kamaraj	Chemical analysis & salt spray test	The Asst. Ex.Engineer, Corpn. Of Chennai	0.35955
	Dr. M. Kamaraj	Rotary bending fatigue testing	Wheels India Ltd., Chennai	0.49438
	Dr. M. Kamaraj	Metallurgical examination of supplied samples	Faiveley Transport Ltd., Hosur	0.37356
	Dr. V. Subramanya Sarma	Chemical composition of steel	Asst. Commissioner of Customs, Mumbai	0.83034
	Dr. V. Subramanya Sarma	SEM analysis	Saint Gobain Glass India Ltd., Chennai	1.12360
	Dr. M. Kamaraj	Fatigue testing of crank shafts	Wabco-TVS India Ltd., Chennai	3.59022
	Prof. P. Kesavan Nair	Measuring retained austenite for DFP-1 Hydraulic Head & Cam drive shaft samples	DELPHI_TV5 Diesel System Ltd., Sriperumbudur	2.5
	Prof. P. Kesavan Nair	Residual stress analysis on 16 tubes (96 points)	Tube Investment of India Ltd., Avadi	4.85395
	Prof. P. Kesavan Nair	Residual stress analysis on 16 tubes (96 points)	Tube Investment of India Ltd., Avadi	4.85395
	Prof. P. Kesavan Nair	Residual stress analysis	Madras Engineering Industries, Ambattur	0.25090
	Prof. P. Kesavan Nair	Residual stress analysis	Madras Engineering Industries, Ambattur	0.25090
	Prof. P. Kesavan Nair	Retained austenite & residual stress analysis	Sri Meenatchi Enterprises, Vadapalani, Chennai	0.22472
	Dr. V. Subramanya Sarma	SEM EDX work of A1-alloys weld samples	A.U. College of Engg., Visakapatnam	0.2809
	Prof. P. Kesavan Nair	Residual stress analysis	TIMKEN INDIA MAFF. P.Ltd., Chengalpattu	0.33708

	Prof. P. Kesavan Nair	Residual stress analysis	L&T Demag Machinery Ltd., Chembarapakkam	0.22472
	Prof. P. Kesavan Nair	Residual stress analysis	Madras Engg. Industries, MM Nagar	0.33708
	K.C. Hari Kumar	Advice on thermodynamic modelling	Tata Steel, Jamshedpur	1.75
	Dr. Uday Chakkingal	Evaluation of Warm ECAP behaviour of an Al alloy	Sundaram Fasteners Ltd.	0.225
	Harikumar K C	GE India Technology Centre Pvt Ltd.,	Establishing a procedure for validating & optimizing thermodynamic database for common engineering materials	75000
	Murty B S	Common Code	TEM analysis	100000
	Murty B S	Ashok Leyland	Improvement in the strength of Al-Si alloys by grain refinement and modification	300000
	Murty B S	Common Code	TEM analysis	100000
	Murty B S	MONASH University	TEM analysis of six powder samples	20225
	Kamaraj M	Bharat Heavy Electricals Ltd., - Trichy	Metallurgical characterization and dry-erosion tests on thermal spray coatings (4 samples)	60612
	Kamaraj M	Bharat Heavy Electricals Ltd., - Trichy	Metallurgical characterization and dry-erosion tests on thermal spray coatings (6 Nos.)	90918
	Kamaraj M	WABCO TVS (India) Ltd.,	Fatigue testing of crank shaft	190080
	Kamaraj M	WABCO TVS (India) Ltd.,	Fatigue testing of crank shafts	168942
	Kesavan Nair P	Common Code	X – ray analysis	100000
	Kesavan Nair P	Common Code	Common Code	100000
	Kesavan Nair P	Common Code	Common Code	100000
	Kesavan Nair P	Tube Investments of India Ltd.,	Residual stress analysis on 16 tubes-96 points	499392
	Ganesh Sundararaman S	M M Forgings Limited	Fatigue testing of conrod samples	22472
	Subramanya Sarma V	Department of Ocean Engineering	Electron microprobe analysis	22472
	Subramanya Sarma V	Common Code	SEM Analysis	100000
	Subramanya Sarma V	Aditya Birla Science and Technology	Aditya Birla Science and Technology	67416
	Achar D R G	Jamna Auto Industries Ltd.	Micro vicker hardness testing material 52CrMoV4 Village	8000
	Achar D R G	Tube Products of India	Tube Products of India	539328
	Uday Chakkingal	Sundram Fasteners Limited	Determination of ECA Extrusion behaviour steel/aluminium coaxial	25281

RBIC projects (on-going and new):

Sl. No.	Name of the faculty member	Title	Industry	Amount (Rs. In lakhs)
	G. Phanikumar, K.C. Hari Kumar and B.S. Murty	Eutectic solidification in aluminium alloys and the effect of grain refiners, modifiers and other alloy addition	GM Bangalore	19.18
	Prasanna Kumar T S	Burden distribution model for the bell top blast furnaces	Hospet Steels Limited	2.24720
	Prasanna Kumar T S	Computer aided design of composites	Jan Vestal IT Solutions	4.80000
	Pathak S D	Fatigue behaviour of two grades of steel	AGM Corporation	4.50923
	Kesavan Nair P	Retained auesenite & residual stress analysis on machined samples	SAAB ENGINEERING	0.27575
	Prasanna Kumar T S	Development of mathematical models for burden distribution in blast furnace 6 & 7 of Bhilai Steel Plant	National Metallurgical Laboratory	12.96000
	Murty B S, Sankaran S.	Development of alternate materials for electrostatic precipitator emitting electrodes	Bharat Heavy Electricals Ltd., Ranipet	8.00000
	Murty B S & Ashutosh S. Gandhi	Development of protective coatings on refractories based on nano materials	Visakhapatnam Steel Plant	61.93283

Retainer consultancy (on-going and new):

Sl. No.	Name of the faculty member	Title	Industry	Amount (Rs. In lakhs)
	Prof. D.R.G. Achar	Welding related issues in the manufacture of stainless railway coaches	Tube Investments India Ltd. Chennai	3.15

Research publications of the faculty members and research scholars:

Total number of papers published in refereed national journals	...	1
Total number of papers published in refereed international journals	...	99
Total number of papers presented in national conferences	...	4
Total number of papers presented in international conferences	...	37

Details:

Refereed national journals:

1. 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.

Refereed international journals:

1. **P. Chakravarthy, Uday Chakkingal and P. Venugopal**, Deformation and Temperature Aided Sintering During Hooker Extrusion of Sintered PM Preforms of Steel, *Powder Metallurgy*, Paper No: POM1516R1 Accepted for publication, 2009.
2. **V.M.J. Sharma, K. Sree Kumar, B. Nageswara Rao, S.D. Pathak**, Effect of microstructure and strength on the fracture behavior of AA2219 alloy, *Materials Science and Engineering A*, **502** 45–53, 2009.
3. **P. Navaneethkrishnan, S. Ganesh Sundara Raman , S.D. Pathak , R. Gnanamoorthy , N. Ravi**, Fretting wear studies on diamond-like carbon coated Ti–6Al–4V, *Surface & Coatings Technology*, **203**, 1205–1212, 2009.
4. **B.G. Chirranjeevi, T.A. Abinandanan, M.P. Gururajan**, A phase field study of morphological instabilities in multilayer thin films, *Acta Materialia*, **57**, 1060-1067, 2009.
5. **S. Kumar, V. Subramanya Sarma, B.S. Murty**, Effect of Temperature on the Wear Behavior of Al-7Si-TiB₂ in-situ Composites, *Metallurgical and Materials Transactions A*, **40A**, 223-231, 2008.
6. **S. Engel, R. Huehne, K. Knoth, A. Chopra, N. Harish Kumar, V. Subramanya Sarma, P.N. Santhosh, L. Schultz, B. Holzapfel**, Optimization of single La₂Zr₂O₇ buffer layers for YBCO coated conductors prepared by chemical solution deposition, *Journal of crystal growth*, **310**, 4295-4300, 2008.
7. **Sumantra Mandal, P.V. Sivaprasad, Baldev Raj and V. Subramanya Sarma**, Grain Boundary Microstructural Control through Thermomechanical Processing in a Titanium-Modified Austenitic Stainless Steel, *Metallurgical and Materials Transactions A*, **39**, 3298-3307, 2008.
8. **Jatin Bhatt and B.S. Murty**, On the conditions for the synthesis of bulk metallic glasses by mechanical alloying, *J. Alloys Comp.*, **459**, 135-141, 2008.
9. **K.R. Ravi, M. Saravanan, R.M. Pillai, A. Mandal, B.S. Murty, M. Chakraborty and B.C. Pai**, Equal channel angular pressing of Al-5wt % TiB₂ in-situ composite, *J. Alloys Comp.*, **459**, 239-243, 2008.
10. **K. Surekha, B.S. Murty and K. Prasad Rao**, Microstructural characterization and corrosion behavior of multipass friction stir processed AA2219 aluminium alloy, *Surf. Coating Tech.*, **202**, 4057-4068, 2008.
11. **S. Varalakshmi, M. Kamaraj and B.S. Murty**, Synthesis and characterization of nanocrystalline AlFeTiCrZnCu high entropy solid solution by mechanical alloying, *J. Alloys Comp.* **460**, 253–257, 2008.
12. **K. Mondal, U.K. Chatterjee and B.S. Murty**, Oxidation behavior of amorphous and nanoquasicrystalline Zr-Pd and Zr-Pt alloys, *J. Alloys Comp.*, **460**, 172-181, 2008.
13. **Jatin Bhatt, G.K. Dey and B.S. Murty**, Thermodynamic and topological modeling and synthesis of Cu-Zr-Ti-Ni based bulk metallic glasses by mechanical alloying, *Metall. Mater. Trans.*, **39**, 1543-1551, 2008.
14. **T. Sanmugasundaram, V. Subramanya Sarma, B.S. Murty and M. Heilmaier**, High strength bulk nanostructured 2219 Al alloy produced by high energy ball milling and hot pressing, *Mater. Sci. Forum*, **584-586**, 97-101, 2008.
15. **T. Prakash, K. Padma Prasad, S. Ramasamy and B.S. Murty**, Electrical and optical properties of nanocrystalline p-type transparent CuAlO₂ semiconductor, *J. Nanosci. Nanotech.*, **8**, 1-6, 2008.
16. **A. Mandal, M. Chakraborty and B.S. Murty**, Ageing behaviour of A356 alloy reinforced with in-situ formed TiB₂ particles *Mater. Sci. Eng. A*, **489**, 220-226, 2008.
17. **A. Chattopadhyay, V. Subramanya Sarma, B.S. Murty, A. Haldar and D. Bhattacharjee**, Studies on hot rolled galvanized steel sheets: alloying elements segregation at surface, *Scripta Mater.*, **59**, 522-525, 2008.
18. **G. Sreenivasulu, R. Gopalan, V. Chandrasekaran, G. Markandeyulu, K.G. Suresh and B.S. Murty**, Spark plasma sintered Sm₂Co₁₇ – FeCo nanocomposite permanent magnets synthesized by high energy ball milling, *Nanotech.* **19**, 335701(1-7), 2008.
19. **P.K. Ray, K. Chattopadhyay and B.S. Murty**, Influence of Thermodynamics and local geometry on glass formation in Zr based alloys, *Appl. Phys. Lett.*, **93**, 061903(1-3), 2008.
20. **S.S. Nayak, S.K. Pabi and B.S. Murty**, Structure of nanocomposites of Al-Fe alloys prepared by mechanical alloying and rapid solidification processing, *Bull. Mater. Sci.*, **31**, 449-454, 2008.
21. **N. Das, U.D. Kulkarni, S.K. Pabi, B.S. Murty, G.K. Dey**, Development of a Thermodynamic Criterion to Predict the Alloy Compositions for Amorphous and Nanocrystalline Phase Formation during Mechanical Alloying, *Defect Diffusion Forum*, **279**, 147-151, 2008.
22. **N.C. Abhik, R. Vivek, V. Udhayabanu and B.S. Murty**, Influence of Heat of Formation of B2/L1₂ Intermetallic Compounds on the Milling Energy for their Formation during mechanical alloying, *J. Alloys Comp.*, **465**, 106-112, 2008.
23. **Joysurya Basu, B.S. Murty and S. Ranganathan**, Glass forming ability: Miedema approach to (Zr,Ti,Hf)-(Cu,Ni) binary and ternary alloys, *J. Alloys Comp.*, **465**, 163-172, 2008.
24. **S. Dev, B.S. Murty and K. Prasad Rao**, Effects of base and filler chemistry and weld techniques on

- equiaxed zone formation in Al-Zn-Mg alloy welds, *Sci. Tech. Welding and Joining*, **13**, 598-606, 2008.
25. **B. Praveenkumar, H.H. Kumar, D.K. Kharat and B.S. Murty**, Investigation and characterization of La doped PZT nanoceramic prepared by mechanical activation route, *Mater. Chem. Phys.*, **112**, 31-34, 2008.
 26. **A. Takeguchi, S. Ranganathan, B.S. Murty and A. Inoue**, Analysis of composition dependence of formation of ternary bulk metallic glasses from crystallographic data on ternary compounds, *Rev. Adv. Mater. Sci.*, **18**, 56-60, 2008.
 27. **S.K.S. Parashar, R.N.P. Choudhary and B.S. Murty**, Nanoscale structure-property relations in Sm Modified PZT, *J. Nanosci. Nanotech.* **9**, 3106-3111, 2009.
 28. **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**, 2029-2039, 2009.
 29. **A. Mandal, B.S. Murty and M. Chakraborty**, Sliding wear behaviour of T6 treated A356-TiB₂ in-situ composites, *Wear*, **266**, 865-872, 2009.
 30. **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**, 112-120, 2009.
 31. **G. Sreenivasulu, V. Hari Babu, G. Markandeyulu and B.S. Murty**, Magnetoelectric effect of (100-x)BaTiO₃(x)NiFe_{1.98}O₄ (x = 20-80 wt.%) particulate nanocomposites, *Appl. Phys. Lett.*, **94**, 112902(1-3), 2009.
 32. **R. Elansezhian, B. Ramamurthy, P. Kesavan Nair**, The Influence of SDS and CTAB surfactants on the surface morphology and surface topography of electroless Ni-P deposits, *Journal of Materials Processing Technology*, **1**, 233-240, 2009.
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 35. **Ganesh Sundara Raman, S. and Rajasekaran, B.**, Relative Performance of Alumina Coatings Prepared by Micro Arc Oxidation and Detonation Gun Spray on AA 6063 under Plain Fatigue and Fretting Fatigue Loading, *Trans IIM*, **61**, 465-471, 2008.
 36. **Sivaprasad, K. and Ganesh Sundara Raman, S.**, Influence of Weld Cooling Rate on Microstructure and Mechanical Properties of Alloy 718 Weldments, *Metall. Mater. Trans. A*, **39**, 2115-2127, 2008.
 37. **Sivaprasad, K., Ganesh Sundara Raman, S. and Sambasiva Rao, A.**, A Novel Method of Estimating the Laves Phase in Electron Beam Welded Alloy 718, *Prakt. Metallogr.*, **45**, 271-282, 2008.
 38. **Rajasekaran, B. and Ganesh Sundara Raman, S.**, Plain Fatigue and Fretting Fatigue Behaviour of Plasma Nitrided Ti-6Al-4V, *Mater Letters*, **62**, 2473-2475, 2008.
 39. **Rajasekaran, B., Ganesh Sundara Raman, S., Joshi, S. V. and Sundararajan, G.**, Effect of Microarc Oxidised Layer Thickness on Plain Fatigue and Fretting Fatigue Behaviour of Al-Mg-Si Alloy, *Int J Fatigue*, **30**, 1259-1266, 2008.
 40. **Rajasekaran, B., Ganesh Sundara Raman, S., Joshi, S. V. and Sundararajan, G.**, Performance of Plasma Sprayed and Detonation Gun Sprayed Cu-Ni-In Coatings on Ti-6Al-4V under Plain Fatigue and Fretting Fatigue Loading, *Mater Sci Eng A*, **479**, 83-92, 2008.
 41. **Rajasekaran, B., Ganesh Sundara Raman, S., Joshi, S. V. and Sundararajan, G.**, Influence of Detonation Gun Sprayed Alumina Coating on AA 6063 Samples under Cyclic Loading with and without Fretting, *Tribology Int.*, **41**, 315-322, 2008.
 42. **Rajasekaran, B., Ganesh Sundara Raman, S., Rama Krishna, L., Joshi, S. V. and Sundararajan, G.**, Influence of Microarc Oxidation and Hard Anodizing on Plain Fatigue and Fretting Fatigue Behaviour of Al-Mg-Si Alloy, *Surf Coat Tech.*, **202**, 1462-1469, 2008.
 43. **P. C. Seshagiri, B. S. Nair, G. M. Reddy, K. S. Rao, S. S. Bhattacharya and K. P. Rao**, Improvement of mechanical properties of aluminium-copper alloy (AA2219) GTA welds by Sc addition, *Science and Technology of Welding and Joining*, **13**, 146 – 158, 2008.
 44. **P. C. Seshagiri, G. Madhusudan Reddy, K. Srinivasa Rao, M. Govinda Raju, S. S. Bhattacharya and K. Prasad Rao**, Microstructure and mechanical properties of Sc modified Al-Cu alloy (AA2219) electron beam welds, *Science and Technology of Welding and Joining*, **13**, 415 – 421, 2008.
 45. **Preetham Kumar and Uday Chakkingal**, Workability limits of commercial purity titanium processed by equal channel angular pressing, *Materials Science Forum*, **584-586**, 275-280, 2008.

46. **A. Sivaraman and Uday Chakkingal**, Investigations on the workability of Al subjected to equal channel angular pressing, *J. Mater. Proc. Tech.*, **202**, 1-3, 395 – 402, 2008.
47. **Ranjit Bauri and M.K. Surappa**, Sliding wear behavior of Al–Li–SiCp composites, *Wear*, **265**, 1756-66, 2008.
48. **Ranjit Bauri and M.K. Surappa**, Processing and compressive strength of Al–Li–SiCp composites fabricated by a compound billet technique, *J. Mater. Proc. Tech.*, **209**, 2077-84, 2009.
49. **Ranjit Bauri and M.K. Surappa**, "Interfacial and Matrix Modulus Studies by Dynamic Ultra Micro Hardness (DUH) indentation in Al-Li-SiCp Composites, *Int. J. Mech. Eng. Mater. Sci. (IJMEMS)*, **1**, 1-8, 2008.
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51. **R. C. Shivamurthy, M. Kamaraj, R. Nagarajan, S. M. Shariff, G. Padmanabham**, Effect Of Scanning Speed And Nozzle Stand-off Distance On Laser Surface Alloyed Martensitic Steel, *Trans. Indian Inst. Met.*, **61**, 1, 2008.
52. **V. Subramanya Sarma, K. Sivaprasad, D. Sturm, M. Heilmaier**, Microstructure and mechanical properties of ultra fine grained Cu–Zn and Cu–Al alloys produced by cryo-rolling and annealing, *Mater. Sci. Eng. A*, **489**, 253-258, 2008.
53. **K. Srinivasan and P. Venugopal**, Compression Testing of Ti-6Al-4V in the Temperature Range of 303-873K, *Materials and Manufacturing Processes*, **23**, 342-346, 2008.
54. **K. Srinivasan and P. Venugopal**, Formability Limit in Containerless (Open Die) Extrusion of Commercial Purity Titanium Rods and Tubes, *Materials and Manufacturing Processes*, **23**, 347-351, 2008.
55. **M. Palaniappa and S.K. Seshadri**, Friction and wear behaviour of electroless Ni-P and Ni-P-W alloy coatings, *Wear*, **5-6**, 735-740, 2008.
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57. **Md. Imteyaz Ahmad, S.S. Bhattacharya, Claudia Fasel and Horst Hahn**, Effect of Gas Flow Rates on the Anatase-Rutile Transformation Temperature of Nanocrystalline TiO₂ Synthesised by Chemical Vapour, *Journal of Nanoscience and Nanotechnology*, accepted, 2009.
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59. **G. Ramu and Ranjit Bauri**, Effect of equal channel angular pressing (ECAP) on microstructure and properties of Al-SiCp composites, *Materials & Design*, in press, 2009.
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63. **A. Udayakumar, R. Bhuvana, S. Kalyanasundaram, J. Subramanyam, M. Balasubramanian and T.S. Kannan**, Vapour phase preparation and characterisation of SiC(f)-SiC and C(f)-SiC ceramic matrix composites, *Key Engineering Materials*, **395**, 209-232, 2009.
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65. **B. Bhav Singh and M. Balasubramanian**, Processing and properties of copper coated carbon fibre reinforced aluminium alloy composites, *Journal of Materials Processing Technology*, **209**, 2104-2110, 2009.
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2. **A. Thirugnanam, T. S. Sampath Kumar and Uday Chakkingal**, In-vitro bioactivity of nanocrystalline titanium processed through ball milling, *Annual Technical Meeting of IIM*, New Delhi, 14-16 November 2008 (Presentation only).
3. **H. Khalid Rafi, G.D. Janaki Ram, G. Phanikumar, and K. Prasad Rao**, Optimization of friction welding parameters for high strength AA 7075 aluminum alloy, *Annual Technical Meeting of IIM*, New Delhi, 14-16 November 2008 (Presentation only).
4. **U.S. Mallik and V. Sampath**, Influence of Minor Additions of Zr on Grain Refinement and Shape Memory Characteristics of Cu-Al-Mn Shape Memory Alloys, *Annual Technical Meeting of IIM*, New Delhi, 14-16 November 2008 (Presentation only).

Proceedings of international conferences:

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3. **Achar, D.R.G.**, "Current Advances in Welding Technology", The 13th International Conference on Applied Mechanics and Mechanical Engineering, Cairo, Egypt (2008), (Presentation only)
4. **Kulvir Singh and M., Kamaraj**, Creep ductility of 1Cr1Mo1/4V low alloy forging and casting steels (invited presentation), 11th International conference on Creep and fracture of Engineering Materials and structures, Conference proceedings, Bayreuth, Germany, 2008, CP 110 (Presentation only).
5. **B. Arivazhagan, S. Sundaresan, M. Kamaraj and S.K. Albert**, Toughness studies of FCA and GTA welds of modified 9Cr-1Mo(P91) steel, International welding symposium, Advances in Materials and Joining - Challenges and opportunities, (2008) (Presentation only).
6. **D. Kesavan and M. Kamaraj**, Effect of test temperature on dry sliding wear behaviour of Ni based hardfacing alloy 3rd International Symposium on Advanced Mechatronics engineering January 6-8, 2009 Changwon National University, Korea (Invited) (Presentation only).
7. **Satendra Kumar, T.S.N. Sankara Narayanan, Ganesh Sundara Raman and S.K. Seshadri**, Fretting corrosion behaviour of Cp Ti and the implications of using titanium as an implant material. Second International Symposium on tribo corrosion (Tribo Corrosion 2009) Austria, 17-18 Mar. 2009 (Presentation only).

8. **A. Siddharthan, T.S. Sampath Kumar and S.K. Seshadri**, Strontium containing nano calcium phosphate ceramics Asian Bioceramics, ABC 2008, 4-6 Nov 2008, Chennai, India (Presentation only).
9. **A. Siddharthan, T.S. Sampath Kumar and S.K. Seshadri**, Is titanium a suitable implant material : A fretting corrosion approach, xInternational Symposium for research Scholar (ISRS-2008), Dept. Of Metallurgical and Materials engineering, IIT Madras, India, 10-12 Dec. 2008 (Presentation only).
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11. **R.V.S. Prasad and G. Phanikumar**, Martensite and nano crystalline phase formation in Ni₂MnGa alloy by melt spinning, 5th International conference on solidification and gravity, Miscolc, Hungary (2008) (Presentation only).
12. **Mandal S, Sivaprasad, P.V., Subramanya Sarma, V.**, Microstructural modification in a 15Cr15Ni-2.2Mo-Ti modified austenitic stainless steel through twin induced grain boundary engineering, Proceedings of the International Conference on the Textures of Materials (ICOTOM-15), June 1-6, 2008, Carnegie Mellon University, Pittsburgh, USA (Presentation only).
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17. **D. Kesavan and M. Kamaraj**, Effect of temperature on run-in period of Ni based hardfacing alloy deposited by plasma transferred arc welding, 3rd International Symposium for Research Scholars' ISRS, Metallurgy, Materials Science and Engineering, held at IIT Madras on 10th to 12th Dec. 2008.
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19. **S. Varalakshmi, M. Kamaraj, B.S. Murty**, Synthesis and Property Measurement of Nanocrystalline AlFeTiCrZnCu Equiatomic High Entropy Alloys by Mechanical Alloying followed by vacuum hot pressing Presented in 3rd Euro School 2008, Complex Metallic Alloys : Surfaces and Coatings held in Ljubljana, Slovenia 25th May to 1st June 2008.
20. **S. Varalakshmi, M. Kamaraj, and B.S. Murty**, Synthesis, Characterization and Property Measurement of Nanocrystalline CuNiCoZnAlTi Equiatomic and Non-Equiatomic High Entropy Alloys by Mechanical Alloying Presented in PMAI-2008 held in Chennai, India during February 20 -21, 2008.
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23. **Kulvirsingh and M. Kamaraj**, Creep ductility evaluation of low alloy steels used for steam turbine components, 5th International conference on Creep, Fatigue and Creep- Fatigue Interaction (CF-5), 24-26th Sept 2008IGCAR, Kalpakkam.
24. **Sree Vardhan Lalam, G. Madhusudhan Reddy, T. Mohandas, B. S. Murty and M. Kamaraj**, Dissimilar Metal Continuous Drive Friction Welding of Inconel 718 – AISI 4340, Presented at IIW-IC 2008, held at Chennai on 08th to 10th of January, 2008, pp 1041-1055.
25. **B. Ch. S. Ganesh, M. Kamaraj, and D. R. G. Achar**, Influence of boron carbide particles on the wear properties of Cobalt base hardfacing Alloy, Presented at IIW-IC 2008, held at Chennai on 08th to 10th of January, 2008, pp 841-846
26. **J.O. Obielodan, G.D. Janaki Ram, B.E. Stucker**, An experimental determination of optimum foil joint conditions for structural parts fabricated by ultrasonic consolidation, 19th Solid Freeform Fabrication Symposium, Aug. 4-6, 2008, University of Texas at Austin, USA.

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28. **R. Suresh Kumar, D. Sivakumar, A.S. Gandhi**, "Oxidation Behaviour of 30v%ZrB₂-SiC & 30v%MoSi₂-SiC Composites Under Different Conditions", International Symposium For Research Scholars On Metallurgy, Materials Science & Engineering (ISRS 2008), Chennai, India, 10-12 December, 2008 (ISSN0973-659X).
29. **D. Baskar and T. S. Sampath Kumar**, Effect of deacetylation on the degradation behavior of chitosan films, International Conference on Medical Device and Regenerative Medicine (MMDRM 2008).
30. **A. Thirugnanam, T. S. Sampath Kumar, Uday Chakkingal**, Influence of ultra fine grain refinement on bioactivity enhancement of titanium, International Conference on Medical Device and Regenerative Medicine (MMDRM 2008).
31. **A. Thirugnanam, N. Veera Chakravarthi, Uday Chakkingal and T.S. Sampath Kumar**, Novel Titanium - Hydroxyapatite Biocomposites by Mechanical Milling, International Conference on Mechanochemistry and Mechanical Alloying (INCOME2008).
32. **A. Thirugnanam, T. S. Sampath Kumar, Uday Chakkingal**, Bioactivity Enhancement of Commercial Pure Titanium Through Equal Channel Angular Pressing, International Symposium for Research Scholars on Metallurgy, Materials Science and Engineering (ISRS 2008).
33. **A. Thirugnanam, T. S. Sampath Kumar, Uday Chakkingal**, The role of nanometer and submicron features on *in-vitro* bioactivity enhancement of commercial pure titanium, First International Conference on NANO BIO Tissue Engineering and Stem Cell research using Nanomaterials (NANO BIO 2009).
34. **D. Baskar and T.S. Sampath Kumar**, Preparation and characterization of chitosan-hydroxyapatite composite film through biomimetic process, First International Conference on NANO BIO Tissue Engineering and Stem Cell research using Nanomaterials (NANO BIO 2009).
35. **U.S. Mallik and V. Sampath**, Evaluation of Mechanical Properties and Shape Memory Characteristics of Cu-Al-Mn Shape Memory Alloys, Proceedings of the International Conference on Smart Materials, Systems and Structures (ISSS-2008), I.I.Sc., Bangalore, 24-26 July 2008.
36. **V. Sampath**, Recent Trends in Production, Processing and Applications of Shape Memory Alloys, Seventeenth International Symposium on Processing and Fabrication of Advanced Materials, New Delhi, 13-15 Dec. 2008.
37. **U.S. Mallik and V. Sampath**, Role of Zn, Fe and Cr as Quaternary Additions on the Shape Memory Characteristics of Cu-Al-Mn Shape Memory Alloys, Seventeenth International Symposium on Processing and Fabrication of Advanced Materials, New Delhi, 13-15 Dec. 2008.
38. **R. Elansezhian, B. Ramamoorthy and P. Kesavan Nair**, "Effect of surfactants on the surface roughness and micro hardness of electroless (Ni – P) coatings", 35th International Conference on Metallurgical Coatings and Thin Films (ICMCTF-2008), San Diego, California, USA, April 28 – May 2, 2008.
39. **R. Elansezhian, B. Ramamoorthy and P. Kesavan Nair**, "Effect of surfactants on the coating efficiency of electroless (Ni – P) coatings", 35th International Conference on Metallurgical Coatings and Thin Films (ICMCTF-2008), San Diego, California, USA, April 28 – May 2, 2008.
40. **R. Elansezhian, B. Ramamoorthy and P. Kesavan Nair**, "Influence of surfactants on the friction and wear behaviour of electroless Ni-P Coatings", 7th International Conference on Materials for Processing, Performance and Properties MP³-2008, Singapore, November 5-7, 2008.
41. **R. Elansezhian, B. Ramamoorthy and P. Kesavan Nair**, 'A Study on the Influence of Surfactants on the coating efficiency, crystallinity, wear and corrosion behaviour of Electroless Ni – P deposits', International Symposium for Research scholars- ISRS 2008, Indian Institute of Technology Madras, India, December 12 – 14, 2008. (Awarded as best technical paper in surface engineering session)
42. **R. Elansezhian, B. Ramamoorthy and P. Kesavan Nair**, 'A Study on the Deposition Rate and Adhesion Based on the Influence of Surfactants in Electroless Nickel Coating Process', 2nd International & 23rd All India Manufacturing Technology, Design and Research Conference (AIMTDR-2008), Indian Institute of Technology Madras, India, December 15 – 17, 2008

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	15/12/2008	Guest lecture on 'Synthesis and characterisation of ceria nanopowders'.

	Yugoslavia).		
2	Prof. Seeram Ramakrishna, Vice President (Research Strategy), National University Singapore	23.01.2009	Interaction with faculty
3	Prof. Dr.-Ing. Gunther Eggeler Lehrstuhl Werkstoffwissenschaft Institut für Werkstoffe Fakultät für Maschinenbau Ruhr-Universität Bochum, Bochum, GERMANY	17 th -25 th Feb.2009	Guest lecture on "Tempered Martensite Ferritic Steels" – Technologically Important and Scientifically Challenging Interaction with faculty
4	Prof. Atul H. Chokshi Dept. Materials Engg, Indian Institute of Science, Bangalore	17/04/2008	Felicitation by the Dept. for receiving the Distinguished Alumnus Award by IIT Madras. Delivered a lecture on 'Superplasticity: Current understanding and future prospects'.
5	Shankar Venkataraman Institut für Komplexe Materialien IFW Dresden E.V., Dresden	22/4/2008	Material Advantage Seminar: Microstructural transformations in the Cu47-Ti33-Zr11-Ni8-Si1 metallic glass
6	Rajeev Kumar Gupta Research Scholar, Department of Mechanical Engineering, Monash University, Australia	12/5/2008	Material Advantage Seminar: Synthesis of nanocrystalline Fe-10%Cr alloy
7	Prof. Kamanio Chattopadhyay Chairman, Department of Materials Engineering, Indian Institute of Science, Bangalore	6/8/2008	Material Advantage Seminar: Career Opportunities in Materials Engineering
8	Dr. Dinesh Rangappa Energy Technology Research Institute, National Institute of Advanced Industrial Science and Technology (NAIST), Japan	13/8/2008	Material Advantage Seminar: Organic molecules assisted supercritical water synthesis for inorganic metal oxide nanoparticles
9	Dr. Manas Mukherjee Helmholtz Centre Berlin, Germany	5/11/2008	Material Advantage Seminar: Evolution of metal foams during solidification
10	Dr. Vamsi Krishna Balla Research Associate, School of Mechanical & Materials Engineering, Washington State University, Pullman, WA, USA	16/5/2008	Lecture on 'Next generation bone implants using laser engineered net shaping (LENS) [Jointly with Indian Institute of Metals]
11	Prof. M. Okazaki Nagaoka University of Technology, Tomioka, Nagaoka, Japan	20/1/2009	Lecture on 'Strength of Superalloys' [Jointly with Indian Institute of Metals]
12	Dr. B.S.B. Reddy Principal, Swamandhra Engg. College, Bheemavaram (AP)	9/2/2009	Lecture on 'Synthesis and characterisation of bulk metal matrix nanocomposites prepared by pulsed co-electrodeposition and mechanical-thermal synthesis' [Jointly with Indian Institute of Metals]
13	Dr. M.P. Gururajan Post-doctoral fellow Department of Materials Science & Engineering Northwestern University, Evanston, IL,USA	8/8/2008	Lecture on 'Phase field modeling of microstructural evolution' [Jointly with Indian Institute of Metals]
14	Prof. Dr.-Ing. Horst Hahn Director, Institute for Nanotechnology, Research Centre, Karlsruhe & Professor, Joint Research Laboratory for Nanomaterials, Darmstadt University of Technology, Darmstadt, Germany	26/11/2008 to 30/11/2008	Visit as a Distinguished Honorary Professor of IIT Madras.
15	Dr. N. R. Sathya Swaroop Scientific co-worker Institute for Metallurgy, Clausthal University of Technology, Clausthal-Zellerfeld, Germany	21/8/2008	Lecture on 'Oxide Ceramics: Processing, Oxygen Exchange and Diffusion' [Jointly with Indian Institute of Metals]
16	Dr Peter Schlossmacher Product Marketing Manager TEM, FEI Company	11/9/2008	Lecture on 'Recent Developments In Corrected Tem Technology And Its

			Applications' [Jointly with Indian Institute of Metals]
17	Prof. Dr.-Ing Horst Hahn Director, Institute for Nanotechnology, Research Centre, Karlsruhe & Professor, Joint Research Laboratory for Nanomaterials, Darmstadt University of Technology, Darmstadt, Germany	26/2/2009 to 3/3/2009	Participation in Golden Jubilee Celebration (Nostalgia) and discussion on collaboration with MME Faculty

Other Activities of the Department:

(A) SYNTHESIS AND CHARACTERIZATION OF NANOCRYSTALLINE HIGH ENTROPY ALLOYS BY MECHANICAL ALLOYING

S. Varalakshmi (Ph.D. thesis)

High entropy alloys (HEAs) are a new generation multicomponent alloys with high entropy of mixing achieved by the strategy of choosing equiatomic or near equiatomic composition. These alloys usually form solid solutions and are expected to be stable even at elevated temperatures due to their large entropy of mixing. The present study focuses on the synthesis and characterization of nanostructured multicomponent HEAs using mechanical alloying (MA). AlFeTiCrZnCu, CuNiCoZnAlTi, FeNiMnAlCrCo and NiFeCrCoMnW alloys were synthesized in equiatomic compositions. Results demonstrated that equiatomic HEAs synthesized by MA were composed of simple crystal structure of BCC and FCC in as milled as well as in heat treated condition. To evaluate influence of the principle elements in alloy formation nonequiatomic compositions of Al_xFeTiCrZnCu, Cu_xNiCoZnAlTi, Fe_xNiMnAlCrCo and Ni_xFeCrCoMnW (x = 0 to 50 at. %) have been synthesized by MA. It is observed that HEAs in nonequiatomic compositions also yielded the simple crystal structure as that noticed in equiatomic composition. Typical consolidation techniques such as cold pressing and sintering, vacuum hot pressing (VHP) and hot isostatic pressing (HIP) showed the retention of the crystal structure that was observed in the as-milled alloys. AlFeTiCrZnCu and CuNiCoZnAlTi alloys yielded successful consolidation and their density were nearly 100%. Conventional sintering of AlFeTiCrZnCu HEA yielded 2 GPa hardness (Vicker's) while VHP and HIP HEAs exhibited higher hardness of 9.50 and 10.04 GPa, respectively. In addition, compressive strength of VHP and HIP samples, evaluated using uniaxial pressing was found to be 2.10 and 2.83 GPa, respectively. The hardness of nanocrystalline VHP and HIP CuNiCoZnAlTi equiatomic HEA was found to be 7.55 and 8.79 GPa, respectively. Their corresponding compressive strength was found to be 2.36 and 8.79 GPa, respectively. This high hardness and compressive strength of VHP and HIP samples are attributed to nanocrystalline nature of alloys. Incidentally this thesis is the first PhD thesis in the field of materials science and engineering discussing nanocrystalline HEA formation by MA. Principles behind the alloy formation in equiatomic and nonequiatomic HEAs are discussed in detail.

(B) STUDIES ON HOT ROLLED GALVANIZED STEEL SHEETS FOR AUTOMOBILE APPLICATIONS

Amab Chattopadhyay (Ph.D. Thesis)

Galvanization of cold rolled steel is being done since long back to provide resistance to corrosion. As per the requirements of the construction sector and railway passenger car, the need of development of the hot rolled galvanized (HRG) sheets is felt. There are some critical issues related with development of HRG. The present work has investigated the effect of different process parameters with a view to optimize the process window for the development of HRG sheets of a low carbon Al killed (LCAK) steel. The Zn coatability of hot rolled steel sheets is dependent on the extent of carbon and other alloying element segregation to the surface region. The mechanism of segregation has been studied in detail. It is found that the extent of segregation is dependent on the hot rolling process parameters and the cooling rate after the hot rolling and on the annealing atmosphere.

Presence of other alloying elements also affects the nature and extent of segregation of a particular element. Segregation controls the process window for galvanizing of this type of steel through continuous galvanizing route. In order to modify the distribution of the carbides at the surface/sub-surface region continuous annealing/reheating operation is carried out at different temperatures prior to the galvanizing operation. The reheating temperature maintained in continuous annealing line is the driving force to redistribute the carbides at the surface/sub-surface region.

Above intercritical annealing temperature, all the carbides get dissolved into the matrix and the surface became clean for galvanizing reaction. The reducing atmosphere also plays an important role in removing all the room temperature oxides present at the surface. Therefore, a combination of proper temperature and reducing atmosphere leads to the proper galvanizing on the hot rolled steel surface. The corrosion, formability and paintability properties of galvanized LCAK HR steel was studied and found to be compliant with the industry specifications.

An attempt has been made to predict the alloying element segregation behavior through thermodynamic modeling. It is found that segregation results predicted by the model are comparable to the experimental results for inert atmosphere condition, whereas large difference is observed for conventional continuous annealing furnace atmosphere. At the surface of the steel, some water-gas reaction takes place inside the furnace. It is found from experiments that this reaction along with furnace atmosphere determines the extent of segregation. Based on this model the extent of carbon segregation at the surface in various furnace conditions could be predicted.

(C) Studies on Al-4Cu and Al-7Si alloy based *in-situ* composites reinforced with TiB₂ and TiC particles

S. Kumar (Ph.D. Thesis)

Al-TiB₂ and Al-TiC *in-situ* composites were synthesized by successfully suppressing Al₃Ti formation. Addition of TiB₂ and TiC particles has not only resulted in α -Al grain refinement but also a decrease in the eutectic Si particle size in Al-7Si alloy. The addition of *in-situ* particles has significantly enhanced the aging kinetics in the Al-4Cu alloy. The peak aging time at 170°C has reduced from 40 to 6h with 10% TiB₂. These *in-situ* composites have shown better tensile properties than that of matrix alloy. Increment up to 60% in UTS and YS was achieved with the addition 10wt.% of TiB₂ and TiC particles to the Al-4Cu alloy. Increment up to 45% in UTS and 80% in YS was achieved with the addition of 10wt.% of TiB₂ and TiC particles to the Al-7Si alloy. The dry sliding wear resistance of the matrix alloy has improved by 40-60% with the addition of 10wt.% of TiB₂ and TiC particles. Addition of TiB₂ and TiC particles to the matrix alloy has increased the mild to severe wear transition temperature. Abrasion wear resistance and the erosion wear resistance of Al alloy has improved by 50-70% and 25-60%, respectively, with the addition of 10wt.% of TiB₂ and TiC particles. Functionally graded (FG) Al alloy based *in-situ* composites have been successfully synthesized using horizontal centrifugal casting process. The thickness of TiB₂ rich layer in FG *in-situ* composites decreases with increase in mold temperature and rotation speed. The location of the reinforcement particles (periphery or interior) can be controlled by stirring of the melt before pouring into the mold.

(D) Corrosion Studies Of Surface Treated AA2219 Alloy

K. Surekha (Ph.D. Thesis)

The objective of this work was to improve the corrosion resistance of aluminium alloy AA2219 and to compare the efficacies of two surface modification techniques in improving the corrosion resistance viz, solid state friction stir processing (FSP) and fusion based laser melting (LM). AA 2219 is widely used for space and defense applications because of its good weldability and high strength to weight ratio. However, its only disadvantage is its poor corrosion resistance owing to the galvanic coupling between the Al matrix and the noble CuAl₂ precipitate. If by some means copper could be taken back into the solution or removed, the corrosion resistance can be improved, though this might impair the mechanical properties to some extent. The second phase particles were dissolved by the surface modification techniques and that effect on corrosion resistance was measured by potentiodynamic polarization, electrochemical impedance, salt spray and G110 immersion test. There was an improvement in corrosion resistance in the surface treated alloys and it was attributed to the second phase dissolution which was established by SEM, SEM-EDS, TEM, XRD and DSC studies. In FSP, corrosion resistance increased with increase in rotation speed and number of passes and in LM it increased with increase in scan velocity which is attributed to increased second phase dissolution.

(E) Injectable Porous Apatitic Pastes For Hard Tissue Applications

Sunita Prem Victor (Ph.D. Thesis)

Bone defects are a common and complicated clinical problem in orthopedic and dental surgeries. Traditionally bone substitutes are not available in a paste form and lack a perfect fit in the defect site. To overcome these limitations extensive research has been carried out for a malleable paste that fills and adapts to the bone defects. The bioactive calcium phosphate cement (CPC) formed by mixing one or more calcium orthophosphates with a liquid phase usually water or an aqueous solution results in a paste and undergoes nonexothermic setting and hardens after being implanted in the body. From a clinical perspective the use of injectable CPC is very attractive as it minimizes patient discomfort, risk of infection and the nonexothermic setting reactions allow incorporation of drugs such as antibiotics. Injectable bone pastes were prepared from tricalciumphosphate (TCP) and hydroxyapatite (HA) using 2.5% sodium hydrogen phosphate as the liquid phase. The cements prepared had a setting phase that was apatitic and resorbable in nature. Chitosan solution (1.5%) was found to have better injectability when compared to water and gelatin (3%) solutions. Macropores were formed in the cement using porogen SS. The porous cements prepared had good bioactivity and *in-vitro* stability. Maximum antibiotic release was also observed. Overall novel formulations of CPCs that result in a porous, injectable and cohesive paste with necessary antibiotic release were obtained.

Socially relevant activities carried out by the Department:

The Material Advantage Chapter of IITM is hosted by the MME Dept. The chapter conducted a school outreach programme

International collaboration achievements by the Department:

MoU with Deakin University (Australia)

Student visits

Sl. No.	Name of the student	Roll No.	Country visited	Date	Purpose of visit
	Amirthan	MM05D004		Sep 2008 to Mar 2010	

4. 15 DEPARTMENT OF OCEAN ENGINEERING

4.15.1 Introduction:

The Department of Ocean Engineering (DOE) was established in 1977. It offers B. Tech. (Naval Architecture and Ocean Engineering), Dual Degree (Naval Architecture and Ocean Engineering), M. Tech (Ocean Engineering, OE1), M. Tech (Ocean Technology and Management, OE2), M.S. and Ph.D. programs. The major areas of teaching and research at the Department are:

- Structural analysis, Design and Testing
- Wave Hydrodynamics
- Floating and Submerged Bodies
- Materials in Ocean Environment
- Ocean Energy
- Naval Architecture
- Underwater instrumentation

4.15.2 Academic programmes:

New courses introduced :

Sl. No.	Course No.	Title
1.	OE696	Wave simulation, measurement and analysis – a course for post-graduates and research scholars. - Sannasiraj, S.A

New lab(s) established. Model Manufacturing facilities, circular saw, planer, thicknesser machine

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech	24	19	19	15	2	79
Dual	06	4	6	4	6	26
M.Tech (OE 1)	11	08	0	0	0	19
M.Tech (OE 2)	09	06	0	0	0	15
M.S.	–	06	5	5	4	20
Ph.D	03	13	25	17	37	95
Total	53	56	55	41	49	254

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

Sl. No	Name of the Student	Programme	Name of the Conference/ Seminar/Symposia	Date & venue
(i) Conference:				
1	Mr. T. Nasar	Ph.D	27 th International Conference on Offshore Mechanics and Arctic Engineering (OMAE 2008)	From 15.6.2008 to 20.6.2008 Portugal
2	Virag Mishra	MS	National Conference on Advances in Fluid Flow and Thermal Sciences	19.5.2008 to 26.5.2008 NIT Surat, Gujarat
3	M.N. Senthil Prakash Sheeja Janardhanan	Ph.D	Attended the training programme on CFD	31.3.2008 & 1.4.2008 M/s CD ADAPCO India Ltd.,

Sl. No	Name of the Student	Programme	Name of the Conference/ Seminar/Symposia	Date & venue
4	L Noarayanan	Ph.D	ISH Conference	From 5.11.2008 to 10.11.2008 at Pune
5	L Noarayanan	Ph.D	ICER 08	From 18.12.2008 to 20.12.2008 at Goa
6	R. Samuel Devadoss	Ph.D	ICER 08	From 18.12.2008 to 20.12.2008 at Goa
7	R. Sathia	Ph.D	ICI-IWC'08	From 11.12.2008 to 14.12.2008 at Delhi
8.	D. Swetha	MS	OSICON09, ICOE2009, SIMPOSIUM ON WIND WAVE MODELLING	19-21 March, 1-5 February, 12 February IIT Madras
9.	Thayapraba	PhD	OSICON09, ICOE2009	19-21 March, 1-5 February, IIT Madras
10.	G. Dhinesh	PhD	ICOE2009	1-5 February, IIT Madras
11.	Manas Ranjan Behera	PhD	OSICON09, ICOE2009, SIMPOSIUM ON WIND WAVE MODELLING	19-21 March, 1-5 February, 12 February IIT Madras

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.	V Swetha	NA05B017	Institute Merit Prize	IITM
2.	Jineesh George	OE06M006	Institute Merit Prize	IITM

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)

Analysis of ships and offshore structures

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 and 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 Head - (IIT Madras)	Computer aided analysis, Design and experimental studies of coastal and offshore structures, Port and Harbour Structure.
C.P. Vendhan, Ph.D., (IIT Kanpur)	Structural dynamics, Offshore structures, Finite element methods

Associate Professors:

P. Krishnankutty, Ph.D (IIT Madras)	Numerical Marine Hydrodynamics, Ship Motions, Wave Wash and Passenger Comfort
K. Murali (IIT Madras)	Numerical Modelling of Coastal Hydrodynamics; Sediment Transport & Pollutant Transport. CFD Modelling for Pollutant Transport. CFD application to Ship and Underwater Hydrodynamics.
S. Nallayarasu, Ph.D (NUS, Singapore)	Analysis and Design of Offshore Structures, Wave-Structure interaction, Reliability in Offshore Structural Design
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.
S. Surendran, Ph.D. (Yokohama National Univ., Japan)	Naval Architecture, Ship motion control and Ship Structures

Assistant Professor

R. Panneer Selvam, Ph. D. (IIT Madras)	System Identification, Simulation, Nonlinear dynamics
P. Shanmugam Ph. D	Geophysics, Ocean optics, Remote sensing

Short-term courses/Workshops/ Seminars/ Symposia/ Conferences Organized by the Faculty members

Sl. No.	Name of Faculty	Title	Period
Workshop / Short term Course			
1.	R. Panner Selvam & Rf. R. Sundaravadivelu	Workshop on Deepwater Offshore Structures, DOS 2009	February 6-7, 2009
2.	V.Ananatha Subramanian S. Nallayarasu S. A. Sannasiraj	Conference in Ocean Engineering	1-5 Feb. 2009
3.	S.A. Sannasiraj	Symposium on Wind-Wave Modelling	12 Feb. 2009
4.	P. SHANMUGAM	GOCI PI workshop Korea Ocean Research and Development Institute, Seoul , Korea	28-31 October, 2008

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	Institution	Period
Workshop				
1.	S.A. Sannasiraj	Workshop on 'Sediment Cell'	Ministry of Environment and sponsored by world bank	Kolkata on 26th May, 2008.
2.	P. SHANMUGAM	Detection of Redtides	Korea Ocean Research and Development Institute, Seoul, Korea and NOWPAP-CEARAC, Japan	1-5 November, 2008
3.	K.Murali	1. Numerical Modelling of Tsunami Landfall, Runup and Inundation at IGCAR. 2. Random waves and their measurement and analysis. 3. Application of CFD to VIV and Offshore Engineering.	IGCAR, Kalpakkam. Workshop on "National Round Robin Exercise for IOT" University of Western Australia. "Workshop on Deepwater Engineering" University of Western Australia. "Workshop on Deepwater Engineering"	Oct. 2009 July 2008 July 2008.
3.	K. Ganesh Babu	Indo-Russian Workshop on Topical Problems in Solid Mechanics	BITS - Goa	11 – 14 November 2008
Seminar				
1.	V.Sundar	Delivered an expert lecture on "Coastal Disaster, Mitigation & Management Measures" for 37 th National safety day program	Satish Dhawan Space Centre (SHAR)	4 March 2008
2.	S. Nallayarasu	Weather Waning of Floating Structures	Oil and Natural Gas Corporation Ltd., Mumbai	10.12.08
Conference				
1.	R. Sundaravadivelu	27 th International Conference on Offshore Mechanics and Arctic Engineering, OMAE 2008	Instituto Superior Tecnico, Portugal	June 15-20, 2008
2		8 th Intl. Conf on Hydro-Science and Engineering, Nagoya, Japan	Intl. Association of Hydraulic Engineering Research (IAHR)	8-12 Sep 2008,

Sl. No.	Name of Faculty	Title	Institution	Period
3	V.Sundar	High-level International Forum on Water Resources & Hydropower, Beijing, China	China water Institute	17-18 Oct 2008
4		16 th Asia Pacific Division of –IAHR, Nanjing, China	Hohai university, China	20-23 Oct 2008
5		5 th Marine Waste Water Discharges and on Marine Environment (MWWD), Dubrovnik, Croatia	Ministry of Agriculture, forestry and water management, Croatia	27-31 Oct 2008
6		International workshop on Tsunami Vulnerability, Dhaka, Bangladesh	Ministry of food & disaster management, Govt. of Bangladesh	20-22 Jan 2009
7		23 rd Indian Engg. Congress, N.I.T Warrangal	Institution of Engineers	11-13 Dec 2008
8		Hydrodynamic Behaviour Of Circular And Non Circular Spar Structures. (ICOE 2009)	IIT Madras	01.02.09 to 05.02.09
9.	K.Murali	High-level International Forum on Water Resources & Hydropower, Beijing, China	China water Institute	17-18 Oct 2008
10.	K.Murali	16 th Asia Pacific Division of –IAHR, Nanjing, China	Hohai university, China	20-23 Oct 2008
11	K.Murali	5 th Marine Waste Water Discharges and on Marine Environment (MWWD), Dubrovnik, Croatia	Ministry of Agriculture, forestry and water management, Croatia	27-31 Oct 2008
12	K.Murali	International workshop on Tsunami Vulnerability, Dhaka, Bangladesh	Ministry of food & disaster management, Govt. of Bangladesh	20-22 Jan 2009
13	R. Sundaravadivelu	To conduct Feasibility study of Offshore berthing facility	Senegal, West Africa	3-10 August 2008
14	V. Sundar	Research council meeting	Centre for earth science studies, Kerala	23 .1.09

Special Lectures Delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	R. Sundaravadivelu	Techno Economic Appraisal port sector overview in the state of Orissa presented to the Chief Minister, Orissa	Bhubaneswar, May 27-28, 2008
2.		Technical appraisal of Chudamani Port presented for Chief Secretary, Govt. of Orissa	Bhubaneswar, December 27, 2008
3		Role of vegetation in attenuating wave run-up”	Dhaka, Bangladesh, 21 Jan 2009

4	V.Sundar	Impacts of Climate Change on Indian coasts prospective solutions for the future	Dubrovnik, Croatia, 27-31 Oct 2008
5		Research on Tsunami Mitigation Strategies	Nanjing, China, 20 Oct 2008
6		Loading during Natural Coastal Disasters- Role of vegetation	Beijing, China, 18 Oct 2008
7	S. Surendran	Ship building yards and Port facilities.	Venue: PSN College of Engineering & Technology, Thirunelveli, Tamilnadu Date: 27-02-2009.
8		River bank protection along Brahmaputra near Coal handling terminal	Workshop on river training, Inland Waterways Authority of India, Patna, 9 May, 2008.
9		Coastal structures and Their behaviour in littoral zone and need of shoreline management plan.	Training on shoreline management, ICMAM project directorate, Ministry of Earth Sciences, Chennai, 3 Jun., 2008.
10		Renewable energy resources: Ocean Energy. Programme on Renewable energy resources.	Engineering Staff College of India, IE (India), Hyderabad, 11 Jun., 2008.
11	S. K. Bhattacharyya	Bulk Carrier Losses: causes and prevention	Indian Maritime University (2 times)
12		Safety of ships	Indian Maritime University (5 times)
13	K.Murali	Role of Vegetation on Run-up and Forces on Beaches and Structures	Dhaka, Bangladesh, 21 Jan 2009

Visits abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
1.	R. Sundaravadivelu	Senegal, West Africa	3-10 August 2008	To conduct Feasibility study of Offshore berthing facility
2.		Estoril, Portugal	15-20 June 2008	To attending the OMAE 2008 Conference
3	V.Sundar	Japan	8-12 Sep 2008	to participate in the 8 th Intl. Conf on Hydro-Science and Engineering and to participate in the IAHR council meeting
4		Beijing, China	17-18 Oct 2008	Delivered a key note lecture on "Flooding during Natural Coastal Disasters- Role of vegetation" in the High-level International Forum on Water Resources & Hydropower.
5		Nanjing, China	20-23 Oct 2008	to participate in 16 th APD-IAHR congress delivered a key note lecture on "Research on Tsunami Mitigation Strategies" and a paper
				delivered key note lecture "Impacts of Climate Change on Indian coasts prospective solutions for the future, in

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
6	V.Sundar	Dubrovnik, Croatia-	27-31 Oct 2008	Intl Conf on marine waste water discharges & marine environment, MWWD
7		Dhaka, Bangladesh	20-22 Jan 2009	delivered key note lecture on Role of vegetation in attenuating wave run-up* in International workshop on Tsunami Vulnerability, Dhaka, Bangladesh organized by Ministry of food & disaster management, Govt. of Bangladesh
8	S.A. Sannasiraj	Maldives	15-18 June	To present paper in Conference
9		Sudan	25-28 June	Consultant for intake system for thermal power plant
10		Japan	8-11 Sep.	To present paper in Conference
11	P. SHANMUGAM	Korea	28 October ~5 November 2008	Attending Workshop and Delivering Lecture Korea Ocean Research and Development Institute, Seoul, Korea and NOWPAP-CEARAC, Japan
12	S. Nallayarasu	Singapore	02.01.09, 15.08.08 to 16.08.08 and 19.09.08 to 20.09.08	Meeting and Discussion with Client
13		Algeria	21.10.08 to 22.08.08	Meeting and Discussion with Client
14	R Panneer selvam	Bangkok Thailand	Nov 8 – 15 2008	Present a paper ISOPE PACOMS 2008 conference
15	K. Murali	Australia	May-Aug. 08	Visited UWA on Endeavour Research Fellowship
16	K.Murali	Beijing, China	17-18 Oct 2008	Participated in the High-level International Forum on Water Resources & Hydropower.
17	K.Murali	Nanjing, China	20-23 Oct 2008	to participate in 16 th APD-IAHR congress and present a paper
18	K.Murali	Dubrovnik, Croatia-	27-31 Oct 2008	To participate in the Intl Conf on marine waste water discharges & marine environment, MWWD 2008
19	K.Murali	Dhaka, Bangladesh	20-22 Jan 2009	delivered key note lecture on Role of Vegetation on Run-up and Forces on Beaches and Structures in International workshop on Tsunami Vulnerability, Dhaka, Bangladesh organized by Ministry of food & disaster management, Govt. of Bangladesh

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
20	V. Anantha Subramanian	Abu Dhabi	Feb – 10 – 12, 2009	Consultancy – funding from Projects
21		Dubai	Feb – 10 – 12, 2009	Consultancy – funding from Projects
22		Italy	Oct 2008	International conference HIPER - funding from Projects
23		USA	Dec - 2009	Personal

Honours and Awards obtained:

Sl. No	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
ii. Awards					
1	V.Sundar	National Design award in Environmental Engineering-2008" presented in 23 rd Indian Engg Congress, Warangal,	Institution of Engineers(INDIA), National Design and Research forum	Outstanding contribution in the field of Environmental Engineering Design	12 Dec 2008
	D.Swetha, K.Murali & V.Sundar	Third best paper award for the paper titled "Computation of run-up and reflection coefficient over a planar slope" in Conf on Recent developments in Ocean Science, Engineering & Technology, Andhra University, 19-21 March 2009	Ocean Society of India	Third best paper award for the paper	21 March 2009
	P. SHANMUGAM	Best Paper Award	Korea Ocean Research and Development Institute, Seoul, Korea	Journal Publication	October 2008
	S. Nallayarasu	Distinguished Alumnus Award	Kalasalingam University, Krishnan Koil		20.12.08

Books, Monographs authored / co-authored

S.No.	Name of faculty	Title	Publisher	Author/ Co-author
1	Sannasiraj, S.A.	Identifying the types of waves: A value adding study on the ocean observing data buoy system.	In book: Geophysical fluid dynamics, vol., 2008.	Balaji, R. and V. Sundar
2.		Velocity recovery techniques in Finite Element based MEL formulation.	Advances in Coastal and Ocean Engineering - Vol. 11. ADVANCES IN NUMERICAL SIMULATION OF NONLINEAR WATER WAVES. edited by Qingwei Ma. World Scientific. 2009.	V. Sriram and V. Sundar

Fellowships of Academics and Members in Professional Societies

Sl. No.	Name of the Faculty	Name of the Academy	Level	Year of Admission
1.	R. Sundaravadivelu	Fellow of Indian National Academy of Engineering	member	
2.		The Royal Institution of Naval Architects	member	
3		International Association of Hydraulic Research(IAHR)	member	
4		International Association of Navigation Engineers(PIANC)	member	
5		American Society of Civil Engineers(ASCE - India)	member	
6		Institution of Engineers(India)	member	
7		Indian Institution of Bridge Engineers	member	
8		Engineering Committee on Oceanic Resources(ECOR)	member	
9	V.Sundar	The Institution of Engineers, India	member	
10		International Association of Hydraulic Research,(IAHR), from May 2007-till date	Chairman , Executive Committee of Asia Pacific division of IAHR	2006
11		The Royal Institution of Naval Architects (RINA), London, U.K	member	
12		Coastal Research foundation, U.S.A	member	
13		European Union for Coastal Conservation (EUCC)	Member	
14		American Society of Civil Engineers, New York, USA	member	
15	S. Surendran	SNAME, USA	Member	2005 onwards
16		RINA, UK	Member	2007 onwards
17		Society of Naval Architects, Korea	Member	2006 onwards
18	R Panneer selvam	The Royal Institution of Naval Architects	Memeber	March 2007
19	K.Murali	International Association of Hydraulic Research,(IAHR), from Nov. 2008	Member, Executive Committee of Asia Pacific division of IAHR	2008
20	K.Murali	The Royal Institution of Naval Architects (RINA), London, U.K	member	

Journal Editorial Boards / Members of Committee

Sl. No.	Name of faculty	Position (Editor / Member)	Journal Name
1.	V.Sundar	Member	Indian Journal of Marine Science
2.		Associate Editor	Journal of Hydro-Environment Research
3.		Associate Editor	Ocean Engineering
4.		Member	Journal of Ecology and Development on Coastal and Estuarine Environment
5.		Member	Institution of Mechanical Engineers, Part M: Journal of Engineering for the Maritime Environment
6.		Expert member	Committee for Master plan on Coastal protection works, Public works department, Govt. of Tamilnadu, INDIA since 27.7.07
7.	V.Sundar	Member of the panel of experts	National Institute of Science Communication and Information resources, Council for Scientific & Industrial research, Govt.of India for the period 2007-09
8.		Expert member	National Board of accreditation(NBA) of All India Council for Technical Education (AICTE) for National Institute of Technology Karnataka (March 2008)
9.		Member	Intl. Scientific committee of 3 rd Intl. Conf. on Estuaries and Coasts, Sep 14-16 2009, Tohoku University, Sendai, JAPAN
10.		Member	selection comm. For recruitment/promotion of faculty in Dept. of Ocean Engg at I.I.T. Kharagpur (2006, 2008)
11.		Member	Technical committee for "High-level International Forum on Water Resources & Hydropower", Beijing, China, 17-18 Oct 2008
12.		Chairman	Technical committee, 16 th Asia Pacific congress of Intl. Assoc.of Hydraulic Engineering Research, Nanjing, China 20-23 Oct 2008.
13.		Member	International Steering Committee of Asian & Pacific Coasts (APAC 2009), singapore
14.		Member,	International Scientific Committee of Intl. conf in Hydrodynamics (ICHd 2010) Beijing 2010
	S. Surendran	Editorial Board Member & Publicity Director	Ships and offshore Structures, Taylor and Francis
	S. Surendran	Editorial Board member	The Open Journal of Ocean Engineering, Bentham Publishers
	S. Surendran	Editorial Board member	Far East Journal of Ocean Research, Pushpa Publishers, New Delhi.
	S. Surendran	Member	Technical Committee of Transport Engineering Division 17 under BIS New Delhi
	P. SHANMUGAM	Member	International Journal of BioSciences and Technology
	V. Anantha Subramanian	Editorial Board member	Journal of Ship Technology
	S.K. Bhattacharyya	Editorial Board member	Journal of Ship Technology
	S.K. Bhattacharyya	Editorial Board member	The Open Acoustics Journal Bentham Publishers

4.15.4 Design and Development Activities

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

1. Explicit FEM code for tsunami propagation and landfall (K. Murali)
2. Code for Level Set Method. (K. Murali)

New facilities added or major equipment procured through project funds:

Sl. No.	Name of equipment	Value (Rs. in lakhs)
1	HP Workstation Computer	1.16
	Modernization of model manufacture	12.0

4.15.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Industry	Amount (in lakhs)	Co-ordinators
1	Energy Dissipation and Air Entrainment due to Breaking Waves	2005-08	Naval Research Board, Govt. of India	25.20	V.Sundar, S.A. Sannasiraj and K. Murali
2	Development of an Efficient Global SWE Model Coupled with a Short Wave Model	2005-08	Indian Space Research Organisation	22.04	V.Sundar, S.A. Sannasiraj and K. Murali
3	Assimilation of satellite data to improve wave forecast	2009	Space Application Centre, Govt. of India	21.05	V.Sundar and S.A. Sannasiraj
4	Enhancing wave forecasting capabilities in Indian ocean using buoy and altimeter derived wave data	Sep.'08 to Sep.'10	Indian National Centre for Ocean Information Services	25.00	S.A. Sannasiraj
5	Interaction of ships with basins, entrance and approach channels.	3 year	Min. of Shipping	33	S. Surendran R. Sundaravadivelu
6	Study on the Non-Linear Effects of Free Surface Waves on Fixed and Floating Marine Structures/ Vehicles	Nov 2007 to Nov 2010	Naval Research Board	18.168	P.Krishnankutty C.P.Vendhan
7	Development of an efficient global SWE model coupled with a short wave model	Sep.05 – Apr. 09	Indian Space Research Organisation, Bangalore	22.04	K. Murali S.A. Sannasiraj V. Sundar

Sl. No.	Title	Period	Industry	Amount (in lakhs)	Co-ordinators
8	Enhancing wave forecasting capabilities in Indian ocean using buoy and altimeter derived wave data	Sep.'08 to Sep.'10	Indian National Centre for Ocean Information Services	25.00	S.A. Sannasiraj V. Sundar
9	Assimilation of satellite data to improve wave forecast	Mar.'09 to Mar.'12	Space Applications Centre	21.05	S.A. Sannasiraj V. Sundar
10	Measurement of Inherent Optical Properties (IOPs) of Sea Water and Development of Satellite Based Inversion Algorithms (Optical Modelling Of Coloured Dissolved Organic Matter)	Jan 2009-Jan 2012	Space Application Centre, ISRO, Ahmedabad	19.7	P. Shanmugam
11	Finite Element Analysis of Stiffened Tubular Connections	-	IC & SR, IIT Madras	4.25 Lakh	S. Nallayarasu
12	System Identification for Nonlinear Maneuvering and Seakeeping of Ships	2004-2009	Naval Research Board	30 lakhs	S K Bhattacharyya R Panneer Selvam
13.	Study of automation in maneuvering / control of ships	2007-2009	Naval Research Board	13.38 lakhs	R Panneer Selvam S K Bhattacharyya
14	Numerical Hydrodynamics for ship control		HRD	29.0	V. Anantha Subramanian K. Murali
15	Low frequency acoustic propagation	2008-09	NIOT	17.0	S.K. Bhattacharyya C.P. Vendhan

Industrial Consultancy:

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
	R. Sundaravadivelu	Consultancy for hanger and backup facilities for coast guard air SQN at Port Blair	North Miniebay Port Blair Andaman	6,96,632
	R. Sundaravadivelu	Rehabilitation of damaged structure of trawler wharf in the fishing harbour at CHPT	The Chennai Port Trust Chennai	6,74,160

	R. Sundaravadivelu	Appointment of independent engineer for development of second	Chennai Port Trust	42,00,000
	R. Sundaravadivelu	Appointment of independent engineer for development of second	Chennai Port Trust	42,00,000
	R. Sundaravadivelu	Construction of fishing harbor at Karaikal	Irrigation & Public Health Division Karaikal	7,85,680
	R. Sundaravadivelu	Preparation of DPR for Pondicherry port limited	Pondicherry port limited	14,04,500
06	R. Sundaravadivelu K. Murali	Consultancy for 2*350 mw pipavav SCPP for seawater on take and outfall	BHEL, UP	5,00,000
07	R. Sundaravadivelu V. Sundar	Construction of a berth alongside the existing breakwater	Mormugoa Port Trust	20,00,000
08	R. Sundaravadivelu S. A. Sannasiraj K. Murali	Review of river flow study report detail drawing recommendation of channel length	BHEL, Delhi	5,00,000
09		Model study for sedimentation and optimization of channel at Dahej Port	Dahej Infrastructure Pvt, Ltd	18,00,000
10		Design of intake and disposal pipe lane for proposed 1050 MW gas based combined cycle Pipavav	Pipavav Power Company Ltd	41,57,320
11	R. Sundaravadivelu	DPR for development of iron ore and coal terminals	I-Maritime Consultancy Private Ltd	15,73,040
12		Consultancy for grouting of IMS Vikrant Project	DGNP Mumbai	16,85,400
13		Design of special repairs work to the structure North of destroyer wharf	Naval Dockyard	6,17,980
14		Soil Testing and design of 500 T SWL bollard at Muttam	Cochin shipyard Ltd.	20,00,000
15		Design & Drawing for the construction of general cargo berth	Ennore Port Ltd	22,47,200
16		About 35 Consultancy Project	Various clients	57,53,154

1	V. Sundar S.A. Sannasiraj	Stability analysis of rubble mound breakwater cross section for Arnala	West Bengal Fisheries Corporation Limited	1,50,000
2		Mathematical modeling for development of Yarada fish landing center	Hauer Associate	3,93,290
3		Physical model testing of breakwater sections for karaikal port project	MARG Karaikal Port Private Limited	13,70,792
4		Mathematical modeling for development of Nizampatnam fishing harbour	Hauer Associate	3,93,290
5	V. Sundar S.A. Sannasiraj	Reexamining of the breakwater sections for karaikal port project	MARG Karaikal Port Private Limited	1,40,450
6	V. Sundar K. Murali	National Round Robin on Tsunami Modelling for Kalpakkam site	Safety Research Institute	2,00,000
7		Sea Erosion at the eastern side boundary	Nicholas Piramal India Limited	1,68,540
8		Numerical model studies for six specific coastal stretches along kerala coast	Government of Kerala	20,22,480
9		Review on the kattupalli breakwater layout	Larsen & Toubro Limited	3,37,080
10	V. Sundar S.A. Sannasiraj	Numerical model studies for coastal protection along edavanakkad coast	Government of Kerala	3,93,260
11		Numerical model studies for shore protection at Thalassery in Kerala coast	Harbour Engineering Department	4,38,204
12		Conducting numerical model studies for shore protection at Vatakara sand bank in Kerala coast	Harbour Engineering Department	4,38,204
13	V. Sundar S.A. Sannasiraj K. Murali	Shipyard - cum - minor port project at Kattupalli Tamil Nadu	L & T Shipbuilding Limited	13,48,320
14	V. Sundar	Proof checking for the bank protection at certain stretch of river Brahmaputra	Garware Wall Ropes Limited	73,000
15	V. Sundar S.A. Sannasiraj	Desk studies for design of coastal protection works at Uppada near kakinada, E.G. District	Uppada Beach Erosion	2,69,664

1	R Sundaravadivelu S. Surendran	Modernisation of Garden Reach Ship Builders & Engineers Ltd. Kolkatta,	GRSE Calcutta	3,12,941
2		Providing and operating 150m long steel floating dock at Kandla Port	Jiasu Shipping, Kansla, Gujarat	4,00,000
3		Establishment of shipyard at Cuddalore, Good Earth Maritime Ltd. Chennai	Good Earth Maritime Ltd. Chennai	5,00,000
4		Design of Oil Jetty at Joginder nagar	Good Earth Maritime Ltd. Chennai	4,00,000
5		Design and construction of FRP boats	Port & IWT North Division, Govt. of Orissa	2,62,534
6		Design of tug berth at Mundra, Adani Port,	Adani Port, Mundra.	5,61,000
7		Model Testing of FPSO in the wave basin	Design Firm in USA	1,81,894
8	S. Surendran J S Mani	Dredging capacity calculations	BBMB, Sundernagar, Himachel Pradesh	1,68,540
1	V.Anatha Subramanian P.Krishnankutty	Seakeeping and Dyanamics of a Ships Carrier Ship	Neilsoft, Pride Parmar Galaxy, Maharashtra, India	10.0
2		Solution to Moon Pool Water Surge in Vessel	Consolidated Contractors Company Abu Dhabi - U.A.E	4.0
1	S.A. Sannasiraj	Preliminary design of breakwaters atRatnagiri	RDS Projects Ltd.	2.5
2		Review of DPR for Gopalpur port	Gopalpur port limited	10.0
3			L&T Ramboll	
1		Preliminary & Detail Design of approach bridge to PVC Jetty at Cuddalore.	Chemplast Sanmar, Chennai	12Lakhs
2		Condition Analysis of Fenders at Karaikal	Chemplast Sanmar, Chennai	1Lakhs
3		Structural Design verification of Maersk Oil Qatar Al Shaheen Field Development	Aker Kvaerner Power Gas	10Lakhs
4		Consultancy services for Structural requirements of MHN Project.	Oil & Natural Gas Corporation Ltd, Mumbai	11Lakhs
5		Consultancy services for review/vetting of structural concept of design of MHS –II project	Oil & Natural Gas Corporation Ltd, Mumbai	8Lakhs
6		Review Of Jakcup Spud Can Interaction With Jacket Piles For ONGC Heera Redevelopment	PT SEMPEC Indonesia	2.7Lakhs

7	S. Nallayarasu	Review of Seawater Intake Pipeline Stability	Afcons infrastructure limited Mumbai	1.5Lakhs
8		PVC Jetty at Cuddalore for Sanmar Chemplast Limited	Afcons Infrastructure Limited	32 Lakhs
9		Structural Analysis and Design for Pipelay Stinger	Leighton Contractors (Singapore) Pvt. Ltd., Singapore	34Lakhs
10		Design Review Of 220mw Barge Mounted Power Plant	GMR Energy Ltd., Bangalore	20Lakhs
11		Preliminary Design of Jetty at Arzew Bay, Oran, Algeria	Afcons Infrastructures Limited	6Lakhs
12		New Jetty Facility at Qatar Petroleum	Afcons infrastructure limited Mumbai	6Lakhs
13		Study On The Effect Of Breakwater Construction and River flow	Chemplast sanmar, Chennai	9Lakhs
14		Preliminary Design for VTMS Project	Afcons infrastructure limited Mumbai	6Lakhs
15		Technical Assistance in Selection Port Facilities	Salgaocar Mining Industries Pvt Ltd.	6Lakhs
17		Design of Service Berths	Afcons infrastructure Limited	4Lakhs
1	K. Ganesh Babu	Proof checking of bridges/Robs	NHAI	4,49,440
2		Proof checking of bridges/Robs	LANCO	4,45,320
3		Proof checking of Bridges	SCOTT WILSON	1,00,000
1	V. Anantha Subramanian	Design, advice and quality control of pleasure boats	TTDC	2,00,000
2		Sea keeping and dynamics of a ship and ship carrier ship	Neilsoft, Pune	10,00,000
3	V. Anantha Subramanian	Resistance and powering estimation of Hull 304	Modest Infrastructure Ltd., Gujarat	7,85,750
4		Best ballast trim estimation for a very large crude carrier (VLCC)	B W Shipping Managers Pte Ltd., Singapore,	5,61,500
5		200 pax landing barge	Vipul Shipyard Pvt Ltd., Goa	1,50,000
6		Resistance and powering estimation of 1000 ton fuel barge	Hoogly Dock & Port Engineers Ltd., Howrah	2,20,000

7		71m platform support vessel (J9200)	Henderson International LLC, Dubai.	2,20,000
8		Solution to moonpool water surge in vessel	CCC, U.A.E.	4,00,000
9		Bubble generation in cylinder for drag reduction	Manco Exim Pvt. Ltd., Chennai	1,50,000
10		Passive tank stabilization for work boat	Alcock Ashdown (Gujarat) Ltd., Gujarat.	2,00,000
11		Design of in-board diesel powered RIB vessel	Vignesh Marine Technical Services Pvt. Ltd., Chennai	2,00,000
12		Passive anti-rolling tank design for hull 304	Modest Infrastructure Pvt. Ltd., Mumbai	2,00,000
13	C.P. Vendhan S.K. Bhattacharyya	Transient launch analysis	DRDL	5.4 Lakhs

Retainer Consultancy:

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs. in lakhs)
1	V.Sundar	As senior consultant – Coastal & Marine Engg	Danish Hydraulic Institute (INDIA)	
1	S. Nallayarasu	Offshore Structural Design.	Petrofac Engineering Services India Pvt. Ltd.	5 Lakhs

Research Publications:

No. of papers published in Refereed National Journals	...	0
No. of papers published in Refereed International Journals	...	22
No. of papers presented in National Conferences	...	7
No. of papers presented in International Conferences	...	69

Details

In Refereed International Journals

B. Purushotham Reddy, P. Alagusundaramoorthy and **Sundaravadivelu, R.** (2008) "Retrofitting of RC piles using GFRP composites" *KSCE Journal of Civil Engineering*, Vol. 13, No. 1. pp. 39-47, Sept 2008.

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- Balaji, R., **Sannasiraj, S.A** and **Sundar, V.** 2008. Nonlinear response characteristics of discus data buoy hull. 27th International Conference on Offshore Mechanics and Arctic Engineering, Estoril, Portugal, 15-20 June, Paper no. OMAE2008-57009.
- Nasar, T., **Sannasiraj, S.A** and **Sundar, V.** 2008. Liquid sloshing dynamics in a container subjected to coupled mode excitation. 27th International Conference on Offshore Mechanics and Arctic Engineering, Estoril, Portugal, 15-20 June. Paper no. OMAE2008-57340.
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- Hong Zhang and **Sannasiraj, S.A.** 2008. Wind wave effects on surface stress in hydrodynamic modeling. The Eighth ISOPE PACOMS, Bangkok, 10-14 Nov.
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Nallayarasu S, Sivaprasad P, Coupled Dynamics Of Spar Andsemisubmersible connected By a Rigid Yoke, International Conference in Ocean Engineering 2009.

T.Seebai, R. Sundaravadivelu and C.P.Vendhan, 'Model studies on wind tower-spar platform with counterweight'. Third Intl. Conf. in Ocean Engineering, IIT Madras, Chennai, India, Feb.2009, pp.52-53

Ramaswamy R, **Subramanian SP**, **Sundaravadivelu R.**, (2009) ' Geological aspects of coastal zone management of backwaters and waterways in Kerala', Proc of 3rd International Conference in Ocean Engineering, IIT Madras, 1-5 February 2009 pp220-221

Vijayalakshmi.R , **Panneerselvam.R** , **Sannasiraj.S.A** , **Sundaravadivelu, R** and Nagan Srinivasan, R.ISOPE PACOMS 2008 Nov 9-14 Bangkok Thailand

Vijayalakshmi, R., **Paneerselvam, R.** and **Sannasiraj, S.A.** Numerical Analysis of non-ship hull shaped FPSO vessel. INDIA Feb 1-5 ICOE 2009 IIT Madras Chennai India

Sathia, R., **Ganesh Babu, K.** and Manu Santhanam (2008) "Mechanical and Durability study of Low Calcium Fly ash Geopolymer concrete". Fourth International Conference and Exhibition, Innovative World of Concrete'08, December , Delhi.

Sathia, R., **Ganesh Babu, K.** and Manu Santhanam (2008) "Durability of Geopolymer concrete", Third ACF/VCA 2008 Conference Durability of Concrete ,November 24-28, 2008, Vietnam, Paper no. D 21.

Sathia, R., **Ganesh Babu, K.** and Manu Santhanam (2009) " Corrosion resistance of Geopolymer Concrete", International Conference in ocean Engineering ,IIT Madras, Chennai, February 1-5, pp1255- 1258

Ponmalar.V., **Ganesh Babu K.**, and Gettu, R. "Confinement effect of FRP: Experimental and Model Calculations, comparison of existing design guidelines" International conference on Advances in Concrete and Construction, Hyderabad, Feb 7-9,2008, pp.891-898.

Ponmalar.V., **Ganesh Babu K.**, and Gettu, R. "Strengthening of Structural Elements with Fiber Reinforced Polymer Laminates" International conference on Innovative world of concrete (ICI-IWC-2008) , Noida, New Delhi, on Dec 12 to 14 2008.

Ponmalar.V., **Ganesh Babu.K.**, and Gettu, R. "Strengthening Of Structural Elements With Fiber Reinforced Polymer Laminates" International conference on Advances in concrete, structural and geotechnical engineering, BITS, ACSGE-2009, Oct 25-27, Pilani, India. (Abstract accepted).

Subramanian V.A., Senthil Prakash M.N. (2008), Simulation of propeller-ship hull interaction using an integrated VLM/RANSE solver modeling, International Conference on High Performance Crafts HIPER 2008, Naples, October 2008

Subramanian V.A., Venkata Subbaiah A., (2009), Experimental and numerical investigations of SPAR platform with counterweights, International Conference in Ocean Engineering ICOE 2009, Chennai, February 2009.

Subramanian V.A., Sajini U.S., (2009), Hydrodynamic behavior of jacket spar platform, International Conference in Ocean Engineering ICOE 2009, Chennai, February 2009.

Subramanian V.A., Dhinesh G., (2009), Sub domain based numerical modeling of ship hull propeller interaction, International Conference in Ocean Engineering ICOE 2009, Chennai, February 2009.

Thayapraha, M., Murali.K and Anantha Subramanian.V. Experimental Investigation of submerged elastic plate in waves. *Proceedings of International Conference in Ocean Engineering, ICOE 2009*, IIT Madras.Chennai.

Subramanian V.A., Senthil Prakash M.N., (2009), Body force based simulation of propeller hull interaction, International Conference in Ocean Engineering ICOE 2009, Chennai, February 2009.

Visitors to the Department:

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
1.	Mr. K. Karunakara Gambhira, Chief Project Engineer	4-5 April 2008	Meeting
2.	Er. Chakrabarthy, EE(Mech)	28-30 May 2008	Meeting
3	Mr. R. K. Suryawanshi,, EE	2-3June 2008	Meeting
4	Mr. Pathran, Superintending Engineer & Execuctive Engineer, Tuticorin Port Trust	22-23 October 2008	Meeting
5	Mr. G. V. S. Sankara Narayanan, EE & Mr. M. R. Rajanikanth, EE, Vizag	3-6 December 2008	Meeting
6	Mr.Nagan Srinivasan, USA	6-8 January 2009	Meeting
7	Mr. Rajeev Gupta DGNP Mumbai	25 th March 2009	Meeting

4.16 DEPARTMENT OF PHYSICS

4.16.1 Introduction:

The Department of physics was established in the year 1959 and now has Ph.D. and M.Sc. programmes in physics as well as an M.Tech programme in Solid state technology and B.Tech (Engg. Physics) programme. In addition, the 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., M.Tech, (Solid State Technology) and Ph.D.

New programmes:

MS DD programme

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech. (Engg.Phy)	22	14	11	10		57
M.Sc.	27	23	-	-	-	50
M.Tech.	06	06	-	-	-	12
Ph.D.	3	13	25	17	37	95
Total	58	56	36	27	37	214

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 & Venue	Financial Assistance from
01	S.Sunil Kumar	Ph.D,	39 th Annual meeting of the Division of Atomic and Molecular and Optical Physics	27 / 05 – 31 / 05 Nittany Lion Inn, State College, Pennsylvania	Institute
02	Samir Ranjan Meher	Ph.D.	National Symposium for Materials research scholars	16 / 05 - 22 / 05 IIT Bombay	
03	Rabindranath Mahato	Ph.D.	-do-	-do-	
04	Amrha Bhide	Ph.D.	11th Asian Conference on Solid State Ionics	09 / 06 – 13 / 06 Bharathiar Univ. Coimbatore	
05	Benson K.Money	Ph.D	- do -	-do-	
06	Paul Kumar Upputhuri	Ph.D.	International Conference on Laser Metrology 2008	30 / 06 – 02 / 07 Singapore	
07	G.Prathiba	PH.D.	58 th meeting of noble-laureates and students	29 / 06 – 04 / 07 Lindau, Germany	
08	Ummal Momeen	Ph.D.	Presented the paper in the 21 st International Conference on Atomic Physics	27 / 07 – 01 / 08 Univ of Connecticut, USA	

09	Maneesh Chandran	Ph.D.	Hot Wire CVD (HWCVD-5) Attending training of Hot Filament (HFCVD) system	19 / 08 – 24 / 08 MIT, Cambridge, USA San Francisco, USA	
10	Satyam Mukherjee	Ph.D.	4 th Ph.D European Complexity School	10 / 09 - 14 / 09 Hebrew University of Jerusalem, Israel	
11	M.R.Ananathan	Ph.D.	National Conference on Semi conductor Materials & Technology	16 / 10 – 18 / 10 Gurukula Kangri vishwavidyalaya, Haridwar, Uttarakhand	
12	S.R.Sarath Kumar	Ph.D.	-do-	-do-	
13	Anuradha Patra	Ph.D.	-do-	-do-	
14	C.Rangaswami	Ph.D.	-do-	-do-	
15	Ranjit Laha	Ph.D.	-do-	-do-	
16	K.Bala Murugan	Ph.D.	International Conference on Magnetic Materials and their Applications (MMA 21)	18 / 10 – 25 / 10 National Physics Lab. and Magnetic Society of India, New Delhi	
17	Rabindranath Mehato	Ph.D.	-do-	-do-	
18	K.Kamala Bharathi	Ph.D.	-do-	21 / 10 – 23 / 10	
19	K.Ramesh Kumar	Ph.D.	-do-	19 / 10 – 24 / 10	
20	S.Roopas Kiran	Ph.D.	National Seminar on Ferroelectrics and Dielectrics (NSFD-15)	04 / 11 – 11 / 11 Tapar Univ. Patiala, Punjab	
21	K.Balamurugan	Ph.D.	53 rd Annual Conference on Magnetism and Magnetic Materials (MMM 2008)	10 / 11 – 14 / 11 Austin Texas USA	
22	R.B.Rakhi	Ph.D.	International Conference on Functional Materials	27 / 11 – 29 / 11 IIT Madras	
23	Neetu Jha	Ph.D.	-do-	-do-	
24	D.Venkata Ramaniah	Ph.D.	Conference on Meta materials and their applications	16 / 12 – 21 / 12 Hyderabad	
25	N.Ravichandra Raju	Ph.D.	International Conference on Recent trends in Nanostructured-Materials and their applications	19 / 12 – 20 / 12 Osmania University Hyderabad	
26	Manas Ranjan Parida	Ph.D.	-do-	18 / 12 – 22 / 12 Osmania Univ. Hyderabad	
27	M.R.Ananthan	Ph.D.	53 rd DAE - Solid State Physics Symposium -SSPS 2008	16 / 12 – 20 / 12 BARC, Mumbai	
28	Ranjit Laha	Ph.D.	-do-	-do-	
29	C.Rangasami	Ph.D.	-do-	-do-	

30	S.R.Sarath Kumar	Ph.D.	-do-	-do-	
31	Laxmi Narayana Patro	Ph.D.	-do-	-do-	
32	Jyotsana Gupta	Ph.D.	Photonics 2008	IIT Delhi 13 / 12 – 17 / 12	
33	Kamala Bharathi	Ph.D.	International Symposium for Research scholars on Metallurgy, Material Science and Engineering	IIT Madras 10 / 12 – 12 / 12	
34	K.Ramesh Kumar	Ph.D.	-do-	-do-	
35	R.V.Muniswami Naidu	Ph.D.	DST-SERC School on Science and Technology of Processing Plasma	Birla Institute of Technology , Ranchi 15 / 12 – 27 / 12	
36	Ashok Kumar Baral	Ph.D.	2 nd International Symposium on Materials Chemistry, IMSC-2008	BARC, Mumbai 30 / 11 – 08 / 12	
37	Jyothirmayee Aravind.S.S.	Ph.D	Second Intl.Conf. on frontier in Nanoscience and Technology	03-/01 - 06/01 Cochin	
38	Rakhi R.B	Ph.D	-do-	-do-	
39	V. Eswaraiah	Ph.D.	-do-	-do-	
40	Adarsh Kaniyoor	Ph.D.	-do-	-do-	
41	TessyTheres Baby	Ph.D.	-do-	-do-	
42	Ashish Kumar Mishra	Ph.D	Intl.Conf. on Transport and Optical properties of Nanomaterials - 2009 (ICTOPON – 2009)	05/01 - 08/01 University of Allahabad, UP	
43	Samir Ranjan Meher	Ph.D	-do-	-do-	
44	Manas Ranjan Parida	Ph.D.	-do-	-do-	
45	Rabindra Nath Mahato	Ph.D	Intl.Conf.on Active/Smart Materials	07/01 – 09/01 Thiyagarajar Collge of Engg. Madurai	
46	Nibedita Ram	Ph.D.	National Laser Symposium'08 (NLS 08)	07/01 – 10/01 LASTEC, Delhi	
47	Manas Ranjan Parida	Ph.D.	DAE-BRNS Symposium on Atomic molecular and optical physics	07 / 02 – 15 / 02	
48	Gagan Bihari Pradhan	Ph.D.	-do-	07 / 02 – 15 / 02 Inter University Accelerator Centre, New Delhi	
49	Jobin Jose	Ph.D.	-do-	-do-	
50	S.Sunil Kumar	Ph.D.	-do-	-do-	
51	J. Anupriya	Ph.D.	-do-	-do-	
52	Rabindranath Mehato	Ph.D.	INDO-US workshop on Advanced Magnetic Materials and Their Applications	01 / 03 – 04 / 03 IIT Bombay	
53	C.Ganesh Raj	Ph.D.	-do-	-do-	

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

The paper entitled "NaPO₃ based fast ion conducting glassy and polymer electrolyte systems" Sri Amrtha Bhide and Prof. K.Hariharan (Authors) has received best paper presentation award in the 11th Asian Conference on Solid State Ionics held at Bharathiar University Coimbatore (June 9 – 13, 2008). The award includes a Certificate and a token of cash Rs.2,500/-

The poster entitled "Transport studies in MSnF₄ (M:Ba,Sr) fluoride ion conductors" by Sri Laxmi Narayana Patro and Professor K.Hariharan (Authors) has been selected for the poster award in the 53rd DAE Solid State Physics Symposium held at BARC, Mumbai during December 16-20, 2008. The award includes a Certificate and a cash prize of Rs.500/-.

Dr. Tanima Banerjee, who did her Ph.D. in the Department of Physics, IIT Madras on "Electron Correlation and Relativistic Effects in Atomic Multipole Transitions", was awarded the IPA-ISAMP BEST THESIS AWARD at the above DAE Symposium.

2.8. 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.	S Sriram	EP05B007	Institute Merit Prize	IITM
2.	K Nirmal Raj	EP05B010	Silver Medal	Rajalakshmi Krishnamurthy English Prize
3.	Deepak Venkatesh Varan	PH06M001	Institute Merit Prize	IITM

Faculty and their activities:

Faculty:

Professors

V.Balakrishnan, Ph.D.
Brandeis Univ.,

P.C.Deshmukh, Ph.D (Head)
Nagpur Univ., Nagpur

K.Hariharan, Ph.D
IIT, Madras

M.P.Kothiyal, Ph.D
IIT, Madras

(Mrs) S.Lakshmi Bala, Ph.D
Madras Univ.

G.Markandeyulu, Ph.D
IIT, Madras

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

M.S.Ramachandra Rao Ph.D
IIT, Kharagpur

Major area of specialization

Dynamical Systems , Quantum Dynamics and Stochastics

Atomic and Molecular Physics

Solid state ionics

Applied optics

Theoretical Physics with specialization in gauge theories, dynamical systems and chaos

Magnetism and magnetic materials

Microwaves and Dielectrics

Resonance spectroscopy

Conducting polymers, Instrumentation Electronics

Dynamical systems, Statistical Physics

Experimental Solid State Physics (Electronic and Management Materials - Thin films and bulk): Spintronics and Nanostructures

S.Ramaprabhu, Ph.D
IIT, Madras

V.Sankaranarayanan, Ph.D
IIT, Madras

A.Subrahmanyam, Ph.D.
IIT, Kharagpur

P.B. Sunil Kumar, Ph.D.
IISc, Bangalore

C.Vijayan, Ph.D
IIT, Madras

G.Rangarajan Ph.D.
IISc. Bangalore

Associate Professors

Arul Lakshminarayan, Ph.D.
SUNY Stony Brook, USA

A.R.Ganesan, Ph.D.
IIT, Madras.

S.Kasiviswanathan, Ph.D.
IIT, Madras

Prem B. Bisht, Ph.D
Kumaun Univ., Nainital

M.V.Satyanarayana, Ph.D
IMSc. (Madras Univ.)

K.Sethupathi, Ph.D
Moscow State Univ., Russia

V.Subramanian, Ph.D.
IIT, Madras

Govindarajan Suresh, Ph.D
Pennsylvania Univ., USA

Assistant Professors

N.Harish Kumar, Ph.D
University of Hyderabad.

Mahaveer Kumar Jain, Ph.D.
IIT Delhi,

P.Murugavel, Ph.D.
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. Nirmala, Ph.D.
IIT Madras.

Hydrogen Production, Hydrogen Storage in Materials and Nonomaterials

Low Temperature Physics, Cryogenics, Thermal and Electrical Properties

Semiconductor Devices, photovoltaics Transparent conducting thin films

Soft condensed matter, Complex Fluids

Photonics, Nonlinear Optics

Low Temperature Physics, Super Conductivity

Major area of specialization

Quantum Chaos, Quantum Information theory, Chaos and Transport, Mathematical Physics

Applied Optics, Optical metrology

Thin Films

Ultrafast laser optics and spectroscopy

Quantum optics

Low temperature physics, Superconductivity and Magnetic Materials

Microwaves, Semiconductors, Ferroelectrics

Theoretical Physics, Quantum Field Theory String Theory, Solitons and D-branes

Superconductivity, Novel magnetic materials, Instrumentation and automation

Ceramics Sensors

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

Condensed Matter Theory

Magnetism in Condensed Matter Physics.

Experimental Condensed Matter,
Material properties at low temperatures, Rare earth magnetism

Aditi Simha, Ph.D. IISc, Bangalore	Non-Equilibrium Statistical Physics
Manoj Gopalakrishnan, Ph.D IMSc, Madras University	Theoretical Biophysics,
Prahallad Padhan, Ph.D. IIT Kanpur	Experimental Condensed Matter Physics
Umesh Kadhane, Ph.D, TIFR, Bombay	Atomic and Molecular Physics
James Libby, Ph.D. Univ.of Oxford	Experimental particle physics, CP-violation and flavour physics

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

SI.No.	Coordinator(s)	Title	Period
Symposia:			
01	Dr.V.Balakrishnan	Indo-Belgian Symposium on the Statistical Physics of Small Systems	09 / 11 –10 / 11 IITM Institute of Mathematical Science, Chennai Hasselt University, Belgium
Short term course:			
02	Dr.V.S.Murty	QIP-STTP "RECENT TRENDS IN ATMOSPHERE SCIENCES"	16 / 08 – 22 / 08

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

SI.No.	Name of the Faculty	Name of the Conference / Seminar / Symposia / Workshop	Date & Place
01	Dr.Prasanta K Tripathy	Seminar on Non-susy attractors duality symmetry and the cardy limit at the CQeST Workshop	25 / 04, Sogang Univesity South Koria
02	Dr.Prasanta K Tripathy	Attended the Monsoon workshop on String Theory at TIFR	02 / 06 – 13 / 06 Mumbai
03	Dr.Arul Lakshminarayan	International Conference on Nonlinear Systems and Turbulence	17 / 07 – 19 / 07 IISc. Bangalore
04	Dr.R.Nirmala	International Conference on Magnetic Materials and their Applications	21 / 10 – 23 / 10 NPL, New Delhi
05	Dr.T.S.Natarajan	Byrraju Foundation National Seminar	21 / 10 Satyam Enclave, Hyderabad.
06	Dr. V.S.Murty	To attend IAPT 2008 annual conference	16 / 10 - 19 / 10 Bangalore
07	Dr.V.R.K.Murthy	15 th National Seminar on Ferroelectrics	06 / 11 – 08 / 11 Tapar University Patiala, Punjab
08	Dr.S.Ramaprabhu	Seminar on Fostering Solar Energy Research in India	18 / 11 Amity Institute of Advances Research and Studies, Noida, UP
09	Dr.P.B.Bisht	Materials and their Applications (METAIn-2008)	17 / 12 – 20 / 12 Hyderabad Central Univ. Hyderabad

10	Dr.Prasanta K. Tripathy	Indian Strings Meeting 2008	06 / 12 – 13 / 12 Pondicherry,
11	Dr.Suresh Govindarajan (one of the organizer for the International Conference)	Indian Strings Meeting 2008	06 / 12 – 13 / 12 Pondicherry,
12	Dr.Rajesh Narayanan	Indian Condensed Matter Workshop 2008	09 / 12 – 22 / 12 Mahabaleshwar, Maharashtra
13	Dr.M.S.Ramachandra Rao	International Conference on Recent trends in Nanostructured-Materials and their applications	09 / 12 Osmania University Hyderabad
14	Dr.S.Lakshmi Bala	International Conference on Cold Atoms	12 / 12 – 16 / 12 Indian Institute of Science Education & Research , Kolkata
15	Dr.C.Vijayan	International Conference on Nanomaterials	03 / 01 – 04 / 01 Cochin University, Kochi
16	Dr. M.P. Kothiyal	National Laser Symposium'08 (NLS 08)	07/01 – 10/01 LASTEC, Delhi
17	Dr.M.S. Ramachandra Rao	Conference on misoorganic and ferroic materials	09/01 – 11/01 BHU, Varanasi
18	Dr.Arul Lakshminarayan	Non-Hermitian Hamiltonians in Quantum Physics	11/01 – 16 /01 BARC, Mumbai
19	Dr.N.M.Gupte	DST SERC SCHOOL on Nonlinear Dynamics	05 /02 – 09 / 02 New Delhi
20	Dr.P.C.Deshmukh	DAE Symposium on Atomic Molecular & Optical Physics	IUAC, Delhi 12 / 02 – 14 / 02
21	Dr.S.Ramaprabhu	Workshop of Nanotechnology Conference in Sri Sathyasai Univ.	19 / 02 Trivandrum 26 / 02 – 28 / 02 Prasanthi Nilayam,
22	Dr.K.Sethupathi	National Symposium on Applied Physics	26 / 03 NIT Thiruchirapalli.

Special Lectures delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Institution	Date
01	Dr.N.M.Gupte	Lecture on the Dynamical origins of statistical behaviour	Cochin	05 / 04
02	Dr.P.K.Tripathy	Lecture on Non-supersymmetric attractors in string theory.	Sogang university, Korea	23 / 04
03	Dr.V.Balakrishnan	Lecture at DST SERC school on Nonlinear Dynamical and deliver a invited talk at International conference on NLD at IISc Bangalore	IISc. Bangalore 14 / 07 – 18 / 07	14 / 07 – 18 / 07
04	Dr.P B.Bisht	Lecture on "Applications of femtosecond lasers in fluorescence microscopy" was delivered in "STTP on Applications of lasers in sensing and measurements"	IIT Madras 14 / 07 – 19 / 07	14 / 07 – 19 / 07

05	Dr.M.V.Satyanarayana	Lectures on Basic Quantum Mechanics	Vivekananda College, Puttur	30 / 08.
06	Dr.Suresh Govindarajan	Lecture on Generalized Kac-Moody algebras from CHL dyons	Centre for High Energy Physics, IISc Bangalore	08 / 09 – 09 / 09
07	Dr.M.V.Satyanarayana	Lecture on Quantum Mechanics	Yogi Vemanna University, Kadapa	11 / 09
08	Dr.V.S.Murty	Lecture on trends in Experimental Physics	Yogi Vemanna University, Kadapa	12 / 09
09	Dr.A.R.Ganesan	Lecture on Photonics	Cochin University of Science & Technology, Cochin.	04 / 09
10	-Dr. P.B.Bisht	Lecture on Lasers and Modern Optics	Vellamal Engineering College, Chennai.	19 / 09
11	Dr.V.R.K.Murthy	Lecture on Role of Microwave Heating on Nano Ferroelectrics and metals - Correlation between Theory and Experimental data	VIT Vellore,	26 / 09
12	Dr.S.Ramaprabhu	Lecture on Carbon Nanotubes:- Synthesis and Energy Related Applications Lecture on Nano Technology and its applications Lecture on Processing & Applications of CNTs and Graphene	MCC, Chennai BHEL, Hyderabad. Vikram Sarabhai Space Centre; Thiruvananthapuram	12 / 09 16 / 09 23 / 09
13	Dr.Arul Lakshminarayan	Hamiltonian Chaos: an Invitation Extreme value statistics in Physics	Dept. of Mech. Engg IIT Kanpur Physics seminar at IIT Kanpur	20 / 10 22 / 10
14	Dr.C.Vijayan	Nonlinear optical processes in semiconductor quantum dots New Vistas in Nonlinear Optics	National Conference on Nanophotonic Materials Dept of Optoelectronics Kerala university, Trivandrum	11 / 10 23 / 10
15	Dr.C.Vijayan	The forces of Nature Raman Day Lecture on spectroscopy of Semiconductor Nanoclusters	IIT Hyderabad Cochin University	01 / 11 07 / 11
16	Dr.P.C.Deshmukh	Lecture on 1) Symmetry and Conservation Laws 2) Two – Hundred Years of Atomic Physics since Dalton's Atomistic Model	Nagpur University	04 / 12 06 / 12

17	Dr.V. Balakrishnan	Delivered a Colloquium lecture	IISER, Pune	06 / 01
18	Dr. Suresh Govindarajan	Colloquium talk on "String Theory: a status report" Lie Algebras and the entropy of Dyonic black holes	PRL, Ahmedabad	20 / 01 22 / 01
19	Dr.Arul Lakshminarayan	Lecture on Quantum Entanglement at avoided crossings	BARC, Mumbai	11/ 01 – 16 / 01
20	Dr. P. B. Bisht	'Problems and their rectification in lab-assembled time-resolved single-photon fluorescence microscope'	Edinburgh Instruments, Edinburgh, U.K	18 / 02
21	Dr.A.R.Ganesan	Colloquium lecture on Optical wavefront estimation and control for adaptive optics and vision science	PRL Ahmedabad	12 / 02
22	Dr.V.S.Murty	Importance of Science Understanding earth	Yazali High School – Yazali AP P.B.Siddartha College Vijayawada	28 / 02
23	Dr.M.S.Ramchandra Rao	Growth and Device Applications prospects of oxide nanostructures NSPM 2009 Electrical optical properties of ZnO nanostructures	S.V. University Tirupati University of Kerala	23 / 02 – 24 / 02 26 / 02
24	Dr.Umesh Khadane	Fast heavy ion collisions with C60 and Collective excitation A novel technique for time-resolved daughter ion mass spectrometry of molecular ions	Inter University Accelerator Centre, IUAC New Delhi	11 / 02 12 / 02
25	Dr.P.C.Deshmukh	Invited talk (KSTA Lecture)	Bangalore University	23 / 03
26	Dr.T.S.Natarajan	Golden Jubilee Celebrations of IAPT (Indian Association of Physics Teachers) invited talk in Physics Lecture and Demonstration – Learning Physics by doing	RK Vidhyalaya Arts & Science College, Coimbatore KG College of Arts & Science , Coimbatore	05 / 03 06 / 03
27	Dr.V.S.Murty	Keynote address – Improving Physics Education Magnetic Resonance	Bapatla Arts & Science, Bapatla Indian Association of Physics Teachers at Regional Council Karnataka Science and Technology Academy, Bangalore University	01 / 03 25 / 03
29	Dr.P.B.Bisht	A Colloquium on Nonlinear optics and fluorescence microscopy in picosecond and femtosecond time scales at IIT Madras Microcavity effects in fluorescence of nanocoated microspheres'	School of Eng. Physics & Sciences, Heriot Watt University, Edinburgh, UK Physics department, Strathclyde University, Glasgow, UK	04 / 03 11 / 03

Visits Abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of Visit	Funding from
01	Dr.M.S.Ramachandra Rao	UK London	09 / 04 –11/ 04	Attended the Journal of Physics D Editorial Board meeting under Brief Visit	Institute
		France	05 / 05– 18 / 07	Visit the University of Renens, France and taken a position as an Academic Scholar and a Visiting Professor under the Erasmus Mundus Master course under Provisional visit	
02	Dr.Prasanta Kumar Tripathy	South Korea	21 / 04– 29 / 04	Attended the Center for Quantum Space time Workshop under Brief Visit	
03	Dr.Suresh Govindarajan	Switzerland	06 / 05– 06 / 06	Visited the Theoretical Physics unit of European Centre for Nuclear Physics at Geneva in connection with research work under provisional visit	
04	Dr.P.Murugavel	South Korea	19 / 05– 18 / 07	Visited the Seoul National University and under Provisional visit	
05	Dr.A.Subrahmanyam	France	19 / 05- 31 / 05	Visited Italy, Switzerland & Germany under Personal visit	
		France	01 / 06 – 29/ 06	Visited Ecole Polytechnique, Paris t o establish research collaborations	
		Ireland	30 / 06– 04 / 07	Presented the paper in the 14 th International Conference on Solid Films and Surfaces, Trinity College, Dublin	
06	Dr.M.P.Kothiyal	UK	10 / 05 – 15 /07	Visited UK under private visit	
07	Dr.S.Ramaprabhu	Singapore	24 /5 – 01 / 06	Visited National University of Singapore under brief visit	
		France	19 / 06 –21 / 06	Visited Laboratorie de Reaction de Cheme des Solids	
		Portugal	22 / 06 –25 / 06	Delivered an invited talk at the second international conference on advanced Nano Materials at Aveiro	
		Germany	26 / 06– 01 / 07	Visited Technische Universitat, Dramstadt	
08	Dr.P.C.Deshmukh	USA	06 / 06– 31 / 07	Presented the paper in XXI International Conference on Atomic Physics at Storrs, Connecticut and to visit Georgia State University, Atlanta for research collaboration	

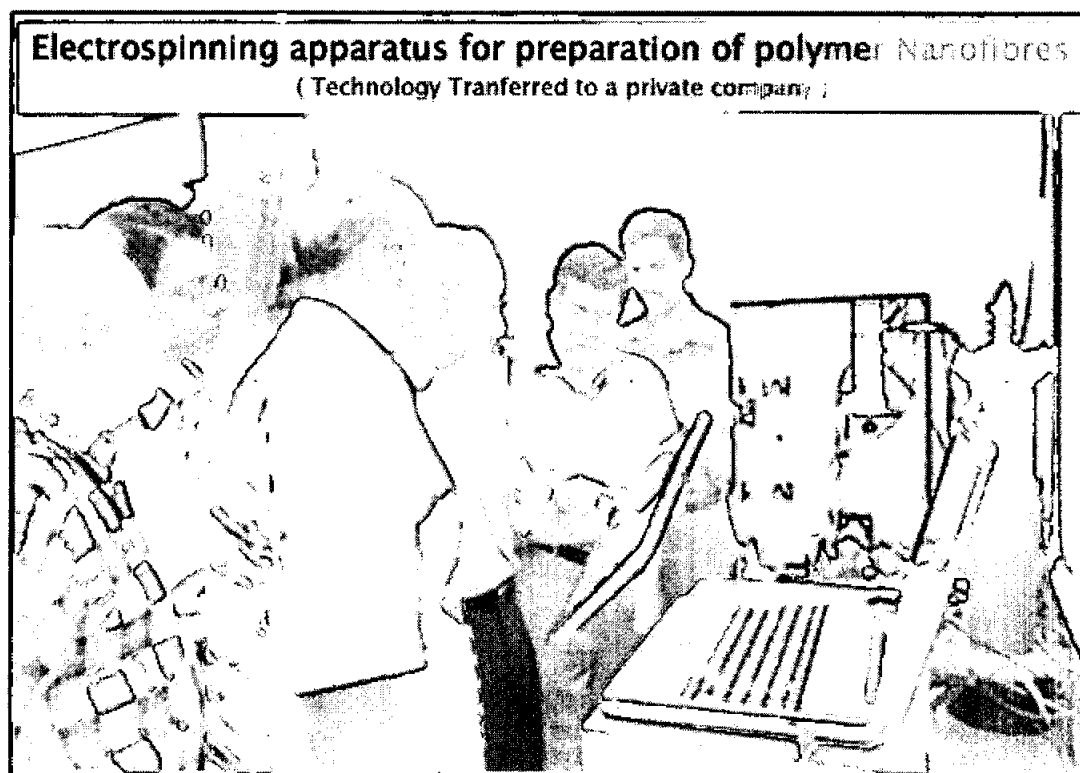
09	Dr.V.Subramanian	USA	26 / 06– 15 / 07	Presented the paper in Electromagnetics Research Symposium – 2008 and visit other Universities	
10	Dr.S.Kasisviswanathan	Japan	18 / 06– 19 / 06	Indo-Japan workshop in University of Tokyo, to discuss the details of potential collaboration at IIT Hyderabad.	
11	Dr.P.B.Sunil Kumar	Canada	08 / 06– 11 / 06	Attended the Annual Congress of the Canadian Association	
			12 / 06– 15 / 06	Visited the University of Western Ontario	
		Slovenia	20 / 06– 20 / 07	Visited the University of Ljubljana, Solvenia to discuss the advance of ongoing co-operation under India-Slovenia Scientific Co-operation	
12	Dr.N.M.Gupte	Greece	12 / 07- 20 / 07	Presented the paper at the Orthodox Academy of Greece at Kolymbari	
		Singapore	25 / 07– 01 / 08	Visited the University of Singapore	
13	Dr.A.T.Seshari	USA	20 / 07– 25 / 07	Presented the paper at the Conference on High Temperature Materials Processes and Diagnostics at Maine	
14	Dr.A.R.Ganesan	Beijing, China	24 / 09 - 29 / 09	Presented the paper in the XVIII International Congress of Eye Research	
15	Dr.M.S.Ramachandra Rao	France	21 / 09– 06 / 10	University of Rennes 1, France to interact with new students, formulation of projects & to discuss the students exchange related issues as a part of the Erasmus Mundus Scholarship Award	
16	Dr.K.Sethupathi	Singapore	17 / 09– 19 / 09	Visited Singapore and discussed collaborative research with scientists	
17	Dr.A.Subrahmanyam	Germany,	29 / 09 / 08 – 28 / 09 / 09	To take up the position as a Guest Professor at Technical University, Dresden Germany, for a period from 29.09.2008 to 28.09.2009 under DAAD.	
18	Dr.P.B.Bisht	Univ. of Western Australia, Perth Australia	24 / 11– 28 / 11	8 th Asian International Seminar on Atomic and Molecular Physics ((AISAMP8)	
19	Dr.M.S.Ramachandra Rao	Kyushu University Japan	03 / 11– 07 / 11	Discussion with Prof.Okada, for Indo-Japan Collaboration under Brief visit	

20	Dr.N.M.Gupte	Singapore	25 / 11– 15 / 12	Collaborative visit at National University Singapore, and attended the Joint Conference on Structural biology and genomics	
21	Dr.P.B.Sunil Kumar	Spain & Belgium	03 / 12 –12 / 12	Visited the University of Barcelona, Spain for research collaboration work and visited the Free Brussels, Belgium Under brief visit	
22	Dr.P.B.Bisht	Scotland (UK)	.01 / 02 –31 / 03	Professional visit	
23	Dr.M.S.Ramachandra Rao	London,UK	26 / 03 –30 / 03	Editorial Board Meeting for the Journal of Physics at Institute of Physics under Brief Visit	

Book Edited

1. Perspectives in Nonlinear Dynamics edited by N. Gupte and R. Ramaswamy, Indian Academy of Sciences, Bangalore (2008).

An Electrospinning Apparatus was designed, developed by us and technology transferred to M/s Physics Instrument Co., Chennai. It was formally launched by Prof.M.S.Ananth, Director, IIT Madras in the presence of Prof.T T Narendran, Dean of I C & S R.



Electrospinning apparatus for preparation of polymer Nanofibres
(Technology Transferred to a private company)

In

3.9.

Patents awarded:

2. Two patents awarded for Professor S.Ramaprabhu's nanotechnology devices.

- (i) NANOCOMPOSITE ADSORBENT FOR DYE REMOVAL FROM INDUSTRIAL WASTE-WATER
- (ii) SPACERLESS NANOMATERIALS FOR CANCER TREATMENT & TARGETED DRUG DELIVERY

Patents filed:

- 1. **Prem B Bisht** and Indrapal Singh Aiden, A new dye for applications in dye laser and nonlinear Optics and as a fluorescence lifetime standard Patent application no.2643/CHE/2008 dated 30 Oct. 2008

4.16.5 Research and Consultancy:**Sponsored Research Projects:**

Sl. No.	Name of the Faculty	Title	Industry	Amount (Rs. in lacs) Duration
01	Dr.A.Subrahmanyam (PI) Dr.Mahaveer Kumar Jain (Co-Investigator)	Studies on synthesis and characterization of p – type Zinc Oxide (ZnO) thin films electronic paper and spintronix applications	Dept of Information Technology	45.61 L 2 yrs
02	Dr.T.S.Natarajan R.Vasantha Kumari Crescent Engg. College Vandalore	Development of heated gloves for soldiers in cold mountain areas	Defence Institute of Physiology & Allied Sciences	9.61 L 13.04.08 – 12.01.09
03	Dr.M.S.Ramachandra Rao Dr. K.Sethupathi Dr.N.J.Vasa Dept. of Engg.Design	Development of light emitting devices based on ZnO nanowires and heterostructures	DST	5.75 L 2 yrs
04	Dr.T.S.Natarajan Dr.Vinod Kumar Shahi Central Salt & Marine Chemicals Research Institute, Bhavanagar, Gujarat	Development of electrospun nanofibrous membranes for separation and electrochemical processes	DST	20.30 L
05	Dr.V.Subramanian Dr.T.S.Natarajan	High frequency carrier mobility measurement in semiconductors using microwave techniques	DRDO	47.09 L 3 yrs
06	Dr.S.Ramaprabhu (PI) Dr.Michael Farie Universitaet Duisburg- Essen, Duisburg, Germany (other Collaborator)	Fe-Ni nanoparticles as catalysts for the synthesis of Carbon nanotubes	DST	3.86 L 2 yrs 12 /09/08 – 31/08/10
07	Head Dept. of Physics (PI)	Augmentation of research facilities in Low Temperature Physics area (FIST Program)	DST	295 L 5 yrs

08	Dr.R.Nirmala	Rare Earth intermetallic compounds for magnetic cooling/heating applications	BRNC	Rs.12.66 L 3 yrs 11/08 – 03/11
09	Dr.V.Subramanian (PI) Dr.Krishnan Balasubramanian Dept. of Mech.Engg. Co-Investigator	Development of scanning near field microwave microscope of nano imaging dielectric and magnetic materials	DST	3 yrs Rs.83.31 L
Sl. No.	Name of the Faculty	Title	Industry	Amount (Rs. in lacs) Duration
10	Dr.N.Harish Kumar	Investigation of structural and magnetic properties of half metallic heusler alloys	UGC-DAE Consortium for Scientific Research	3 Years Rs.1.05 L
11	Dr.C.Vijayan and Co-Investigator is Dr. Prathap Haridoss, Dept. of Met. & Mat. Engg	Development of smart materials based on non-linear optical absorption and optical limiting in nano materials	DRDO	3 years Rs.43.26 L
12	Dr.S.Ramaprabhu Dr.V.Sankaranarayanan Co-investigator	Hybride dye sensitized organic solar cells	DRDO	2 yrs 39.26 L
13	Dr.P B Sunilkumar.	Equilibrium and dynamical properties of polyelectrolytes: Effects of external fields and substrates"	CSIR	3 yrs 12.76 L

Research Publications:

Total No. of papers published in Referred National Journals	...	03
Total No. of Papers published in Referred International Journals	...	41
Total No. of Papers presented in National Conferences	...	30
Total No. of Papers presented in International Conferences	...	24

In Refereed National Journals

1. N. N. Thyagu and **N. Gupte**, Crisis and unstable dimension variability in the bailout embedding map, *Pramana*, 70, 1031 (2008).
2. Z. Jabeen and **N. Gupte**, Probabilistic signatures of spatiotemporal intermittency in the coupled sine circle map lattice, *Pramana*, 70, 1055 (2008).
3. S. Mukherjee and **N. Gupte** Message transfer in a communication network, *Pramana*, 70, 1109 (2008).

In Refereed International Journals

1. Laxmi Narayana Patro and **K. Hariharan**, AC conductivity and scaling studies of polycrystalline SnF₂, *Materials Chemistry and Physics*, Article in press, (2009) doi:10.1016/j.matchemphys.2009.02.056
2. Benson K Money and **K. Hariharan**, Crystallization kinetics and phase transformation in superionic lithium metaphosphate (Li₂O-P₂O₅) glass system, *Journal of Physics: Condensed Matter*, 21,115102, (2009)

3. Benson K Money and K. Hariharan, Glass formation and electrical conductivity studies of melt quenched and mechanically milled $50\text{Li}_2\text{O}:(50-x)\text{P}_2\text{O}_5:x\text{B}_2\text{O}_3$, *Solid State Ionics*, **179**, 1273 (2008)
4. K. Sathiyamoorthy, C. Vijayan, M.P. Kothiyal, Nonlinear Optical Response of Chloroaluminiumphthalocyanine Encapsulated by Silica Core-Shell Particles *Langmuir*, **24**, 7485-91 (June 2008)
5. K. Sathiyamoorthy, C. Vijayan, M.P. Kothiyal, Low power optical limiting in ClAl-Phthalocyanine due to self defocusing and self phase modulation effects *Optical Materials*, **31**, 79-86, (September 2008)
6. K. Sathiyamoorthy and C. Vijayan, Nonlinear refraction and absorption phenomena in a novel nanocomposite based on a dye stabilized in a solid hybrid matrix *Journal of Physical Chemistry C* **112**(37) 14336-14342 (September 2008)
7. P. Kumar, D. Kanjilal, C. Vijayan, Photoacoustic spectroscopy of Ni^+ -implanted quartz, Binita Ghosh, Purushottam Chakraborty, *Nuclear Instruments and Methods in Physics Research Section B: Beam, Interactions with Materials and Atoms*, **266**, 1229-1234 (April 2008)
8. Binita Ghosh, Purushottam Chakraborty, B. Sundaravel, C. Vijayan, Saturable absorption in gold implanted fused silica, *Nuclear Instruments and Methods in Physics Research Section B: Beam Interactions with Materials and Atoms*, **266**, 1356-1361 (April 2008)
9. T.S. Vaishnavi, Prathap Haridoss, C. Vijayan, Optical properties of zinc oxide nanocrystals embedded in mesoporous silica, *Materials Letters*, **62**, 1649-1651 (April 2008).
10. Rabindranath Mahato, K. Kamala Bharathi, K. Sethupathi and V. Sankaranarayanan, R. Nirmala, A.K. Nigam and Jagat Lamsal, *Magnetic, transport and magnetocaloric properties of double perovskiteoxide LaCaMnCoO₆*, *Journal of Applied Physics*, Vol. **105**, Page 07A908 (2009).
11. K. Mohan Kant, K. Sethupathi and M.S. Ramachandra Rao, Tuning the magnetization dynamics of silica-coated Fe_3O_4 core-shell nanoparticles by shell thickness control, *Journal of applied Physics* **103**, 07D 501 (2008)
12. K. Mohan Kant, K. Sethupathi and M.S. Ramachandra Rao, Role of oxide barrier in inter granular tunnel junctions: An enhanced magnetoresistance in SiO_2 and ZnO coated Fe_3O_4 nanoparticle compacts *Journal of applied Physics* **103**, 07F 318 (2008)
13. R. Venkatesh, M. Pattabiraman, K. Sethupathi, G. Rangarajan, S. Angappane and J.-G. Park Tricritical point and magnetocaloric effect of $\text{Nd}_{1-x}\text{Sr}_x\text{MnO}_3$, *Journal of applied Physics* **103**, 07B 319 (2008).
14. David Main Waring, P. Murugaraj, Nelson Mora- Huertas and K. Sethupathi Enhanced electro mechanical response of nonpercolating polymer-nanoparticle composite films, *Applied Physics Letters* **92**, 253303 (2008)
15. R.B. Rakhi, K. Sethupathi and S. Ramaprabhu, Field emission from carbon nanotubes grown on a graphitized carbon fabric compared with the same fabric with a spin coating of nanotubes. *Carbon*, **46**, 1656-1663 (2008)
16. R.B. Rakhi, K. Sethupathi and S. Ramaprabhu, Electron field emission properties of conducting polymer coated multi walled carbon nanotubes. *Applied Surface Science*, **254**, 6770- 6774 (2008)
17. R.B. Rakhi, K. Sethupathi and S. Ramaprabhu, Synthesis and Hydrogen adsorption properties of carbon nanotubes. *International Journal of Hydrogen Energy*, **33**, 381-386 (2008)
18. R.B. Rakhi, K. Sethupathi and S. Ramaprabhu, Synthesis and field emission properties of polymer/metal dispersed multi walled carbon nanotubes. *Nanotrends*, **5**, 1-9 (2008)
19. R.B. Rakhi, A. Leela Mohana Reddy, MM Shaijumon, K. Sethupathi and S. Ramaprabhu, Electron field emitters based on multiwalled carbon nanotubes decorated with nanoscale metal clusters *J. Nanopart. Res* **10**, 1, 179-189 (2008)
20. S. Mukherjee and N. Gupte, The gradient mechanism in a communication Network, *Phys. Rev. E* **77**, 036121 (2008).
21. V. S. Chakravarthy, N. Gupte, S. Yogesh, A. Salhotra Chaotic Synchronization using a network of neural oscillators, *International Journal of Neural Systems* (**18**), 157 (2008).
22. A. Nautiyal, P. B. Bisht, Broadly tunable parametric line emission from β -barium borate on pumping with picosecond pulses, *Optics Communications* **281**, 3351-3355 (2008).
23. D. Venkata Ramaiah and P. B. Bisht, High-Q whispering gallery modes of doped and coated single microspheres and their effect on radiative rate, *J. Opt. Soc. A m. B* **26**, 290-300 (2009).
24. K. Jayasree, P. Ranjith, Madan Rao, P. B. Sunil Kumar, Equilibrium properties of a grafted polyelectrolyte with explicit counterions *J. Chem. Phys.* **130**, 094901 (2009)
25. Sanoop Ramachandran, P. B. Sunil Kumar, and Mohamed Laradji, Lateral organization of lipids in multi-component liposomes Accepted for publication in *J. Phys. Soc. Jpn.* (2009)
26. Sanoop Ramachandran, P. B. Sunil Kumar, and Mohamed Laradji, Lipid flip-flop driven mechanical and morphological changes in model membranes *J. Chem. Phy.* **129**, 125104 (2008)
27. Jasna Urbanija, Klemen Bohinc, Alfredo Bellen, Stefan Maset, Ales Iglic, Veronika Kralj and P. B. Sunil Kumar, Attraction between negatively charged surfaces mediated by spherical counterions with quadrupolar charge distributions *J. Chem. Phy.* **129** 1015101 (2008)

28. Jan A. Astrom , **P. B. Sunil Kumar**, Ilpo Vattulainen and Mikko Karttunen, Strain hardening , avalanches , and strain softening in dense cross-linked actin networks *Phys. Rev. E*, **77** , 051913 (2008).
29. Yugal Khajuria and **P. C. Deshmukh** (e,2e) Study of Ca in Coplanar Symmetric geometry *Phys. Rev. A* **78**, 024702 (2008).
30. S. Sunil Kumar, **P. C. Deshmukh**, R. K. Kushawaha, V. Sharma, I. A. Prajapati, K. P. Subramanyan and B. Bapat Break-up of the SF63+ photoion revealed by momentum correlation between fragments *Phys. Rev. A* **78**, 062706 (2008)
31. V. Radojevic, Jobin Jose, G. B. Pradhan, **P. C. Deshmukh** and S. T. Manson Relaxation Effects in Photodetachment of Intermediate p Shells of the Chlorine and Bromine Negative Ions *Can. J. Phys.* **87**(1), 49-54 (2009)
32. Karan Govil, Siji A. J. and **P. C. Deshmukh** Relativistic and Confinement effects in photoionization of Xe *J. Phys. B: At. Mol. & Opt. Phys.* **42** 065004 (2009)
33. K.P. Rajesh and **T.S.Natarajan**, Electrospun Polymer Nanofibrous Membranes for Filtration, *Journal of Nanoscience and Nanotechnology* Volume 9, Page 1-4, 2009.
34. Ashok Kumar Baral and **V. Sankaranarayanan** Dielectric relaxation properties of nanostructured $Ce_{0.8}Gd_{0.1}Pr_{0.1}O_{2-\delta}$ material at intermediate temperatures *Applied Physics Letters*, Vol. **94**, Page 074101 (2009)
35. Ashok Kumar Baral and **V. Sankaranarayanan** Ion transport and dielectric relaxation studies in nanocrystalline $Ce_{0.8}Ho_{0.2}O_{2-\delta}$ material *Physica B: Condensed Matter*, In Press, Corrected Proof, n Available online 8 February 2009
36. Rabindranath Mahato, K. Kamala Bharathi, **K. Sethupathi** and **V. Sankaranarayanan**, R. Nirmala, A.K. Nigam and Jagat Lamsal Magnetic, transport and magnetocaloric properties of double perovskiteoxide $LaCaMnCoO_6$. *Journal of Applied Physics*, Vol. **105**, Page 07A908 (2009).
37. G. Srinivas, **V. Sankaranarayanan**, **S. Ramaprabhu** Magnetic and transport properties of Laves phase $Dy_{1-x}Mm_xCo_2$ ($x = 0-0.5$) alloys *Intermetallics*, Vol. **17**, Pages 150-153 (2009).
38. G. Srinivas, **V. Sankaranarayanan**, **S. Ramaprabhu** Optical switching properties of RCO_2 -type alloy thin films by electrochemical hydrogenation *International Journal of Hydrogen Energy*, Vol. **33**, Pages 5636-5640 (2008).
39. G. Srinivas, **V. Sankaranarayanan**, **S. Ramaprabhu** Magnetic properties of $Ho_{1-x}Mm_xCo_2$ ($x=0, 0.1, 0.2, 0.3$ and 0.4) alloys and their hydrides *Journal of Magnetism and Magnetic Materials*, Vol. **320**, Pages 2237-2240 (2008).
40. G. Srinivas, **V. Sankaranarayanan**, **S. Ramaprabhu** Thermodynamic and kinetic properties of $Ho_{1-x}Ti_xCo_2$ -hydrogen system *Journal of Physics and Chemistry of Solids*, Vol. **69**, Pages 1869-1876 (2008).
41. G. Srinivas, **V. Sankaranarayanan**, **S. Ramaprabhu** Hydrogen-induced and A-site substitution-dependent structural properties of AB_2 -type $(Ho_{1-x}A_x)Co_2$ -hydrogen system ($A = Mm$ and Ti) *Journal of Alloys and Compounds*, Vol. **458**, Pages 574-578, (2008)

Proceedings of National Conferences

1. Laxmi Narayana Patro and **K Hariharan**, Transport studies in $MSnF_4$ ($M: Ba, Sr$) fluoride ion conductors, 53rd DAE Solid State Physics Symposium, Mumbai, December 2008
2. Manas Ranjan Parida, **C. Vijayan**, **P C Deshmukh**, "Optical properties of Fe_2O_3 Nanostructures Prepared by a Chemical Route" "TC 2008" Sardar Patel University, Vallabh Vidyanagar, Gujarat, Jan 3 -5, 2008.
3. Manas Ranjan Parida, Pushpa Ann Kurian, **C.Vijayan**, **P. C. Deshmukh**, C. S. Suchand Sandeep, Reji Philip "Ultrafast Optical Nonlinearity of Gold Nanoparticles in Poly Vinyl-Pyrrolidone (PVP)" "DAE-BRNS Symposium on Atomic, Molecular and Optical Physics -2009" IUAC, New Delhi , February 10-13, 2009.
4. Rabindranath Mahato, **K. Sethupathi**, **V. Sankaranarayanan**, R. Nirmala and A.K. Nigam *Magnetocaloric effect in double perovskite $NdSrMnCoO_6$ in low magnetic field. Proc. 53rd DAE Solid State Symposium (SSPS-2008)* December at Bhabha Atomic Research Centre, Mumbai.
5. Rabindranath Mahato, **K. Sethupathi** and **V. Sankaranarayanan** *Magnetocaloric studies on tellurium doped noncrystalline manganites International symposium for Research scholars (ISRS-2008)* held at IIT Madras in December 2008.
6. Rabindranath Mahato, **K. Sethupathi** and **V. Sankaranarayanan** *Synthesis and characterization of nanocrystalline $La_{1-x}Te_xMnO_3$ ($0.1 \leq x \leq 0.3$). National Symposium for on Materials Research (MR-08)*, May 2008 held at IIT Bombay, Mumbai.
7. S. A.Ali, A. Nautiyal, **P. B. Bisht**, V. Shukla, K. S. Bindra and S. M. Oak, "Conical emission in beta - barium borate by using femtosecond Pulses", *Proc of 8th DAE-BRNS National Laser Symposium*

- (NLS-08), held at LASTEC New Delhi, Jan. 7 - 10, 2009, pp 67.
8. B. S. Kalanoor, R. Sailaja, **P. B. Bisht**, Dispersion minimized measurement of femtosecond pulses", *Proc of 8th DAE-BRNS National Laser Symposium (NLS-08)*, held at LASTEC New Delhi, Jan. 7-10,2009, pp. 61.
 9. A.Nautiyal, and **P. B. Bisht**, "Tunable emission from beta-barium borate by optical parametric amplification, four wave mixing, and second harmonic generation". *Proc of One day semiar on optics and photonics, IITM SPIE students chapter*, held at IIT Madras, Dec. 4, 2008, pp 31-32.
 10. B. S. Kalanoor, **P. B. Bisht**, S. Annamalai, I. S. Aidhen, "Nonlinear optical properties of Weinreb amid based distyrylbenzene", *One day semiar on Optics and Photonics, IITM SPIE students chapter*, held at IIT Madras, Dec. 4, 2008, pp. 29.
 11. A. Ali, A. Nautiyal, **P. B. Bisht**, V. Shukla, K. S. Bindra and S. M. Oak, "Simulations and experiments on the variations of the non-collinear angle in a femtosecond optical parametric amplifier", *One day semiar on Optics and Photonics, IITM SPIE students chapter*, held at IIT Madras, Dec. 4, 2008, pp. 27 - 28.
 12. **P. B. Bisht**, "Whispering gallery modes of nanocoated single microspheres", *Proc. Of National Conference on Nanophotonic Materials (NCNM 2008) held at Department of Physics Cochin University of Science and Technology, Cochin during October 9-11 2008*, P. 3.
 13. D. V. Ramanaiah and **P. B. Bisht**, "Optics of dye doped and coated single microspheres", *One day seminar on Optics and Photonics, IITM SPIE students chapter*, held at IIT Madras, Dec. 4, 2008, Dec. 4, 2008, pp. 25-26
 14. **P. B. Bisht**, 'Microscopy and ultrafast spectroscopy at IIT Madras, Physics retreat', PAN IIT meet, , IIT Madras, Dec. 21, 2008
 15. S. Sunil Kumar, Tanima Banerjee and **P. C. Deshmukh** Spin-Orbit Interaction Activated Interchannel Coupling Effect in Hg 3dPhotoionization. DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 16. Gagan Bihari Pradhan, Jobin Jose, **P. C. Deshmukh**, V. Radojevic' and S. T. Manson Relaxation Effects on the photoionization of Inner Shells of Atoms and Ions of Mg and Ar isonuclear sequence. DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 17. Gagan Bihari Pradhan, Jobin Jose, **P. C. Deshmukh**, V. Radojevic' and S. T. Manson Effect of interchannel coupling on shape resonance in quadrupole photodetachment of Cl-. DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 18. Manas R. Parida, Pushpa Ann Kurian, **C.Vijayan**, **P. C. Deshmukh**, C. S. Suchand Sandeep, Reji Philip Ultrafast Optical Nonlinearity of GoldNanoparticles in Poly Vinyl-Pyrrolidone (PVP).DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 19. Jobin Jose, Gagan Bihari Pradhan, **P. C. Deshmukh**, Vojislav Radojevic' and Steven T. Manson Photodetachment of Cl-: E1, E2 photoelectron angular distribution near Cooper minima. DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 20. Vivishek Sudhir and **P. C. Deshmukh** Scattering of Electrons off Hollow Cylindrical Potentials. DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 21. Karan Govil, Siji. A. J and **P. C. Deshmukh**, 4d spin orbit interaction induced correlation confinement resonances in Xe@C60 5s subshell DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 22. Karan Govil and **P. C. Deshmukh**, Relativistic and confinement effects on E1-E2 photoionization of Xe DAE-BRNS Symposium on Atomic, Molecular and Optical Physics, February 10-13, 2009, IUAC, New Delhi.
 23. ^a Rajesh K P, ^a **Natarajan T.S**, ^b Mathias Ulbricht. Electrospun Polymer nanofibrous membrane for filtration, International Conference on Nano Science and Technology (ICONSAT 2008) Chennai February, 2008.
 24. Jagadeesh Babu, D V B Murthy, **V. Subramanian**, **V.R.K. Murthy**, **T.S. Natarajan**. Department of Physics, IIT Madras, Chennai.Microwave Hall Mobility and DC electrical Studies on Electrospun-Conducting polymer Nanofibers. International Conference on Nano Science and Technology (ICONSAT 2008)Chennai February, 2008.
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 26. B.Mansoor Akhthar, ²V.Thiruvengadam, ¹R.Vasanthakumari, **T.S.Natarajan**. Development of flexible polymeric electrodes using electrospinning technique. Functional Materials, IIT Madras, Chennai. November 2008.

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29. Rabindranath Mahato, **K. Sethupathi and V. Sankaranarayanan**, Magnetocaloric studies on tellurium doped noncrystalline manganites International symposium for Research scholars (ISRS-2008) held at IIT Madras in December 2008.
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In Proceedings of International Conferences

1. Amrtha Bhide and **K.Hariharan**, NaPO₃ based fast ion conducting glassy and polymer electrolyte systems, 11th Asian conference on Solid State Ionics, Coimbatore, India, June 2008.
2. **K.Hariharan**, Crystallization kinetics and phase transformation of Lithium metaphosphate, 11th Asian Conference on Solid State Ionics, Coimbatore, India June 2008
3. Benson K Money and **K Hariharan**, Lithium ion dynamics in BPO₄: Xmol%Li₂O (0≤x≤10) and PEO: (BPO₄:X mol%Li₂O) systems, 11th Asian conference on Solid State Ionics Coimbatore, India, June 2008
4. Laxmi Narayana Patro and **K Hariharan**, Ionic transport studies in SnF₂ based fluorine ion conductors, 11th Asian conference on Solid State Ionics, Coimbatore, India, June 2008
5. Laxmi Narayana Patro and **K Hariharan**, Influence of nano size fillers on the transport characteristics of mechanochemically synthesized NaSn₂F₅, International Symposium for Research Scholars on Metallurgy, Materials science & Engineering, IIT Madras, Chennai, December 2008.
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8. Manniledam Kavitha, Edamana Prasad Manas Ranjan Parida., **C.Vijayan, P.C.Deshmukh**, "Nonlinear Optical properties of Silver Nanoclusters in PAMAM Dendrimers" " International Conference on Transport and Optical Properties of Nanomaterials-2009" Allahabad University, Allahabad, January 5-8 , 2009.
9. Jyotsana Gupta and **C. Vijayan** " Optical properties of a new nanohybrid based on CNTs functionalized with a water soluble porphyrin", International Conference on Functionalized Material (ICFM), November 2008, Chennai
10. Jyotsana Gupta, **C. Vijayan**, Sandeep Kumar Maurya, and D. Goswam "Nonlinear optical response of carbon nanotubes functionalized with a water soluble ink", International Conference on Fiber Optics and Photonics (ICFOP) December 2008, Delhi, Proceedings page 378.
11. **Rabindranath Mahato, K. Sethupathi and V. Sankaranarayanan**, *Structure , magnetic and magnetocaloric studies on Co substitution nanocrystalline perovskite manganite Pr_{0.7}Ca_{0.3}MnO₃*. International Conference on Functional Materials for Advanced Techbiology (ICFMAT-2009, January 29-30, VEC Chennai, India
12. Rabindranath Mahato, K. Sethupathi and V. Sankaranarayanan *Structure and magnetic studies of nanocrystalline Pr_{0.7}Sr_{0.3}Mn_{0.5}Co_{0.5}O₃* International Conference on Active/ Smart Materials (ACASM-2009),Jan. Madurai Tamilnadu..
13. D. V. Ramanaiah and **P B. Bisht**, "Studies of whispering gallery modes of single coated microsphere by steady-state and time- resolved laser fluorescence microscopy", *The 8th Asian International Seminar on Atomic and Molecular Physics(AISMAPP8)*, University of Western Australia, Perth, Nov. 24 - 28, 2008, p. Fri-A-9.
14. D. V. Ramanaiah and **P B. Bisht**, "Effect of refractive index of the medium on radiative rates of molecules coated on single optical microcavities", *International Conference on Trends in Optics and Photonics*, held at University of Calcutta, Mar. 1 - 4, 2009, pp. 339-345.
15. A. Nautiyal and **P. B. Bisht**, "Novel technique for generation of tunable emission from beta - barium borate", *Proc of International Conference on Functional Materials for Advanced Technology*, held at Vellamel Engineering College, Chennai, Jan. 29 - 30, 2009, pp 63.
16. **P. B. Bisht**, 'Ultrafast laser fluorescence microscopy', *Proc of International Conference on Functional Materials for Advanced Technology*, held at Vellamel Engineering College, Chennai, Jan 29-30, 2009, pp 6.

17. S Sunil Kumar, Tanima Banerjee, P C Deshmukh and S T Manson, Spin Orbit Interaction Activated Interchannel Coupling (SOIAC) Effect in Dipole and Quadrupole Photoionization DAMOP 2008 May 27-31, 2008, Nittany Lion Inn, State College, Pennsylvania
18. Hari R Varma and P.C.Deshmukh Sensitivity of atomic wavefunctions and probability densities to confinement parameters DAMOP 2008 May 27-31, 2008, Nittany Lion Inn, State College, Pennsylvania
19. M. Ummal Momeen, G. Rangarajan and P. C. Deshmukh Optical pumping effect on the magnetic field dependent intensity of hyperfine split D1, D2 lines of 85Rb and 87Rb International Conference on Atomic Physics, 2008, July 27 - August 1, Connecticut, USA (2008)
20. M. Ummal Momeen, G. Rangarajan and P. C. Deshmukh Optical field Induced Faraday Rotation at Geophysical Magnetic fields: Role of Electromagnetically Induced Transparency International Conference on Atomic Physics, 2008, July 27 - August 1, Connecticut, USA (2008)
21. V. Radojevic, Jobin Jose, G. B. Pradhan, P. C. Deshmukh and S. T. Manson Photodetachment of 2p shells of chlorine negative ion Publ. Astron. Obs. Belgrade No. 84, 61-64 (2008)
22. Rabindranath Mahato, K. Sethupathi and V. Sankaranarayanan Structure, magnetic and magnetocaloric studies on Co substitution nanocrystalline perovskite manganite $\text{Pr}_{0.7}\text{Ca}_{0.3}\text{MnO}_3$. International Conference on Functional Materials for Advanced Techbiology (ICFMAT-2009, January 29-30, VEC Chennai, India
23. Ashok Kumar Baral, Rabindranath Mahato and V. Sankaranarayanan Electrical and dielectric properties of nanostructured $\text{Ce}_{0.3}\text{Gd}_{0.2}\text{O}_{2.5}$ material at intermediate temperatures. International Conference on Active/ Smart Materials (ACASM-2009), Jan. Madurai Tamilnadu..
24. Rabindranath Mahato, K. Sethupathi and V. Sankaranarayanan Structure and magnetic studies of nanocrystalline $\text{Pr}_{0.7}\text{Sr}_{0.3}\text{Mn}_{0.5}\text{Co}_{0.5}\text{O}_3$ International Conference on Active/ Smart Materials (ACASM-2009), Jan. Madurai Tamilnadu..

Distinguished Visitors to the Department:

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
01	Dr. Justin David CHEP, IISC, Bangalore	03 / 04	Lecture on the dyon partition function in N=2 theories
02	Dr. Hassan Department of de Physique Universit'e de Sherbrooke Qu'ebec, Canada	04 / 04	Lecture on Conditions for magnetically induced singlet d-wave superconductivity on the square lattice
03	Dr. Rajaram Nityananda National Centre for Radio Astrophysics, Pune	10 / 04	The dark side of the Universe
04	Dr. R. Rajesh The Institute of Mathematical Sciences, Chennai.	09 / 04	Statistics of Driven Dissipative Systems: Kolmogorov Laws
05	Dr. M. T. Sebastian Deputy Director Materials and Minerals Division, National Institute of Interdisciplinary Science and Technology, Trivandrum	16 / 04	Lecture on Giant Permittivity Ceramic-metal and Polymer-metal composites
06	Dr. M. M. Sahijumon Dept. of Mechanical Engg. And Materials Science, Rice Univ. Houston, USA	06 / 05	Lecture on Hybrid Nanostructures and Applications
07	Nithin Nagaraj NIAS, Bangalore	05 / 06	Lecture on the Unreasonable Effectiveness of the Tent Map (and its cousins in applications to Communications)

08	Prof. Charles Joenathan Chair, Department of Physics and Optical Engineering Rose-Hulman Institute of Technology, USA.	09 / 06	Lecture on Temporal speckles interferometry
09	Dr.Koushik Balasubramanian Massachusetts Institute of Technology, USA	26 / 06	Lecture on Gravity duals for non- relativistic CFTs
10	Dr.Prabha Nair Bio-Medical Technology Division, Sree Chitra Tirunal Institute, Thiruvananthapuram	03 / 07	Lecture of Materials an Scaffolds for Tissue Engineering
11	Dr.Sudip K.Deb Head, Indus Synchrotrons Utilizatin Division, Raja Ramanna Center for Advanced Technology, Indore	17 / 07	Lecture of Current Status of Indus Synchrotrons Sources
12	Dr.J.K.Rath Utrecht University Faculty of Sciences Debye Institute of Nanomaterials Science, The Netherlands	18 / 07	Lecture on Progress and Challenges of Photovoltaic Applications of Silicon Nanocrystalline Materials
13	Dr.Simon George Dept. of Physics California State University USA	22 / 07	Lecture on Educational applications of lasers and holography
14	Dr.R.Arun Physical Research Laboratory Ahmedabad	06 / 08	Lecture on Quantum Interferences in Resonance Fluorescence
15	Dr.Rahul Basu Institute of Mathematical Sciences , Chennai	13 / 08	Lecture on LHC-the World's Largest Microscope
16	Dr.Akhilesh K.Arora Head, Light Scattering Studies Section, Materials Science Division, IGCAR, Kalpakkam	14 / 08	Lecture on Phonons, negative thermal expansion and phase transitions in network structures
17	Dr.Nemani V.Suryanarayana Institute of Mathematical Sciences Chennai	26 / 08	Lecture on Counting wobbling dual- giants
18	Dr. Bijoy Dash MIT, Cambridge	04 / 09	Lecture on Use of Technology to Eradicate Sufferings of Common Man
19	Dr.Amitabha Nandi School of Physical Sciences JNU, New Delhi	11 / 09	Lecture on Scenarios for generalized synchronization with chaotic forcing
20	Dr.Ghanashyam Date Institute of Mathematical Sciences, Chennai	17 / 09	Lecture on (Loop) Quantum Gravity in the Cosmological Context
21	Dr.Subhash Chaturvedi School of Physics University of Hyderabad	18 / 09	Lecture on Wigner distributions for finite state systems
22	Dr.James Libby Oxford University, UK.	24 / 09	Lecture on LHCb: flavour physics at the energy frontier

23	Dr.G.Venketeswara Pai Dept. of Physics Technion – Israel Institute of Technology, Haifa Israel.	08 / 10	Lecture on Phases and Excitations of Cold Atoms in Optical Lattices
24	Dr.R.Parthsarathy	07 / 11	Lecture on Contributions to Physics by distinguished Indian
25	Dr.Gopalan Srinivasan	12 / 11	Multiferroic Composites: Magnetoelectric Effects and High Frequency Devices
26	Dr.P.Ranjit Physico-Chimie , Institut Curie France	01 / 12	Lecture on Non-equilibrium self- assembly of an Actin/Microtubule filament coupled to ATP/GTP hydrolysis
27	Dr.Suryanarayanan Univ. Paris - Sud, France	02 / 12	The magic world of oxides
28	Dr.Tatsuo Okada Kyushu University, Fukuoka, Japan	10 / 12	Synthesis of Nanostructured Materials by Laser Ablation in High Background Gas
29	Dr.Natarajan Ravi Spelman College, Atlanta, US	11 / 12	Principles of ⁵⁷ Fe Mossbauer Spectroscopy and its Applications to Materials
30	Dr. Joerg Heieck Fachhochschule, Kaiserslautern, Germany	01/01	Seminar on Physics and Photography
31	Dr. Biswajit Paik IAMR, Hiroshima University, 1-3-1 Kagamiyama, Higashi Hiroshima, Japan	06/01	Seminar on MgH ₂ -Mg phase Transformation driven by a high energy electron beam: In-situ Transmission Electron microscopy study
32	Prof. Gavin Lawes Physics Department, Wayne State University, Detroit, USA	06/01	Seminar on Magnetoelectric coupling and magnetically driven multiferroics
33	Dr. Dhruvadiya MITRA School of Mathematical Sciences, Queen Mary College, University of London, Mile End Road, London, E1 4NS	07/01	Seminar on Turbulence in fluids with polymer additives
34	Prof. Kannan M. Krishnan University of Washington, Seattle USA	16/01	The Colloquium on Biomedical nanomagnetism: A Spin through new possibilities
35	Prof. Nam-Trung NGUYEN Associate Professor, School of MAE, Nanyang Technological University, Singapore	23/01	Seminar on Recent Trends in Microfluidics
36	Prof. OSKS Sastry Department of Physics, Sri Satyasai University, Whitefield Campus, Bangalore	27/01	Seminar on Computer based Experiments using Web Cam
37	Shiraz Minwalla Tata Institute of Fundamental Research, Mumbai.	29/01	The Colloquium on Black Holes in Yung-Mills Theory

38	Dr.Kavila Jain	12 / 02	Two problems in evolutionary Biology
39	Dr.Ignacio Pagonab arraga	17 / 02	Mesoscopic modeling of internally driven complex fluids
40	Dr.Bhalamurugan Sivaraman	18 / 02	Lecture on Molecular formation in astrochemical ices
41	Dr.Arnam Kundagrami	19 / 02	Physics of charged polymers effective charge, size, phase transitions and other properties as soft materials
42	Dr.Michael Farle Vice Chairman of Research Department of Physics and Cener for Nanointegration (CENIDE) Universitaet	18 / 03	Lecture on Magnetic Nanohybrides
43	Dr. AR.Phani Director Nano-Research for Advanced Materials & Technologies(Nan-RAM) Bangalore	19 / 03	Lecture on Nanostructured hybride coatings for industrial applications: By cost effective sol-gel techniques
44	Dr. Sushanta Dattagupta Indian Institute of Science and Research, Kolkata	24 / 03	Lecture on From Benzene to Aharonov-Bohm Ring
45	Dr. Debasish Ghoshal School of Physical Sciences Jawaharlal Nehru University New Delhi.	25 / 03	Lecture on Travelling Front of the Decaying Brane

In House Faculty Seminars

S.No.	Name of the Faculty	Topic of the Lecture	Date
01	Dr.P.C.Deshmukh	Bicentennial Tribute to John Dalton's A New System of Chemical Philosophy (1808) – A Fragmentary Tale of the Atom	10 / 09
02	Dr.T. Pradeep Professor, Department of Chemistry and SAIF	Molecules to materials: Bridging the gap	22 / 10
03	Dr.Manoj Gopalakrishnan	Optimization strategies for efficient chromosome capture during cell division	25 / 03
04	Professor S. Santhakumar Department of Aerospace Engineering	Simple physical modelling solves complex problems	04 / 03

Intramural Lecture

S.No.	Name of the Faculty	Topic of the Lecture	Date
01	Dr.A.T.Seshadri	Cinema and Physics	23 / 10
02	Dr.P.C.Deshmukh	A Commitment Pending towards our "Tryst with Destiny"	06 / 11
03	Dr.G.Rangarajan	The magnum opus of Sanskrit dramatic art	26 / 03

Other Activities:

Dr.R.Nirmala has been invited to serve as official Reviewer for Journal of Non-Crystalline Solids (Elsevier Publications)

Ms. Neetu Jha, Research scholar has attended the Internship program for International students at Ecole Polytechnique, Palaiseau, France from 05.05, 08 to 01.08.08 to carry out research project at the Thin films and Interfaces Lab.

Launched ESPIN-NANO Instrument on 21.08.2008 in the presence of Professor M.S.Ananth, Director and Professor T.T.Narendran, Dean, IC&SR in the Conference Room of 5th Floor Administration Building. The instrument Designed and Developed by Prof. T.S.Natarajan.

Indian Association of Physics Teachers (IAPT), Regional Council of Tamilnadu & Puduchery organized the Workshop on Semiconductor Devices and Applications was held in Physics Department on 18.09.2008. Dr.T.S.Narajan is the president of the IAPT.

Physics Retreat programme was held on 21.12.2008 in the Physics Department Seminar Room (HSB 209)

A nurturance programme of the NCERT was organized for the NTS awardees during 17-21 January 2009 in Physics Department in which 60 school children participated. Coordinator: Professor C.Vijayan

Awards

The paper entitled "NaPO₃ based fast ion conducting glassy and polymer electrolyte systems" Sri Amrtha Bhide and Prof. K.Hariharan (Authors) has received best paper presentation award in the 11th Asian Conference on Solid State Ionics held at Bharathiar University Coimbatore (June 9 – 13, 2008). The award includes a Certificate and a token of cash Rs.2,500/-

The poster entitled "Transport studies in MSnF₄ (M:Ba,Sr) fluoride ion conductors" by Sri Laxmi Narayana Patro and Professor K.Hariharan (Authors) has been selected for the poster award in the 53rd DAE Solid State Physics Symposium held at BARC, Mumbai during December 16-20, 2008. The award includes a Certificate and a cash prize of Rs.500/-.

Dr. Umesh Kadhane, Assistant Professor, Dept. of Physics was awarded the 'Dr.S.N.Ghosh Young Scientist' award at the DAE Symposium on 'Atomic, Molecular and Optical Physics' held from 10-13 Feb., 2009 at the Inter University Accelerator Center in New Delhi.

Dr. Tanima Banerjee, who did her Ph.D. in the Department of Physics, IIT Madras on "Electron Correlation and Relativistic Effects in Atomic Multipole Transitions", was awarded the IPA-ISAMP BEST THESIS AWARD at the above DAE Symposium.

5.1 SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY

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. S. Pushpavanam (HEAD)	Modeling and Simulation, Non-linear dynamics, Hydrodynamic instabilities, Flow Visualisation, Air Quality Monitoring
Professor: Dr.T.Pradeep, Ph.D	Chemical Physics, Spectroscopy, Ion Chemistry, Monolayers, Clusters
Scientific Officers : Dr.M.S.Moni	NMR Spectroscopy
Dr.R.Murugesan	Mass Spectroscopy
Dr.Babu Varghese	X-ray crystallography

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

Sl. No.	Co-ordinators	Title	Period & Venue
(iv) Workshop			
1.	Dr. S. Pushpavanam	SAIF Instrumentation	07/07/2008 - SAIF, I.I.T., Madras
2.	Dr. S. Pushpavanam	SAIF Instrumentation	04/09/2008 - SAIF, I.I.T., Madras
3.	Dr. S. Pushpavanam	SAIF Instrumentation	16/00/2008 and 17/10/2008 - SAIF, I.I.T., Madras
4.	Dr. S.Pushpavanam	SAIF Insturmentation	12/11/2008 – SAIF I.I.T. Madras

Design and Development Activities:

New facilities added or major equipment procured through project funds:

S.No	Name of Equipment	Vaue [Rs. In lakhs]
1.	HR – SEM	Rs. 2.32 crores

Research Publications:

No. of papers published in Refereed National Journals	..	--
No. of papers published in Refereed International Journals	...	17
No. of papers presented in National Conferences	...	--
No. of papers presented in International conferences	..	--

In Refereed International Journals:

Sl.No.	Name of Faculty	Title of the paper	Name of the Journal
1.	Vesta C, Uthrakumar R, Jerome Das S, Varghese Babu	Poly[tetra aquabis(μ_2 -2,4,6 trinitrophenalato)barium(II)]	<i>Acta Crystallographica, Section E: Structure Reports Online (2008), E64, m451-m452.</i>
2.	Bhyrappa, P.; Karunanithi K.; and Varghese, B abu	2,3,5,10,12,13,15,20 Octaphenylporphinato)copper(II) 1,1,2,2-tetrachloroethane solvate	<i>Acta Cryst. (2008). E64, m330-m331</i>
3.	Bhyrappa, P.; Velkannan, V. and Varghese Babu	5,10,15,20-Tetrakis(3,5-difluorophenyl)porphyrin	<i>Acta Cryst. (2008). E64, o190</i>
4.	Arunkumar C.; Bhyrappa P and Varghese Babu	C ₆₀ 1,1,2,2-tetrachloroethylene tetrasolvate	<i>Acta Cryst. (2008). E64, o278</i>
5.	Bhyrappa P, Arunkumar C, Varghese B,	2,3,12,13-Tetrabromo-5,10,15,20-tetrakis(4-butoxyphenyl)prophyrin 1,2-dichloroethane solvate	<i>Acta Crystallographica, Section C: Crystal structure communications (2008), C64(5), o276-o278</i>
6.	Priya S., Mary Navis, Varghese B, Linet J.Mary, Bhagavannarayana G, Raj C.Justin, Krishnan S, Dinakaran S, Das S Jerome	Synthesis Growth and Characterisation of Novel Nonlinear Optical Active Dichloridodiglycine Zinc Dihydrate Singel Crystals	<i>Crystal Growth & Design (2008), 8(5) 1663-1667</i>
7.	Arunkumar C, Bhyrappa P, Varghese B	C ₆₀ 1,1,2,2-tetrachloroethylene tetrasolvate	<i>Acta Crystallographica, Section E, Structure Reports Online (2008), E64(1), o278,o278/1-o278/11</i>
8.	Milton Boaz B, Palanichamy M, Varghese Babu, Justin Raj C, Jerome Das S	Synthesis, growth, structural, optical, photoconductivity and dielectric studies on potassium nitrophenolate dehydrate: A new semiorganic nonlinear optical material	<i>Materials Research Bulletin (2008), 43(12), 3587-3595</i>
9.	Bose, Shubhankar Kumar, Geetharani K, Varghese Babu, Mobin Shaikh M, Ghosh, Sundargopal	Metallaboranes of the early transition etals: direct synthesis and characterization of [({ η 5-(C5Me5)Ra}2BnHm) (n = 4, m = 10; n = 5, m = 11), [({ η 5-C5Me5)Ta}2B5H10(c6H4CH3)] and [({ η 5-C5Me5)TaCl}2B5H11]	<i>Chemistry-A European Journal (2008), 14(29), 9058-9064</i>

10.	Bhyrappa Puttaiah, Velkannan, Veerapandian, Karunantithi, Karuppaiah, Varghese, B. , Harikrishna	Regioselective synthesis of antipodal β -tetrabrominated meso-tetraarylporphyrins	<i>Bulletin of the Chemical Society of Japan</i> (2008), 81(8), 995-1001
11.	Arun Luiz, T. Arun; Doddi, Adinarayana; Varghese, Babu ; Rao, M. N. Sudheendra	Synthesis and X-ray structural characterization of mono(aminophosphine) derivatives of molybdenum hexacarbonyl, $\text{Mo}(\text{CO})_5\text{L}$ {L = $\text{P}(\text{NC}_5\text{H}_{10})_3$, $\text{P}(\text{Ph})(\text{NC}_4\text{H}_8\text{O})_2$ or $\text{P}(\text{Ph})\{\text{N}(\text{iC}_3\text{H}_7)_2\}(\text{NC}_4\text{H}_8\text{O})$ }	<i>Transition Metal Chemistry (Dordrecht, Netherlands)</i> (2008), 33(6), 745-750
12.	Koley Manjuri K, Sivasubramanian, Seshdari C, Varghese Babu , Manoharan Periakaruppan T, Koley Aditya P	Synthesis and characterization of two stable paramagnetic octahedral chromium(IV) complexes with dianionic tridentate SNO donor ligands and of a chromium(III) complex with a ONO donor ligand	<i>Inorganica Chimica Acta</i> (2008), 361(5), 1485-1495
13.	Sankararaman Sethuraman, Venkataramana Gandikota, Varghese Babu .	Conformational Isomers from Rotation of Diacetylenic Bond in an Ethynylpyrene-Substituted Molecular Hinge	<i>Journal of Organic Chemistry</i> (2008), 73(6), 2404-2407
14.	Ranga Rao G, Rajkumar T Varghese, Babu	Synthesis and characterization of 1-butyl 3-methylimidazolium phosphomolybdate molecular salt	<i>Solid State Sciences</i> (2009), 11(1), 36-42
15.	Ali Mohamed Mohamed Naseer, Aich Udayanath, Varghese Babu , Perez Serge, Imberty, Anne, Loganathan Duarikkannu	Conformational Preferences of the Aglycon Moiety in Models and Analogs of GlcNAc-Asn Linkage; Crystal Structures and ab Initio Quantum Chemical Calculations of N-(β -D-Glycopyrnosyl) haloacetamides	<i>Journal of the American Chemical Society</i> (2008), 130(26), 8317-8325
16.	Balasubramanian Sridhar, Krishnan Ravikumar and Varghese, Babu	Supramolecular hydrogen-bonded networks in adenine diium hemioxalate chloride and adenine diium semioxalate hemi(oxalic acid) monohydrate	<i>Acta Cryst</i> (2009), C65, o202-o206
17.	Anbu S, Kandaswamy M, Suthakaran P, Murugan V, and Babu Varghese	Structural, magnetic, electrochemical, catalytic, DNA binding and cleavage studies of new macrocyclic binuclear copper (II) complexes	<i>Journal of Inorganic Biochemistry</i> xxx (2009) xxx-xxx

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 under the Quality Improvement Programme (QIP)
- Short Term Courses under QIP
- Curriculum Development Cell (CD Cell)
- Continuing Education Programmes (CEP)
- Web Studio
- Educational Technology Cell
- National Programme on Technology Enhanced Learning

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, 433 faculty members from other institutions have obtained Ph.D degrees and 536 faculty members have obtained M.Tech degrees under this programme till 2008-09. The table provides the data on Quality Improvement Programme.

Items	Ph.D			M.Tech		
	Admitted	On roll	Awarded	Admitted	On roll	Awarded
Number of teachers admitted/awarded degree in the academic year 2008-09	10	102	15	8	18	13
Number of teachers of degree level Engineering colleges benefited from inception to 2008-09	588	-	433	596	-	536

6.1.3 Short Term Training Programmes under QIP

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, 14 courses for a total duration of 16 weeks were conducted during 2008-09 and 364 teachers of Engineering Institutions as well as a few professionals from industries / R & D organizations have participated in these programmes. From 1970-71 to 2008-09, 261 programs have been held and 6258 teachers from various engineering colleges participated and benefited from these courses.

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 Golden Jubilee Book Writing Scheme (GJBWS)

The GJBWS scheme is designed to encourage textbook writing by teachers. During the year 2008-09, 33 faculty members have come forward to write book under this scheme. Six books have so far been published under this scheme.

6.1.6 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. Long duration 2 years User Oriented M.Tech Programme to meet the specific needs of associated industries are being organized. Such programmes will ultimately pave-way for long-term consultancy assignments with the organizations. From the date of inception, i.e., between 1980 and 2009, 918 STCs have been conducted benefiting 21,098 participants. Approximately 70 to 80 such programmes are organized every year. During the year under review, 57 Short Term Courses have been conducted and 1370 participants attended these programmes.

6.1.7 National Programme on Technology Enhanced Learning

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 110 video based courses and 129 web based courses. IIT Madras coordinated this project. Both the web and video course contents are freely available to everyone through our website at www.nptel.iitm.ac.in and through the YouTube at 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. In addition more than 3700 lectures from approximately 95 engineering and science courses have been made freely available as streaming video lectures through YouTube and the website above is being continuously available. This site is recognize as the world's largest public video repository of high quality educational content. 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 500 additional under graduate level and 100 additional post graduate level web and video courses in all major branches of engineering, physical sciences and management with possible online certification programs.

6.1.8 Web Studio

The Web Studio at IIT Madras is equipped with state-of-the art hardware and software. The Web Studio has been assisting faculty members in the creation of electronic course contents, supplements, lecture notes, quizzes, making them available to the student community. The studio has helped in the creation of 126 web courses and 96 video courses in the year 2008-09.

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 conference websites are also created here. The web studio has extended its services to include the following:

- MHRD's mission on National Knowledge Network to meet the curriculum demands of the mentored IITs. IIT Madras has been successfully mentoring IIT Hyderabad using the facilities provided under this program
- Preparation of online and video supplemented instructions for the Election process, for the Election Commission of India
- 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, for 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. Pilot project by Google Inc. Full project for MHRD, New Delhi
- Maintenance of learning management system (ACADO) for IIT Madras

6.1.9 Educational Technology Cell

Established in 1989 by the Ministry of Human Resource Development, Government of India, the Educational Technology Cell of IIT Madras has been recording video lectures of faculty of IIT Madras for use by the students of IIT Madras and other educational institutions and industrial organisations across the country.

ETC has now acquired high-end non-linear editing systems to provide state-of-the-art lectures. To meet additional demands the centre has developed its second broadcast-standard studio complementing the existing one with the latest lighting systems and integrating equipment and a seating capacity of about 100 students. The studio has facilities for video conferencing and linking to EDUSAT- the exclusive educational satellite which facilitates interactive video sessions with universities across India and abroad.

To meet the growing demands of excellence in technical education and to share the knowledge with other IITs, DIT, with the help of NIC, is implementing the National Knowledge Network providing an exclusive bandwidth of 1 Gbps or more with high definition video conferencing equipment. This has helped IIT Madras contribute immensely in the sharing of knowledge with students of other IITs. Faculty coordinators of various projects are helping the student community with many more on-line lectures using this facility.

ETC has also helped other institutions in designing and commissioning of video studios and archiving of media.

About 1200 lectures have been recorded by IIT Madras faculty free distribution through the Internet under the MHRD sponsorship of the National Programme on Technology Enhanced Learning.

The video studio has extended its facilities to record lectures by officers of Election Commission of India, so that they could be distributed to polling officers and other staff of the commission as DVD ROMs for effective training in the conduct of the General Election held this year.

The video studio has also offered its services to the Indira Gandhi National Open University by providing streaming video demonstrations for its laboratory courses.

Finally, the video studio has helped the Kuruvila Jacob Initiative in creating hundreds of small video clips of live laboratory demonstrations in Physics and chemistry for the benefit of secondary school teachers and children. Extensive audio clips have also been made.

6.1.10 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 189 Departmental job orders and covered 67 functions as well during 2008-09. 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 2009 convocation, graduants taken and made ready for degree certificates.

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

Dean : Prof. T. T. Narendran - upto 11.3.2009 (FN)
Prof. Job Kurian - From 11.3.2009 (AN)

Staff	Sri R. Sundaram	Chief Techno Economic Officer
	Sri V. Suresh	Senior Techno Economic Officer
	Smt. Prema Chakrapani	Assistant Registrar (F&A)

6.2.2 Sponsored Research:

155 projects of value totaling to Rs.6584 Lakhs were taken up by the Institute during 2008 -2009 as given below.

Sl. No.	Agency Name	No. of Projects	Value (Rs. In Lakhs)
1	Aeronautical Development Agency	1	4
2	Aeronautics Research & Development Board	9	162
3	Appollo Hospitals, Educational and Research Foundation	1	6
4	Army Technology Board	1	18
5	Asian Office of Aerospace Research and Development	1	9
6	Board of Research in Nuclear Sciences	4	77
7	Board of Research in Fusion Sciences	1	12
8	Centre for Innovation Incubation and Entrepreneurship	1	1
9	Council of Scientific and Industrial Research	10	156
10	Defence Institute of Physiology and Allied Sciences	1	10
11	Defence Metallurgical Research Laboratory	1	92
12	Defence R&D Establishment	1	10
13	Defence Research and Development Organisation	13	493
14	Department of Atomic Energy	1	100

Sl. No.	Agency Name	No. of Projects	Value (Rs. In Lakhs)
15	Department of Biotechnology	10	336
16	Department of Information Technology	5	488
17	Department of Science & Technology	49	3110
18	Deutsche Forschungsgemeinschaft	1	19
19	Google Research	1	25
20	Hewlett-Packard Company	1	10
21	High Energy Material Research Lab., Pune	1	9
22	IBM CORPORATION , USA	2	12
23	IIT Madras Research Foundation	1	4
24	Indian National Centre for Ocean Information Services	1	25
25	Indian Council of Social Science & Research	2	8
26	Indian Space Research Organisation	8	101
27	Indira Gandhi Centre for Atomic Research	2	49
28	Indo-US Science & Technology Forum	2	23
29	Integrated Coastal and Marine area Management	1	92
30	Integrated Defence Service	1	30
31	Ministry of Water Resources	1	13
32	National Program on Micro and Smart Systems	2	348
33	National Institute of Ocean Technology	1	17
34	Naval Research Board	5	138
35	SPACE APPLICATION CENTRE	2	41
36	Tamil Nadu Urban Infrastructure Financial Services Limited	1	5
37	Technology Information Forecasting and Assessment Council	1	37
38	UGC-DAE Consortium for Scientific Research	1	1
39	UK INDIA Education & Research Initiative	1	13
40	United Nations Children's Fund	1	6
41	University of Pavia	1	5
42	Others and Additional Grants		283
	Total	151	6396

This includes International Collaborative and Industry Sponsored Projects.

6.2.3 Consultancy Programmes:

550 Consultancy assignments of value totaling to **Rs.2227 Lakhs**, including 68 Research Based Industrial Consultancy for a total value of **Rs.952 Lakhs** and 460 Institutional Consultancy assignments for a total value of **Rs.1198 Lakhs** were taken up during 2007-2008, apart from additional grants to the tune of **Rs.245 Lakhs** for the on-going consultancy assignments. Also 22 faculty members were retained as consultants by various industries for a total fee of **Rs.77 Lakhs**.

6.2.4 New Faculty Scheme:

The new faculty members are given a seed money of upto Rs. 5.00 lakhs by IIT Madras to initiate activities in the field of their research interest and to enable the faculty to interact with organizations sponsoring R & D projects. 28 proposals were approved for funding under the New Faculty Scheme for a total sum of **Rs.140 Lakhs**.

6.2.5 Industrial Associateship Scheme:

246 Industries were members of this Scheme (Large scale 32, Medium scale 136 and Small Scale 78) for the Year 2008.

The following three Technology Appreciation Programmes were organized during the period under report (April 2008 – March 2009):

1. Optimization of Engineering Systems
2. Robotics and Automation
3. Energy, Environment & Biological Applications of Nanomaterials

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. 20 on-going projects totaling to a value of **Rs.278 Lakhs** were continued and 8 new projects for a value of **Rs.101 Lakhs** were taken up during the year 2008-2009.

IGCAR-IITM Cell:

10 on-going projects were continued during 2008-2009, totaling to a value of **Rs.245 Lakhs** and 2 new projects for a value of **Rs.49 Lakhs** were taken up during the year 2008 – 2009.

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 2008-09, for Collaborative Research.

S.No	Visitor(s)	Organization	Month
1	Researchers	Reckitt Benckiser (RB), UK	May
2	Mr. Hari Hegde, Vice President	Wipro Waters	June
3	A team of Senior R&D	Valeo, a Global Automotive Supplier headquartered in France along with Satyam Computers	July
4	Representatives	Radix LLC	July
5	Representatives	TRW-OSS Occupant Safety Systems along with Satyam Computers	August
6	Mr. Hiroyuki Kanesaka	Nissan Motor Co., Ltd, Japan	August
7	Mr. Yoshinori Murakami, Research Manager, Electric Propulsion Laboratory	NISSAN Research Centre, Nissan Motor Co. Ltd	August
8	Mr. Jean-Pierre Bretaudeau	International Research and Partnership Manager of the Hutchinson Research Centre	September
9	Mr. C. Prakash Kumar, Dy. General Manager	Suzlon Energy Limited, Chennai	November

S.No	Visitor(s)	Organization	Month
10	Mr. Hans George Mitzler, Director	Mercedes-Benz Research & Development India	November
11	Dr. Venkat Venkataraman, Senior Advisor – International Programs	National Energy Technology Laboratory, U.S. Department of Energy	February
12	Prof. Strohrmann, Mr. Thilo Gleisberg and Mr. Thomas Albert along with Mr. K.P. Murthy	Robert Bosch GmbH	March

MoUs / Agreements signed

40 new MoUs / Agreements have been signed by IIT Madras with the following 36 organizations / Institutions during 2008-09:

1. HCL Technologies Limited, India
2. Autodesk India Pvt. Ltd., Bangalore
3. National Metallurgical Laboratory (NML), Jamshedpur
4. Vikram Sarabhai Space Centre (VSSC)
5. Technology Information Forecasting & Assessment Council (TIFAC)
6. W.R. Grace & Co.
7. Honeywell Technology Solution Lab Pvt. Ltd.
8. IFUWWT Indian Consortium
9. AMADA Co. Ltd. & AMADA Soft (India) Pvt. Ltd.
10. Centre for High Technology, New Delhi and Bharat Petroleum Corporation Ltd., Mumbai
11. Cadbury India Limited, Mumbai
12. Xerox Corporation, New York
13. Central Power Research Institute, Bangalore
14. Physics Instruments Co., Chennai
15. J K Tyres & Industries Ltd.
16. Procter & Gamble Company, Bangalore
17. Thales Software India (Private) Limited
18. DRDO
19. Laser Soft Infosystems Ltd, Chennai
20. Saint-Gobain Recherche, France
21. Centre for Development of Advanced Computing, Thiruvananthapuram
22. Radix LLC & Radix Global Solutions India Pvt. Ltd.
23. Tata Tea
24. Hewlett-Packard Company, California
25. Intellectual Ventures Asia Lte. Ltd., Singapore
26. Timken Company
27. IU-ATC
28. Thales Software India (Private) Limited
29. The Procter & Gamble Company, USA
30. Tata Power Strategic Electronics Division (TP-SED)
31. Vestas Wind Systems A/S, Denmark
32. Brain League IP Services Private Limited, Bangalore
33. Viswire Simulation and Training Private Limited (VISWIRE) & Christian Medical College(CMC), Vellore
34. Tamilnadu Road Sector project, Highways Department, Governemnt of Tamil nadu, Chennai
35. Infocean Technologies Pvt. Ltd., Kerala
36. Port Management Board Andaman & Nicobar Island

6.2.9 Patents:

Details of patent applications filed during the year 2008-2009 are given below:

SI. NO.	Title	Inventor	Dept.	Date of Filing
1	Online security system serving as a unique and exclusive password generator for every internet transaction	Mr. Balaraju Dr.L.S.Ganesh	MGT	02/06/2008
2	Multiwalled carbon nanotube biosensor for the detection of paraoxon contained in organophosphorus nerve agents			02/06/2008
3	Spacerless carbon nanotubes for cancer treatment and drug delivery			02/06/2008
4	Process and an apparatus for the removal of solids from water	Dr. R. P. Viswanath	CHY	13/06/2008
5	A device for descaling the inner wall of a tank	Dr. T. Asokan	EDD	11/07/2008
6	Online internet security system based on USB flash drive	Mr.Balaraju Dr. L.S.Ganesh	MGT	19/08/2008
7	An Online security system based on the automated Teller machine			15/09/2008
8	A New dye with high quantum yield for applications in dye lasers and non-linear optics and as a fluorescence life time standards	Dr. Prem B Bisht	PHY	30/10/2008
9	A Method of Oxy-Fuel Combustion	Dr. Sreenivas Jayanti	CHE	04/12/2008
10	A method of measuring the air fuel ratio of a spark ignition engine	Mr.P.V.Manivannan Dr. A. Ramesh	MEE	19/12/2008
11	A Method providing multi level security to prevent counterfeit by the combined use of optical, Raman, fluorescence, electron and X-ray microscopies at the mesoscale	Dr. T. Pradeep	SAIF	26/12/2008
12	An automated system for early detection of diabetic retinopathy	Dr. Anurag Mittal	CSE	13/01/2009
13	Functionally graded aluminum alloy based in-situ metal matrix composites	Mr. S. Kumar, Dr. B.S.Murty	MET	23/01/2009
14	A process for the preparation of nanocomposite adsorbents for the removal of dyes from waste waters of industrial effluents	Dr. S Ramaprabhu	PHY	18/02/2009
15	A process for covalently bonding a drug to the surface of chemically exfoliated graphite oxide (CEGO) without spacer for the treatment of cancer			
16	Nanopowders by electrolytic oxidation of Aluminum to Alumina (NEO-ALUMINA)	Dr. S. S. Bhattacharya	MET	01/01/2009
17	Nanopowders by electrolytic oxidation of Zirconium to Zirconia (NEO-ZIRCONIA)			
18	Nanopowders by electrolytic oxidation of Aluminum to Alumina (NEO-TITANIA)			

Patent approved during the Year 2008-2009

S. No.	Title	Inventor(s)	Dept.
1	A Lan trainer lab apparatus	Dr. Ashok Jhunjhunwala	ELE
2	Extrusion honing composition	Dr. K Narayanasamy	MEE
3	A Process for the preparation of wear and corrosion resistant coatings for electroless deposition on metal substrates	Dr. SK Seshadri	MET
4	A Process for the efficient synthesis of (2S 3R)-2-O-Benzyl-3 4-O-Isopropylidene-D-Erythritol	Dr. Indrapal Singh Aidhen	CHY
5	Polyurethane foam coated with silver nanoparticles	Dr. T. Pradeep	SAIF
6	A Process for the lipase catalysed preparation of alkyl and aryl esters of hydrocinnamic acid	Dr. Anju Chadha	BIO
7	A Process for the Monoacylation of Polyols with Alkyl and Aryl Beta-ketoesters		
8	Activation of polished silicon for autocatalytic electroless deposition of palladium and other metals	Dr. S. Karmalkar	ELE
9	Jet Pump	Dr. M.Madhusudana Rao	MEE
10	process for the preparation of long afterglow phosphors	Dr. UV Varadaraju	MSRC
11	A Method of manufacture of a steel worm wheel pair for a worm drive	Dr. M.M. Mayuram	MEE
12	A method of manufacture of a ice to monitor the flow of rate of liquids	Dr. T. Pradeep	SAIF

Technology Transfer

S. No	Name	Title	Value (Rs. in Lakhs)	Agency
1.	Dr. R.I. Sujith	Ximager Software	0.20	IISC Bangalore
2.		Ximager Infocean Technology	2.00	Infocean Technologies Pvt. Ltd.
3.	Dr. N. Chandrakumar	Novel NMR Experiment	2.4	Bruker Switzerland

6.2.10 Publications:

- The quarterly publication titled IIT Madras News was continued.

6.2.11 Other information:

- Review of Innovative Students Projects was held on 18th April 2008.
- IC&SR Board meeting was held on 29th April 2008 and 17th November 2008.
- Mr. Guillermo Turner, a top Editor from the Republic of Chile visited the centre to cover educational development for research activities between IIT Madras and TCS.
- Representatives from Radix Global Solutions visited the Centre on 23rd April 2008 for commercialization of Patent.

- A meeting was arranged with Intellectual Ventures India Consulting Private Limited, Bangalore on 16th July 2008 regarding filing and maintenance of patents both in India as well as in US.
- Re-Certification audit for ISO 9000 was done for IC & SR on 1st August 2008.
- One Innovative Student Project titled "Shear stress instrument for modeling blood flow" by Mr. Suyog U Pol, (final yr. B.Tech.) Dept. of Biotechnology was approved for Rs.2.00 Lakhs.
- Training programme to NIT Trichy on Management of IITM in General and IC & SR in Particular was held during 31st October 2008 and 1st November 2008.
- A meeting was arranged with Intellectual Ventures India Consulting Private Limited, Bangalore on 5th November 2008 regarding filing and maintenance of patents both in India as well as in US.
- Dean, IC&SR delivered a special lecture on "Industry Institute Avenues for Collaboration with an Accent on IT Industry in Particular" at CII, Madurai on 5th December 2008.
- Mr. Vinod Suri, Indian Projects Manager, Radix Global Solutions visited the Centre on 1st January 2009 to make a presentation on the services of Radix Global.
- Innovative Student Project titled "Development of an Autonomous Aerial Vehicle Capable of Indoor Navigation" by Mr. Ravikanth (AE05B017) Dept. of Aerospace was approved for Rs.2.00 Lakhs during January 2009.
- A team from R&D unit of BHEL, Ranipet visited IIT Madras on 19th January 2009 to review the on-going projects and to discuss about taking up of new projects.

**Rural Technology Action Group (RuTAG), Tamilnadu
at IIT Madras**

1. INTRODUCTION:

IIT Madras initiated development of technologies which are of immediate relevance to society in the nineties. RuTAG is one such project started in June 2004 and aimed at identifying technology gaps and improving these for the benefit of rural India. A write-up on the activities of RuTAG is given below.

2. Sub Projects Initiated:

2.1. Completed Projects

SI	Title of the proposal	Name of NGO	Expert Institution
a.	Sanitary Napkins	GGT, Gandhigram	Kumaraguru College of Technology (KCT) Coimbatore
b.	Natural Dyes	GGT, Gandhigram	IIT Madras
c.	Standard. of some Ayurvedic Preparations	GGT, Gandhigram	IIT Madras
d.	Coir Spinning Ratt	SISI	IIT Madras
e.	Mud Blocks	PVS Karur	IIT Madras
f.	Bridge across small canal	PVS Karur	IIT Madras
g.	Rain Gun	RIN	IIT Madras
h.	Low Bed tractor trailer (Design)	PVS Karur	IIT Madras

i.	Biogas from non-edible oil cakes	Vivekananda Kendra	IIT Madras
j.	White LED Lamps	-	National Institute Of Ocean Technology (NIOT)
k.	Baby Diapers	GGT, Gandhigram	Sardar Vallabhbhai Patel Institute of Textile Management/KCT
l.	Solar Energy Aided Tricycle	Spastic Society of TN	Anna University
m.	Cono weeder	Pondy Science Forum	IIT Madras
n.	Stone Crushing Hammer	Mitraniketan	IIT Madras
o.	Sterilization of Sanitary Napkins	GGT, Gandhigram	KCT
p.	Pirn Winding Machine	Co-optex	IIT Madras

2.2. Ongoing Projects

Sl. No.	Title of the proposal	Name of NGO / Organization	Expert Institution
a.	Banana Fibre Extraction Machine	Industree crafts foundation	PSG College of Technology, Coimbatore
b.	Improving crack resistance of Athangudi tiles	M.RM.RM. Cultural Foundation	IIT Madras
c.	Solar Powered Fans	Kuthambakkam Village Panchayat	IIT Madras
d.	Weevil Detector	Mitraniketan	NIOT / IIT Madras
e.	Artificial Foot	GGT, Gandhigram	Central Leather Research Institute (CLRI)
f.	Low Power Wind Turbines	THI, Sittilingi	KCT
g.	Nutrient Analysis of Ayurvedic Medicine	GGT, Gandhigram	IIT Madras
h.	Retention of nutrients in Earthen Pottery	Center for Social Development	KCT
i.	Potter's Wheel	Center for Social Development	KCT
j.	Solar Fan	THI, Sittilingi	KCT
k.	Optimization and modernization of Soap making process	GGT, Gandhigram	IIT Madras
l.	Performance Evaluation Study of different types of Hand-looms	Co-optex	KCT
m.	Miniature Wind Turbine Driven Generator	Field Research Lab, Leh	IIT Madras
n.	Effect of physical, chemical and herbal agents on sanitary napkins	GGT, Gandhigram	KCT
o.	Development of Rapier Kit to suit the power loom Industry	Co-optex	KCT

p.	System development for optimum utilization of solar panel	THI, Sittilingi	IIT Madras
q.	LED Street Lights	THI, Sittilingi, PVS, Karur	IIT Madras
r.	Natural Dyed Textile from Banana Fiber	Industree crafts foundation	KCT

3. Significant Interventions:

- ❖ Preparation of database and a web site on rural technologies to bridge information gap on technologies.
- ❖ Three pilot units for the manufacture of "Cost effective sanitary napkins" set up at Kodaikanal, Uttarakhand and North East.
- ❖ One pilot plant for conversion of natural dyes into powder form set up at Gandhigram.
- ❖ One Coir Spinning Machine undergoing trial at Alleppey.
- ❖ A Low bed tractor trailer being manufactured.
- ❖ Pirn Winding and Pedal Loom for Handloom industry undergoing trial run.
- ❖ Installation of LED Street lights in 3 villages for trial run.
- ❖ Development of 500 W wind mill for Leh and 3 KW micro hydel generator for Uttarakhand.
- ❖ Training programmes initiated for artisans on various technologies.

L-RAMP (Lemelson Recognition and Mentoring Programme)

L-RAMP is a joint initiative of Indian Institute of Technology, Madras and Rural Innovations Network, supported by The Lemelson Foundation, USA. L-RAMP identifies innovators and harnesses their creativity to build their innovations into sustainable, scalable enterprises. L-RAMP's goal is to transform living standards for poor communities through such sustainable and scalable enterprises.

Project Activities

Incubation Support: L-RAMP has received around two hundred (240) applications seeking incubation support. Twelve innovations proposals are currently being provided with Incubation support by L-RAMP.

Innovations funded (2008-09):

- Shreyas
- Kavi
- Poly Sensor

Innovations funded (2007-08):

- Bamboo Mat Weaving Machine
- Solar Egg Incubator
- Novel Sprinkler
- Brick Making Machine
- Neo-Therm
- Rural Outsourced Production Enterprise
- Desi-crew Solutions Pvt. Ltd
- Rat Vanisher
- Alginate Band-aid

Innovations funded (2006-07):

- Modified Brick Kiln
- Mini Weeder
- Mini Sanitary Napkin Manufacturing Machine
- Mastitis Kit
- Marine Coastal Collector Well
- Infant Warmer
- Pin Pulveriser
- Nemate

Innovations funded (2005-06):

- Asthma Inhaler
- Fuel+
- Suncon Cooker
- Plant Oil Stove

Student Project Support: The objective of this initiative is to encourage engineering students to work on socially relevant problems for their final year projects and try to find sustainable solutions. Grants were given to Twenty Four student projects, through our nodal partners.

Pre-Incubation Training Programme: The Pre Incubation Programme was organized for 90 innovators who required capacity building to help them better understand how to innovate with the market perspective and the journey from idea to enterprise. The main objective of this programme was to provide intervention and value addition to the Innovators who were not selected for the Incubation programme but have the potential to be selected in the future.

My Idea Programme: The My Idea Programme encourages the student community to pursue their ideas and innovate solutions to important social problems. The programme showcases the ideas of students and imparts knowledge and skill which are necessary to take their innovations further. The Programme stresses ideas for solving problems in agriculture, dairy, water and energy. Thirty My Idea Programmes were organized for students in various engineering colleges in association with the Nodal Partners.

L-RAMP Innovation Awards: As an initiative to encourage and recognize the efforts of the innovator community and their supporters such as investors, enterprises, journalists/media etc, L-RAMP has institutionalized an annual awards programme, namely the '*L-RAMP AWARD OF EXCELLENCE*'.

The award categories include Grassroots Innovator Award, *Woman Innovator Award*, *Young Innovator Award*, *Enterprise Award*, *Investor Award*, *Media / Journalist Award* and, *Lifetime Achievement Award*.

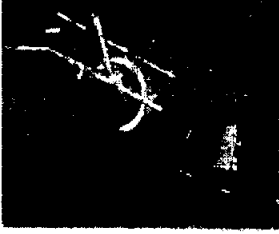
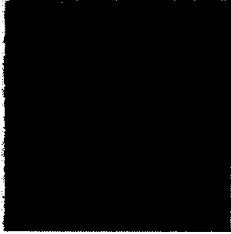
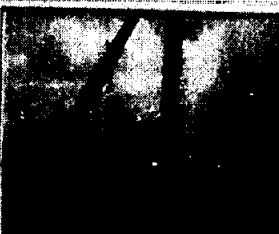

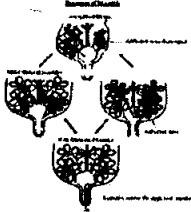
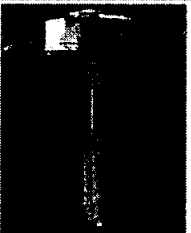




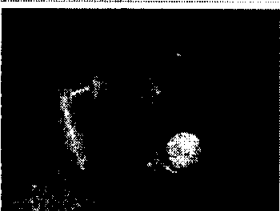



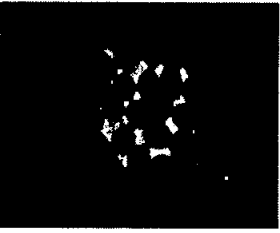

Award Ceremony (2008): The awards were formally given by **Mr.Kris Gopalkrishnan** (CEO, Infosys) in the award presentation ceremony which was held at CLT IIT-Madras on 20th December '08. Each award comprised a trophy, certificate and prize money.

Awardee	Innovation
Mr.A.Manoharan (Grass Root)	Machine for handloom yarn sizing
Mr.T Muthu Ayyapan (Grass Root)	Hydrofeeder for culture farms
Mr.S.Alphonse (Grass Root)	Mosquito attraction and electrocution
Naman Sanghvi(Young Innovator)	Novel drip irrigation system
K. Mohan (Young Innovator)	Herbal mosquito repellent
Dr.MalavikaVinodKumar(Women Innovator)	Multiple micronutrient fortified common cooking salt
Mrs. K.Uma	Marker Instrument for System of Rice Intensification (SRI)

Other Categories

Enterprise Award	Vaatsalya Healthcare Private Limited
Investor Award	IFMR Trust
Media / Journalist Award	DARE Magazine
Lifetime Achievement Award	Ela Bhatt(SEWA)

Photographs of the Innovations Funded:

 <p>Mini-Weeder</p>	 <p>Pin Pulveriser</p>	 <p>Improved Brick Kiln</p>	 <p>Mini-Sanitary Napkin Manufacturing Machine</p>
 <p>Stages in Mastitis Mastitis Prevention and Detection Kit</p>	 <p>Marine Coastal Collector Well</p>	 <p>Infant Warmer</p> <p><small>Dr. Sathya Jaganathan and colleagues Chengalpet, Tamil Nadu, India</small></p>	 <p>ACG Neem Products (Nemate)</p> <p>Neem Kernel</p>
 <p>Rat Vanisher</p>	 <p>Sugarcane Farm Weeder</p>	 <p>Neotherm</p>	 <p>Production Enterprise</p>
 <p>Bamboo Mat Weaving Machine</p>	 <p>Solar Egg Incubator</p>	 <p>Solar Egg Incubator</p>	 <p>Production Enterprise</p>

L-RAMP Award Ceremony: 2008



SOCIALLY RELEVANT PROJECTS

Back in the year 2003, IIT Madras started exploring ways of helping disadvantaged sections of the society through technology intervention. Director, IIT Madras sanctioned a sum of Rs. 10 lakhs for funding projects with immediate social relevance and this initiative was named as "Socially Relevant Projects". A condition for getting the funding for projects under this program is that the idea for the project should get initiated 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. To start with, a total of eight projects were initiated under this program and presently they are at different stages of completion. Alumni of 1967 batch and 1981 batch have come forward to fund several projects under this program. Following projects are currently underway.

FUNDED BY IIT MADRAS

1. White Clay Disposable Cups

The objective of this project is to make disposable, environmentally friendly and bio-degradable clay cups, which are a potential replacement for disposable plastic and paper cups. These cups do not require external heating or electricity to manufacture. They have good mechanical strength, no odor, minimum leaching, and are inexpensive. Food grade certification has been given by CFTRI. Dr. Susy Varughese of the Department of Chemical Engineering had undertaken this project.

2. Housing and Rehabilitation of Tsunami Victims

This study is being undertaken by Dr. Ravindra Gettu (Department of Civil Engineering) and Dr. Prema Rajagopalan (Department of Humanities and Social Science). The objective is to undertake a post-rehabilitation study of two tsunami settlements. The study is addressing issues such as accommodation within the new settlement, acculturation with new neighborhood, livelihood and economic empowerment and technical assessment of the houses and infrastructure created. The study is expected to be an eye opener for rehabilitation programs in future.

3. Improving Performance of Tsunami Rehabilitation Housing Projects

This study is being undertaken by Dr. Koshy Varghese and Dr. Ashwin Mahalingam of the Department of Civil Engineering. In many of the post-Tsunami housing projects, a large number of houses must be built simultaneously in a short period of time. A large part of the available labor consists of unskilled workers. The site layouts are often extremely congested, making it difficult to plan and move resources. No planning tool exists that takes the situational nuances into consideration. This is likely to lead to delays in the completion of these projects. The effect of such delays is that the prospective beneficiaries will have to endure living in their temporary shelters, for a longer period than expected. The objective of this project is to design a Project Planning System for post-Tsunami housing.

4. Self Powered Palmyrah Tree Climber

In response to a request from SEVA, Madurai, Dr. M. S. Sivakumar of the Department of Applied Mechanics has taken up a project to develop a self powered palmyrah tree climber. Three different climbing systems with improved safety measures have been tried out. Trial runs have been made, and attempts are being made to refine the product for safety, ease, speed of climbing and user friendliness.

5. Design and Development of Ventilation System

In response to a request from Gandhigram Trust, Dr. A. Mani of the Department of Mechanical Engineering has undertaken a project to design and develop improved ventilation systems in the Siddha and soap units to remove unwanted vapors and fumes from the work place. This will improve the working condition of labor in these units and is expected to increase the overall efficiency of operation and improve productivity.

RAMACHANDRAN JAIKUMAR PROJECT FOR RURAL TECHNOLOGIES

1967 Batch Alumni of IIT Madras have initiated a program in fond memory of one of their batch mates, with an initial funding of Rs. 25 Lakhs. Under this program, known as Ramachandran Jaikumar Project for Rural Technologies (RJPRT), two projects have been initiated recently.

1. Water Quality Test Kit:

This projects aims at developing an easy to use and inexpensive kit for testing water quality and training NGOs working in rural areas in its use. Dr. Ligy Philip and Dr. B.S. Murty of the Department of Civil Engineering are the coordinators for this project. Two test kits, one for 14 parameters and another for 24 parameters have been made and field tested. School students in Vilathikulam town in Tamilnadu were trained to use the test kit, and they have tested the water quality of 89 villages in the nearby area. Two training programs have been conducted in Krishnagiri district under the sponsorship of UNICEF and it plans to use these test kits for training and continuous use of these kits by NGOs in Tamilnadu.

2. Biogas from Non-Edible Oil-Seed Cakes:

This project envisages 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. Batch experiments have been completed. Bagasse added to Jatropha is found to give synergistic increase in gas production. A reactor has been fabricated and the reactor studies are underway.

INITIATIVE BY 1981 BATCH ALUMNI

The Class of 1981 of the IIT Madras Alumni has, of their total funding, allocated an amount 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 six projects have been initiated last year.

1. Facilitating Cognitive Development in Infants with Motor Impairments

Dr. Anil Prabhakar and Dr. Chandrachoodan of Department of Electrical Engineering, along with Vidyasagar, are attempting to create an enabling device for infants with cerebral palsy and document their developmental milestones. The primary objective is to design a short chair/stool on wheels that can an infant with motor impairment can be strapped into. Using a combination of tactile sensors on the base and a handle-bar with tilt-based 3-axis accelerometer, the I-Touch and Go (I-TaG) will enable an infant to control his or her movement to a limited extent and thus develop a sense of the surrounding environment. Another key cognitive milestone is when a child recognizes cause and effect. The reduced motor skills make the task of giving a child with cerebral palsy this feedback difficult. The standard method is via electronic switches that control objects. Investigators are planning to design and prototype such switches having a combination of audio and visual feedback.

2. Development of Adjustable Braces for Children Affected by Polio

Dr. Sujatha Srinivasan of the Deaprtment of Mechanical Engineering, along with The Bhagwan Mahaveer Viklang Sahayata Samiti, Jaipur is developing designs for adjustable polio braces. In the current designs of the prefabricated KAFO, four regions need adjustment as the child grows: the length from the knee to the floor, the length from the perineum to the knee and circumference adjustments at the calf and the thigh. Designs that allow some or all of these adjustments will be pursued. Initial design will be performed using CAD tools. Promising designs will be prototyped and field-tested to determine if the adjustments can be easily performed by the patient's parent/guardian, and to determine if the adjustments work as intended. Based on feedback from the field-testing, the design will be refined to finalize one design that can be manufactured on a larger scale for further testing. A report will be prepared for future use in transferring the technology to the appropriate beneficiary.

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. However, children with cerebral palsy usually experience obstacles in accessing a standard keyboard because of their abnormal postures and movements. Rehabilitation professions have been involved in the application of assistive technology devices that enable individuals with disabilities access technology. 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. Given that the thinking behind this radical approach is fairly recent, there is a need for greater understanding on the relevance and implications of such an approach on healthcare delivery and patient benefits. 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 organisation 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 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

The farms of rural India are facing a critical shortage of manpower for all sorts of activities. Especially 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. Thus 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 planning to make a pilot cable way system capable of carrying a load of farm produce to the collection point. Initially, they propose to implement a system which can carry 50kg of produce over 100 metres. The project covers both design and implementation of the cableway.

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 wayback 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 about 235 industries and other organizations in and outside the country.

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.

In 2001, this Centre received ISO 9001:2000 Quality Certification from RWTÜV, Germany for having established the Quality Systems in all its services. Also, the Centre received NABL Accreditation in 2004 for Testing and Calibration Laboratories in conformance to ISO/IEC 17025 Standards.

6.3.2 Activities:

1. Training Programs: Long Term CEC Training Program:

XXII batch Training Program ended in December 2008. The total number of candidates in XXII and XXIII Batch of CEC Training Programs are 19. XXIV Batch of Training Program (2 years duration) is commencing in May 2009.

2. Laboratory Sessions for B.Tech\B.Tech Dual Degree Students:

Laboratory Sessions for B.Tech I Year (Part of WS101/WS102) were conducted during odd and even semesters of 2008-2009. Laboratory Sessions on 'Embedded Systems and Microcontrollers' for Laboratory Course ED312 for Dual Degree Students of the Department of Engineering Design was conducted between January – April, 2009.

3. Workshop / Courses conducted:

- One day Workshop for Engineering College Students on "Solar Power Generation Systems" on 15th October.
- Ten days course on "Solar Power Systems" in association with Dept of Mechanical Engg for the entrepreneurs as sponsored by MSME in March-April 2009.

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	Fault Analysis of MGC and F/E Boards	Kody Tech. Ltd.	14	2.52
2	-do-	Testing of Multiproduct Calibrators	Instrulab	7	0.79
3.	-do-	Servicing of AC Drives	JKM Drerim Automotive Ltd.	2	1.11
4.	-do-	Testing of 600 VA, 3kVA, 10kVA UPS	Socomec UPS India	3	0.75
5.	-do-	Servicing and Testing of Power Supplies and Calibration of Multimeters	Common Approval	4	2.46
6.	-do-	Servicing of AVO Meter, DC Power Supply, Magnetic Field Strength Tester	Elmack Engg.	3	0.22
7.	-do-	Servicing of Charge Amplifiers	CVRDE	2	0.21
8.	-do-	Servicing of Fluke Calibrator	Calsi tech	1	0.56
9.	-do-	Servicing of Pole Reversal Unit	ICF	1	0.34
10.	-do-	Servicing of Battery Chargers	Ford India	3	0.83

6.3.3 Conference Presentations:

- Dr.M.Kumaravel gave a presentation on "Solar Power Systems" at ICORE Precongress Workshop on 15th October, 2008 organized by SESI and IITM.
- Dr.M.Kumaravel delivered an invited lecture on "Solar Power Systems: Innovations and Recent Developments" at ICORE Conference on 17th October, 2008, organized by SESI.

6.3.4 Invited Lectures:

- Dr.M.Kumaravel delivered a special lecture on "Solar PV Systems – Current Trends" at Alpha Engg College in 6th October, 2008.

6.3.5 Committees Served:

Dr.M.Kumaravel is serving in the following Committees:

- Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Minjur, Chennai.
- Chairman of Expert Committee for Technical Evaluation and Installation of SPV Plant at CWET (Centre for Wind Energy Technology), Chennai.
- Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Nemmili, Kancheepuram Dist.
- Member of Executive Committee for Centre for Energy Studies at Anna University.

6.3.6 Development Works completed:

- (i) Development and Installation of 20 Nos. each of Solar Photo Voltaic Powered white LED Street Lighting Systems and Mains Powered Indoor LED Lighting Systems in the Hospital in Sittling a tribal village in Dharmapuri District.
- (ii) Design of PV main Hybrid System for the operation of water pump and Lighting Systems in Sittling Hospital.

6.3.7 Ongoing Development Activities:

- (i) Solar Photo Voltaic powered Seawater Desalination ('Suryajal') Systems in Standalone as well as Hybrid versions.
- (ii) Solar Photo Voltaic Powered white LED Street Lighting Systems for IIT Madras
- (iii) Solar Photo Voltaic cum utility Powered LED Lighting Systems, Fans and Air Coolers in Class room
- (iv) Preliminary Project Report on 'Design and installation of Solar PV Power Plants (1 MWp to 5 MWp) for different sites in the country for ILFS
- (v) Indianisation of 'SOLLEKTOR' developed by George Simon - Ohm University of Applied Sciences, Nueremberg, Germany for bringing the sun light directly into the living area by Polymer Optical Fibres.

6.3.8 Other Activities:

- Documentary Film on CEC for the Open House in October 2008.
- The procedure for procurement and installation of batteries for all UPS at IIT Madras.
- Testing of UPS from new vendors for entering into Rate Contract at IIT Madras.
- Building of Infrastructure for conducting one credit Course on "Basic Electronics Laboratory" for all first year Engineering students.

6.3.9 Staff Strength:

The Centre has 8 Technical and 2 Administrative staff.

6.4 COMPUTER CENTRE

6.4.1 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, in August, 2008, The High Performance Computing Environment (HPCE) is set up to cater to the ever-increasing demand on supercomputing facilities for researchers 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 Supercluster 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.

The following applications softwares will be made available to the users on these clusters are:

Abaqus 6.7 EF1, Ansys CFX Ver 11.0, Fluent 3.26, Gambit 2.46, Mathematica 5, Matlab 7, MSc Products – Marc, Dytran & Nastron, and Star CD 3.26.

COMPILERS: Intel C++ and Fortran 10.1

LIBRARIES:

Intel Cluster Open MPI for Intel Compilers for Linus, Intel MPI Lib. 3.1, Intel Math Kernel Lib. 10.0, GSL and GSLCBLAS 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. K. Murali, Member of Computer Committee.

The on-going administrative computerization efforts through include the following services:

- | | |
|-----------------------|--|
| 1. Administration | 5. Entrance Examinations for Admission (JEE, GATE) |
| 2. Finance & Accounts | 6. Hostels |
| 3. Hospital | 7. Stores & Purchase |
| 4. Engineering Unit | 8. Academic Section |

These services are undertaken by the work flow group headed by Prof. Koshy Varghese, Member of Computer Committee.

Website:

A new institute website is developed this year. The information updates from various sections of the institute are carried out periodically by the website group, headed by Dr. Babu Viswanathan, Member of the Computer Committee.

Date Centre:

The cooling requirements in the HPCE are enhanced by adding four numbers of 17 TR Precession Air-conditioning units. The back-up power in the same area has also been increased by adding two more 160 KVA UPS. In order to have redundancy for the existing 600 KVA generator one more generator of 600 KVA has been installed.

The Chairman of the Computer Committee is Prof. B V SSS Prasad who takes care of the activities and general administrative work related to the computer centre.

6.4.2 Details of Staff

Title/Name and Qualification

Major Area Specialization

Senior Systems Engineer

Dr. S. Jayaprakash

Software Engineering, Computer Networks, e-Governance

Ramesh S.K., M.S

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.

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

Vijayaraghavan C.N., M.Sc., & M.Tech.
in Ind. Maths

Computer Network and Data Centre Operations, Operating Systems, System Administration

Assistant Engineer (Systems)

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

DATA CENTRE

In-Charge C.S. Sourirajan

PC MAINTENANCE CELL

In-Charge – Mr.C. N. Vijayaragavan

Technical Superintendent

Selvaraju V., B.E. (ECE)

PC Hardware and software maintenance and troubleshooting. Microcontroller and Microprocessor based system development and BIOS programming. 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)

Maintenance and Troubleshooting of Computers and Peripherals in the Institute. Giving technical support to PC Cell Trainees that include theory and Hands-on-Sessions on computer hardware & peripherals. Installation, Networking and system administration of (Windows 9X/NT, XP, 2000 Servers, Linux and SUN) Operating systems.
System Administration for Institute & Students e-mail Server.

Project Associate/Project Technician

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 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:

6.4.3 GATE and JMET Examinations 2008-2009

Mr. S.K. Ramesh assisted in the successful conduct of the GATE 2009 and JMET 2009 examinations.

6.4.4 JEE 2008-2009 Data Processing

Mr. C.S. Sourirajan and S. Anandkumar involved in the successful conduct of the JEE 2008 related computer operations that included Applications query on Web/IVR, Data Processing, and results publishing in Web/IVR.

6.4.5 CEC Servicing Information

Mr. C.S. Venkatesan is involved in developing Web based service information for Centre Electronics Centre (CEC).

6.4.6 Antivirus

Server-based e-Trust software from CA 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.

6.4.7 Seminars / Lectures / Other activities

- ❖ Dr. S. Jayaprakash delivered a Seminar on "Evaluation Networking Infrastructure at IITM Campus", at National Institute of Technology Karnataka (NITK), Surathkal on 05-06-2008
- ❖ Dr. S. Jayaprakash attended Technical Committee Meeting for Upgradation of Internet Bandwidth, University of Madras, Chennai on 01-07-2008.
- ❖ Dr.S. Jayaprakash deliver a lecture on "Internet and Computer", Short Term Course on Cybercrimes, Tamil Nadu Police Training College, Chennai, on 17-07-2008
- ❖ Dr. S. Jayaprakash attended the Fourth Meeting of the Executive Committee of Ramanujan Computing Centre, Anna University, Chennai on 20-02-2009.
- ❖ Dr.S. Jayaprakash deliver a lecture on "Internet Security – An Overview", AICTE-QIP Short Term Course for MCA Teachers, Anna University, Chennai, on 05-03-2009
- ❖ Computer Centre organized a workshop on Mathematica from 16.03.09 to 17.03.09, by Sierra Atlantic Services Ltd., Hyderabad.
- ❖ Computer Centre organized a Training Programme on MSc software: Nastran, Patran, Mark & Mentat, from 11.11.08 to 13.11.08, conducted by CSM Software Bangalore.
- ❖ Computer Centre organized a workshop on Parallel Programming and HP System Management Training from 22.09.08 to 27.09.08, by Intel and HP Engineers.
- ❖ Super computer VEGA Cluster installation completed on 29.08.08. and a workshop was conducted on PBS Pro System Management Training.
- ❖ Training Programme on Fluent and Gambit was organized from 03.03.08 to 06.03.08., by Ansys Fluent India.
- ❖ Computer Centre organized a workshop called "Demo on Web Calendar " on 26th, 28th, and 31st of March,2008.
- ❖ A semianar was conducted by Numerical Algorithms Group (NAG) on NAG High Performance Library, on 28.02.2008.

6.4.8 Publication

1. Santosh S. Chavan, **S. Jayaprakash**, and V. Jagadeesh Kumar, An Open Standard Protocol for Networking of Energy Meters, **IEEE Transactions On Power Delivery**, Vol. 23, No. 4, October 2008, Pp 1749-1753
2. Santosh S. Chavan, **S. Jayaprakash** and V. Jagadeesh Kumar, "An Open Standard Protocol for Networking of Energy Meters" 2008 Power Engineering Society General Meeting, Pittsburg, Pennesylvania, USA

6.4.9 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 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.

6.4.10 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.	Hospital Drug Management System	Mr. S.K. Ramesh Mr. V. Ravichandran
3.	JEE Data Processing	Mr. C.S. Sourirajan Mr. S. Anandkumar
4.	GATE Data Processing	Mr. S.K. Ramesh
5.	M. Tech Admission	Mr. S.K. Ramesh
6.	Academic Processing	Mr. P.Y. Sreekumar Mr.C.S. Venkatesan
7.	Academic Workflow (New)	Mr.C.S. Sourirajan Mr.C.S. Venkatesan Mr.T.V. Subba Rao
8.	Hostel Pay roll System	Mr. C.S. Sourirajan Mr. V. Ravichandran
9.	Teachers Evaluation	Mr. C.S. Sourirajan Mr.P.Y. Sreekumar
10.	Anti-virus facility	Dr. S. Jayaprakash Mr. D. Hariharan
11.	Institute payroll	Mr. S.K. Ramesh

7.1 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 2008- March 2009 are given below.

S.No	Shops	Facilities
1	Carpentry	Planing, crosscutting, tuning, 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	<ol style="list-style-type: none"> 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	Electronics	PCB, Tag board , Soldering and PLC Proofing.
12	FRP	Process material demonstration. Making of dust bin and welding hand shield.
13	Plastics	Introduction to process materials, Practical demonstration in making cycle token, key tags, caps & Folders
14	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.
15.	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 in the campus.

Central Workshop very effectively caters to the undergraduate's programme by imparting training in various shops cited above.

During the year under report 591 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
1. Electrical Engineering	89	Fitting Electrical Electronics Carpentry Welding Turning Pneumatics & Hydraulics Plastics & FRP Milling & Shaping Foundry Smithy Gear & Tool room Quality control & Communication
2. Engineering Physics	21	
3. Mechanical Engineering	107	
4. Metallurgical & Materials Engineering	34	
5. Aerospace Engineering	42	
6. Chemical Engineering	68	
7. Naval Architecture & Ocean Engineering	31	
8. Civil Engineering	72	
9. Bio- Technology	43	
10. Computer Science	41	
11. Engineering Design	43	
Total	591	

In addition 60 students of IIT D & M have also been given training in CWS.

Central Workshop executes fabrication of test set-ups and their accessories related to PhD, PG and UG Projects. 342 Work Orders were executed during the year 2008 – 2009.

New equipments added during the 2008-2009

1. New Plasma arc cutting equipment was purchased and installed in the welding shop. 1st year students are given hands-on training in using Plasma arc cutting when they attend welding practice.
2. A variety of hand held Power Tools from M/s Bosch were added in the Fitting & carpentry sections. Students are given training in the use of these tools.

Infrastructure for Workshop at IIT H

The CWS of IITM fully organized the setting up workshop facility at IIT Hyderabad.

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 reasearch 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 2008-2009

- I Industrial Gases:- Oxygen, Dry Nitrogen, Dissolved Acetylene, Standard Hydrogen & Carbon Di Oxide
- II Special Gases :- High Pure Grade –I of Nitrogen, Oxygen, Hydrogen, Organ, - Zero Air & Helium

The following two kind of gases ordered and issued to various Department during the year 2008 - 2009

Sl.No	<u>Industrial Gases</u>	Qty Ordered (Approximate) in Cu .m	Qty ActualConsumption in Cu .m
1	Oxygen	2000 Cu M	2170 Cu M
2	Dry Nitrogen	6000 Cu M	5642 Cu M
3	Dissolved Acetylene	300 Cu M	294.32 Cu M
4	Standard Hydrogen	500 Cu M	184 Cu M
5	Carbon Di Oxide	1500 Kgs	1934 Kgs
Special Gases			
6	High Pure Nitrogen Gr-I	2500 Cu M	2898 Cu M
7	High Pure Oxygen Gr-I	500 Cu M	329 Cu M
8	High Pure Hydrogen Gr-I	500 Cu M	413 Cu M
9	High Pure Organ Gr-I	1500 Cu M	1393 Cu M
10	Zero Air	800 Cu M	756 Cu M
11	Helium	200 Cu M	136 Cu M

7.3 Central Glass Blowing Section

The central glass blowing section is one of the important infrastructures Facilities of the Institute since 1972. This section undertakes design and fabrication of sophisticated glass apparatus for research and development to cater the needs of various departments.

Facilities available:

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 dewer flasks, lugging probe, laser housing tube with water jacker, reactor tube, jet electropolisher, double walled transfer tube, vacuum tube collector for solar energy and quartz wares.

Erode Vellalar Engineering college students are visited the Glass Blowing Section.

During April 2008 to March 2009 the section undertook 207 work orders (No of items 1314) 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 on Applied Science, Engineering, Technology, Humanities, Management, Social Sciences and other new emerging areas. The Central Library holds 4,31,785 collections, 1433 current journals, catering to the information needs of 7113 members through providing various value added services with the help of modern information handling tools, techniques, Infrastructure. The major activities undertaken in the Central Library during the period are given below:

8.1 Library Information Services Statistics

A. Collections

Item	2007-2008	2008-2009
Books	2,31,565	2,37,952
Ph./D Theses	3,832	3,887
Pamphlets and Reports	4,031	4,100
Microfilms/Fische	1,842	1,842
Book-Bank(General)	6,169	6,169
Book-Bank(Weaker Section)	8,090	8,090
Current Periodicals by Subscription	1,095	1,346
Current Periodicals by Exchange/Gift	87	87
Back Volumes of Periodicals	97,909	1,02,275
Patents & Specifications	20,000	20,000
German Collection	44,280	44,280
CD-ROMs	1,252	1,309
Audio/Video Cassettes	448	448
Total	4,20,600	4,31,785
B. Membership		
Staff	780	756
Retired Faculty	410	468
Students	4,562	4957
Alumni Members	308	325
Corporate Members	182	190
Industrial Associate Members	218	270
Special Members	78	82
Project Co-ordinators	62	65
Total	6,600	7,113
C. Services: Circulation		
1. Number of Books/Journals Transactions	1,27,332	1,46,204
2. Number of Books issued Book Bank (GS)	2,750	2,925
3. Number of Books issued Book Bank (WS)	3,074	3,224
4. Consultation Cards issued to users	155	76
5. Overdue & other Charges collected	7,16,343	7,79,124
6. Xerox Charges collected	1,49,066	1,15,113
D. Permanent Loan to Depts/Centres		
1. Books Issued	1,635	1852
E. Inter Library Loan Transactions		
1. Borrowed from other Libraries	93	63
2. Loaned to other Libraries	125	56

F. Reprint Service

1. Reprints received from other Institutions	656p	790 p
2. Reprints supplied to other institutions	1,540p	677 p

G. Smart Cards Generated/issued 1,816 2659

H. Expenditure on

1. Purchase of Books	Rs. 65.16 lakhs	116.43 lakhs
2. Subscription of Journals	Rs.533.14 lakhs	870.16 lakhs

I. New Journals Added 72 251

8.2 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 16-07-2008
2. ISO Surveillance Audit (Recertification (TUV NORD) was conducted on 02-08-2008

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 Hindwai Publications under Institutional membership numbering 179 on different subjects such as Agriculture, Biology, Chemistry, Computer science, Dentistry, Ecology, Engineering, Geosciences, Material Science, Mathematics, Medicine, Neuroscience, Pharmacology & Physics has been provided on the recommendation of the Department of Mathematics. In addition to this, 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. We have also subscribed ACS Legal Archives (1889-1995) thus providing online access for 36 journals from vol.1. In this regard, faculty, students and staff were informed through announce facility and also 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 and IEC were provided under INDEST-AICTE Consortium arrangement.

8.3.2 Extended Working Hours on Saturday & Sundays

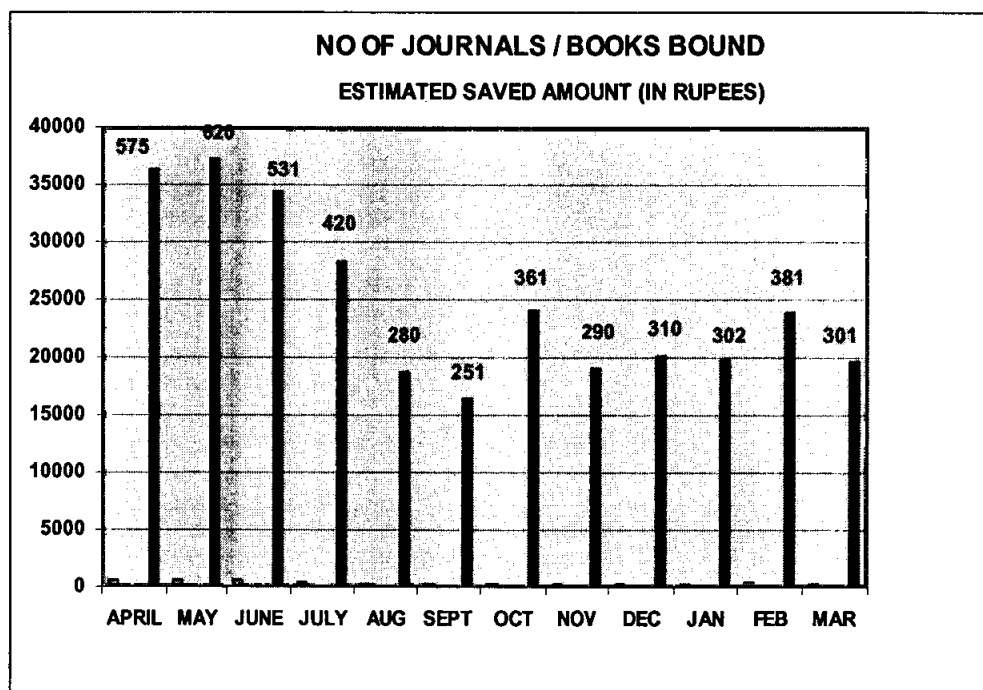
The Central Library has extended the working hours up to 12.00 midnight during Quiz/End Semester and Make-up Exams on Saturdays & Sundays for the benefit of students.

8.3.3 Reorganization Reference Hall at Level-V

Due to increase in the reference collections as well as provide adequate space for TBR Collection, the entire Reference Hall on Level V has been reorganized by adding FIVE more number of new wooden racks with proper shelf guides.

8.4. Binding Facilities

Over the past decades, users used to face problems for not getting the publications in time as external binders used to take on an average 4 to 6 months to complete the binding. To overcome this difficulty, the Central Library installed Well bound Automatic Binding Machine with the facility to bind the books in few seconds using strong glue. This has saved the entire amount spent on binding through external binder and also saved the time of users ensuring great satisfaction among them. The details regarding the work completed during 2008-2009 are given below:



Name	Qualifications	Major Area of Specialization
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
C.R.Sekar Assistant Librarian	B.A., M.L.I.Sc.	SDI Service, CAS, Bibliographic Compilation.
P. Natarajan Assistant Librarian	M.A., M.L.I.Sc.	Resource Sharing, Document Delivery, Inter Library Loan.

8.5 Faculty and their Activities

8.6 Training/ Lecture/Presentation/Conference Organized

Sl.	Name of the Speaker / Organizer	Topic	Date
1.	Mr. Plyush Gupta, Marketing Manager, Wiley India	Information Literacy Program on Wiley-Blackwell E-Resources	02-09-2008
2	Dr. Khee Hiang, Customer Trainer, Thomson Reuters, Singapore	Information Literacy Program on Web of Science: A Research Tool	17-10-2008
3	Ever Life Fire Safety Systems	Training on using Fire Extinguishers	29-01-2009

Distinguished visitors from 11 foreign countries visited the Central Library on 01-08-2008 to see the facilities and functioning of the Central Library. All are seen in the following picture along with Central Library Staff.



The Central Library has organized various information literacy programs for the benefits of the faculty and students to familiarize the use of e-journals and e-databases subscribed under IITM as well as INDEST-AICTE Consortium arrangement. The Information literacy program on Web of Science: A Research Tool was organized in Media Resource Center on 17-10-2008 is well attended by the students, faculty and staff is seen in the following picture.



8.7 Short term Courses / Workshops / Seminars / Symposia / Conferences / Training/ Meeting attended by faculty/Staff in recognized Academic Institutions

Sl.	Name of the staff	Title	Institution	Period
1	Dr. Harish Chandra Librarian	National Conference on Re-Building the Libraries: Learning from the past to plan for the future	Mahatma Gandhi Central Library, Kumaraguru College of Technology, Coimbatore	08-08-2008 & 09-08-2008
2	Mr. C David Vincent Junior Superintendent	HRD Training Program on Noting, Drafting and Interpersonal Skills	IIT Madras, Chennai	30-08-2008
3	Mrs. R. Shanthy Junior Superintendent	HRD Training Program on Noting, Drafting and Interpersonal Skills	IIT Madras, Chennai	20-09-2008

4	Dr. Harish Chandra Librarian	UNESCO Sponsored Training-the Trainers Information Literacy Workshop for South & Central Asia	UNESCO and Department of Library and Information Science, Punjabi University, Patiala	05-11-2008
5	Dr. Harish Chandra Librarian	Int. Symposium on Emerging Trends and Technologies in LIS	Jaypee Institute of Information Technology University, NOIDA, UP	18-12-2008 to 20-12-2008
6	Dr. Harish Chandra Librarian	Int. Conference on Knowledge Networking in ICT ERA	Crescent Engineering College and SALIS, Chennai	22-01-2009 to 24-01-2009
7	Mr. P. Sarguna Doss Technical Superintendent	HRD Training Program on Interpersonal Skills	IIT Madras	31-01-2009

8.8 Special Lectures Delivered by Faculty in other Institutions

SI No	Name of Faculty	Topic of Lecture	Venue and Date
1	Dr. Harish Chandra	1. Institutional Repositories 2. Digital Library Management	Sinhgad College of Engineering, Pune. on 21-06 2008
2	Dr. Harish Chandra	Developing World Class Libraries for Building Global Information Society: Approaches and Strategies	Central Library, Karunya University, Coimbatore 07-11-2008
3	Dr. Harish Chandra	Knowledge Management: A Road Map for Building Sustainable Knowledge Society	NITTTR, Chennai on 04-12-2008
4	Dr. Harish Chandra	Quality Assurance for Customer Satisfaction in Today's Libraries through ISO-9001: 2000 Standard	Jaypee Institute of Information Technology University, NOIDA On 19-12-2008
5	Dr. Harish Chandra	Web based Library Services for S&T Libraries	Central Library, IIT Bombay on 08-01- 2009
6	Dr. Harish Chandra	Web based Library and Information Services in Colleges and Universities	Bharthidashan University, Trichy on 11-- 01-2009
7	Dr. Harish Chandra	Digital Libraries	Crescent Engineering College on 23-01- 2009
8	Dr. Harish Chandra	Quality Assurance for Users in Libraries & Information Centers through ISO 9001:2000 Standard	Physical Research Laboratory, Ahmedabad on 05-02-2009
9	Dr. Harish Chandra	Library Security System: Implementation Experience of RFID	NITTTR, Chennai On 12-03-2009
10	Dr. Harish Chandra	E-Resources for Academic Excellence	NITTTR, Chennai & Colombo Plan Staff College for Technical Education, Manila, Phillippines on 12-03-2009

8.9 Honors and Awards:

Sl	Name of Faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	Dr. Harish Chandra	Silver Rolling Trophy	Mylapore Academy	Best Maintained Library in Colleges for the Year 2007	02-09-2008
2	Dr. Harish Chandra	Punjab National Librarian Award 2008	SATKAL Trust, Patiala	Achievements in the Profession of Librarianship	03-10-2008
3	Dr. Harish Chandra	Fellowship 2008	Society for Information Science	For valuable Contributions to Information Science in India	06-12-2008
4	Dr. Harish Chandra	Highest Usage Award 2008	Elsevier Publisher	For using Science Direct and Engineering Village-II databases	Feb 2009

8.10 Journal Editorial Board

Sl	Name of Faculty	Level	Journal
1	Dr. Harish Chandra	Member : Advisory Editorial Board	OCLC Systems and Services- an International refereed International Journal published by Emerald
2	Dr. Harish Chandra	Chief Editor	SALIS Journal of Library and Information Science published by SALIS
3	Dr. Harish Chandra	Member: National Editorial Advisory Board	Indian Journal of Library and Information Science published by World Information Syndicate, New Delhi
4.	Dr. Harish Chandra	Member: Editorial Advisory Board	Indian Journal of Information Science and Services published by Bannari Amman Institute of Technology.
5.	Dr. Harish Chandra	Member: Editorial Advisory Committee	Trends in Information Management (TRIM) a bi-annual Journal of DLIS University of Kashmir, Srinagar, J&K

8.11 Books, Monographs Authored/ Co-authored/Edited

1. Edited Papers of International Conference on Knowledge Networking in ICT Era (With Dr. Manorma Srinath, A.Hariharan and Dr. P Panneerselvam) Chennai, Central Library, B.S.Abdur Rahman Crescent Engineering College and SALIS, 2009 Vol. I and II pp.871
2. Edited SALIS 2008 Papers of National Conference Re-Building the Libraries: Learning from the Past to Plan for the Future (A. Hariharan, S.Srinivasa Ragavan and M. Mandhirasalam) August, 2008, pp. 519

8.12 Paper Published in National Conferences / Festschrift Volume

Harish Chandra, Developing World Class Libraries for Building Global Information Society: Approaches and Strategies Proceedings of National Convention on Library and Information Networking (NACLIN 2008) held at Karunya University, Coimbatore during November 4-7, edited by H.K.Kaul and J. Dominic, pp. 19-31

8.13 Fellowships of Academies and Professional Societies

SI	Name of Faculty	Name of Academy / Professional Society	Level
1	Dr. Harish Chandra	DELNET, New Delhi	Two Years, 2010
2	Dr. Harish Chandra	ISKO (India Chapter) Bangalore	Ordinary
3	Dr. Harish Chandra	Association of Government of India Libraries	Life
4	Dr. Harish Chandra	Medical Librarians Association of India	Life
5	Dr. Harish Chandra	Madras Library Association, Chennai	Life
6	Dr. Harish Chandra	IATLIS, Patiala	Life
7	Dr. Harish Chandra	Society of Information Science, New Delhi	Life
8	Dr. Harish Chandra	Indian Society for Training & Development, Delhi	Life
9	Dr. Harish Chandra	Tamilnadu Library Association, Chennai.	Life
10	Dr. Harish Chandra	SALIS, Chennai	Life
11	Dr. Harish Chandra	IASLIC, Kolkata	Life
12	Dr. Harish Chandra	Association of Mathematics Teachers of India,	Life
13	C.R.Sekar	SALIS, Chennai	Life
14	P. Natarajan	SALIS, Chennai	Life
15	K. Sethu	SALIS, Chennai	Life

8.14 Distinguished Visitors/Groups to the Central Library

Sl. No.	Name of the Visitor & Designation	Date of visit	Purpose of visit
1.	Dr.S. Srinivasa Ragavan, Librarian I/c & Head, DLIS, Bharathidasan University	18-04-2008	To see the facilities and functioning of the Central Library
2.	Mr. C.K.R. Krishna Kumar, Deputy Director Department of Public Library, Hyderabad.	28-07-2008	To see the facilities and functioning of the Central Library
3.	11 Delegates from Nine countries. Dr. R. Ravichandran, NITTR Led the team	01-08-2008	To see the facilities and functioning of the Central Library
4	14 P.G.LIS Students & two Faculty Members Bishop Heber College, Trichirappalli.	22-08-2008	To see the facilities and functioning of the Central Library
5.	12 Students of Class XI The School, Krishnamurti Foundation, Adyar	20-09-2008	To see the facilities and functioning of the Central Library
6.	19 BLISc Students with two faculty from School of Library and Information Science, Rajagiri College of Social Sciences, Kochi.	06-11-2008	To see the facilities and functioning of the Central Library
7.	22 MLISc Students from DLIS, S.V.U. College, Trirupati.	14-11-2008	To see the facilities and functioning of the Central Library
8.	28 Oversea Teachers/Librarians. Led by Librarian, NITTR, Chennai	05-11-2008 & 27-11-2008	To see the facilities and functioning of the Central Library and discussing digital libraries
9.	30 Students and four Teachers from Department of Library & Information Science, University of Kerala.	28-11-2008	To see the facilities and functioning of the Central Library

10.	11 MLISc Students from DLIS Pondicherry University.	04-12-2008	To see the facilities and functioning of the Central Library
11.	36 Polytechnic Librarians from Andhra Pradesh, Kerala and Karnataka. Led by Librarian, NITTTR, Chennai	17-12-2008	To see the facilities and functioning of the Central Library
12.	18 MLISc Students from Department of Library and Information Science, RTM Nagpur University. Librarian Led the group. ,	23-01-2009	To see the facilities and functioning of the Central Library
13	30 M.L.I.Sc. Students from Gulburgh University, Karnataka	09-02-2009	To see the facilities and functioning of the Central Library
14	30 Librarians from Polytechnic Colleges. NITTTR Librarian Led the team	04-03-2009	To see the facilities and functioning of the Central Library

8.15 Other Activities

1. Dr. Harish Chandra, Librarian attended E-Library Committee Meeting as an External Expert at Dr. Harisingh Gour University, Sagar (M.P) on 12-05-2008
2. Dr. Harish Chandra, Librarian attended Selection Committee Meeting of U.P.S.C in New Delhi on 24-06-2008
3. Dr. Harish Chandra, Librarian participated in the Selection Committee Meeting at for the post of Chief Librarian-cum Documentation Officer at UPSC, New Delhi on 18-09-2008
4. Dr. Harish Chandra, Librarian directed SALIS 2008 National Conference on Re-Building the Libraries: Learning from the Past to Plan for the Future jointly organised by Mahatma Gandhi Central Library, Kumara guru College of Technology, Coimbatore and SALIS Chennai on 08-08-2008 to 09-08-2008
5. 123rd and 124th Library Advisory Committee Meeting were held on 09-04-2008 and 11-11-2008
6. Dr. Harish Chandra, Librarian attended A joint meeting of National Steering Committee of INDEST Consortium and National Steering Committee of UGC-InfoNet Digital Library Consortium on 05-12-2008
7. Dr. Harish Chandra, Librarian has been elected to the Standing Committee for the Term 2009-2013 – Reference and Information Services Section of International Federation of Library Associations and Institutions (IFLA), The Netherlands
8. Mr. Kunwar Singh, Senior Library Information Assistant joined on 21-05-2008
9. Mr. C.C.Tom, Assistant Librarian retired on 30-04-2008
10. Mrs. B. Jameela, Senior Attendant retired on 30-04-2008
11. Single Electrical Switch Control provided on 11-02-2009

8.16 Future Plan

1. To verify electronically more number of books from the shelves with the help of software.
2. To initiate the work for providing access to the abstracts of Ph.D theses submitted at IIT Madras linked with bibliographical details already provided under Thesis hyperlink of Central Library website.
3. To bring out the list of Current Journals subscribed for the year 2009
4. To repair minimum 3000 books which will be identified from the stacks
5. To undertake special drive to rectify the stacks and also the classification of books.

9. STUDENTS AMENITIES AND ACTIVITIES

9.1

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 a total of 4831 single rooms, 248 double rooms and 16 triple rooms. During the period under report, there were 3834 men and 560 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 a centrally administered body and is in overall charge on the functioning of the hostels and the Central Supplies Unit. There are 148 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.Srinivas Reddy Assistant 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 Associate Professor, Department of Electrical Engineering
Godavari	Dr.P Selvam Professor, Department of Chemistry
Jamuna	Dr.Prem B Bisht Associate Professor, Department of Physics
Krishna	Dr.K.P.Sudheer Assistant Professor, Department of Civil Engineering
Mahanadhi	Dr.K.Murali Associate Professor, Department of Ocean Engineering
Mandakini	Dr.C.Vijayan Professor, Department of Physics
Narmada	Dr.Nilesh J Vasa Associate Professor, Department of Engineering Design
Pamba	Dr. Udaychandran Chakkingal Associate Professor, Dept. of Metallurgical & Materials Engineering
Saraswathi	Dr.Y V S S Sanyasiraju Associate Professor, Department of Mathematics
Sarayu	Dr.R.Madhumathi Associate Professor, Department of Management Studies
Sharavathi	Dr.Ligy Philip Associate Professor, Department of Civil Engineering
Sindhu	Dr. B.S.Murthy Professor, Department of Civil Engineering
Tamiraparani	Dr.SR.Sathish Kumar Assistant Professor, Department of Civil 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 Gymkhana:

The Institute Gymkhana takes care of general welfare, the Sports, Co-curricular and Cultural activities of students in particular. 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 2008-2009 by the Institute Gymkhana of IIT Madras.

- ❖ The 44th Inter IIT Sports Meet 2008
- ❖ The Inter-Collegiate Invitation Tournament "SPORTFEST – 2007".
- ❖ All India Inter-Collegiate Basketball Tournaments 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.
- ❖ Open Bridge Tournament

SPORTFEST – 2008:

The Inter Collegiate Tournament was conducted for city colleges both for men and women during 22nd to 26th September 2008 in few games. This year new events were added (Chess, Water Polo). This tournament helps to finalize the Inter IIT team probables. Our students took part enthusiastically in all the games and won few events.

Basketball Men Water Polo (Winners), Badminton, Table Tennis, Hockey and Football (Runner-up) Volleyball and Table Tennis'B' (Boys) won the third place. Our Girls team won the Badminton Trophy.

Inter-IIT Aquatic Meet 2008:

The Inter-IIT Aquatic Meet was held from 6th – 9th October 2008 at IIT Madras. IIT Madras contingent secured the second place in Swimming and won the Gold in Water Polo. The overall First place in the Aquatic Meet was won by IIT Madras with 16 points IIT Madras created a new record time in 4X100M Freestyle Relay.

Inter-IIT Sports Meet 2008:

The 44th Inter-IIT Sports Meet was held between 11th and 17th December 2008 at IIT Madras. The intense practice during mini camp in the month of November improved our preparations quite a bit. IIT Madras won second position in women section. IIT Madras (Men) was second with 64 points and won overall Silver Medal. IIT Madras won the Gold in Tennis, Table Tennis and Volleyball, IIT Madras won the Silver in Cricket and Football. In the Women's section, IITM secured the second place with a total of 30 points. The Women's Basketball team performed well to receive the top honors, while the Women's athletics team got second place. Table Tennis Girls won Gold Medal No doubt most of our teams performed at their best.

All-India Inter-Collegiate Invitation Basketball Tournament 2009:

This tournament was conducted from 17th January to 21st January 2009 and attracted teams from South India. The venue of the tournament was shifted from OAT to the new flood-lit basketball courts. A large number of spectators who 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 fourth year in succession and IIT Madras Girls team entered into the league stage and came fourth M.O.P. Vaishnav 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 21st February to 13th March 2009. There was a record entry from 20 city colleges competing for top Honours. A high level of competition was witnessed throughout the tournament RKM Vivekananda College regained the coveted Trophy and Loyola College entered in the finals for the first time and was placed runner-up.

Inter-Hostel Tournaments:

The Inter-Hostel Tournament were 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 also, institute open events namely, Road Race, Cycle Race, Triathlon, 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 Fitness club had a registered membership of 530, the Tennis club membership of 83 and the Badminton club a membership of 52. 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.

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 2008-09 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.

National Cadet Corps:




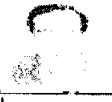



1. Enrolment: - A total of 150 senior division Air Wing NCC Cadets were enrolled against the authorization of 200 cadets during year 2008-09.
2. Kitting: - All cadets were fitted with full set of uniform to meet the expected standard of turnout of NCC wing.
3. Training:- The training scheduled was chalked out at keeping in view of cadets academic session load. Total 36 parades of three period were conducted to impart foot drill training. Arms drill and weapon training which was imparted by permanent Instructional staff of this unit. The technical syllabus also covered by various specialised tradesman of this unit. Availability of ANO Flt Lt A Mani was available through and the training session to assist in training and liaising with IIT.
4. Cadet Attendance: - The attendance of cadets were satisfactory level i.e above 70%.

9.4 Women's Forum

1. The chairperson of the Women's Forum, Dr.K.Srilata, addressed all incoming B.Tech and M.A students during their Orientation in August 2008 and explained IIT Madras' policy on sexual harassment. Pamphlets on the issue were distributed to every student.
2. To mark the Golden Jubilee year of IIT Madras, Women's Forum screened 4 documentary films on Kabir, the 15th century mystic weaver-poet of North India between October 24th – 26th, 2008. Directed by noted documentary film-maker Shabnam Virmani, these films explored Kabir and his vision through multiple perspectives and sought to understand how Kabir's words resonate in today's world.
3. To mark Women's day, Women's Forum organized a day-long event (on March 9, 2009) with two workshops: a workshop on "Coping with Stress" organized by Sneha, India and a workshop on Film Literacy and Gender conducted by Dr.Uma Vangal of Prajnya Trust, Chennai. The director addressed the gathering.
4. Women's Forum also actively participated in dealing with cases of sexual harassment on campus.

9.5 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. 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 (2009) were announced during the Republic Day Function. They are:

1	Prof. L. Mahadevan	England de Valpine Professor of Applied Mathematics, School of Engg. And Applied Science, Dept. of Organismic and Evolutionary Biology, Cambridge, USA	
2	Dr. Jagadeesh S. Moodera	Senior Research Scientist, Francis Bitter Magnet Laboratory, Massachusetts Institute of Technology, Cambridge, USA	
3	Mr. P. Venugopalan	Director, Defence Research & Deveolpment Laboratory, Kanchanbagh, Hyderabad	
4	Mr. K. Ravi Kumar	Chairman & Managing Director, Bharat Heavy Electrical Ltd, New Delhi	
5	Mr. Shrikumar Suryanarayan	Director General, The Association of Biotechnology Enterprises, Bangalore	
6	Mr. M. G. Parameswaran	Executive Director and CEO, FCB-ULKA Advertising Pvt. Ltd. , Mumbai	
7	Mr.D.Chandrasekhar	Managing Director, MBI Metalloys Pvt Ltd, T. Nagar, Chennai	

The PANIIT 2008 was held first time in the Campus of an IIT and that is IITM ! (in conjunction with the Institute's Golden Jubilee celebrations).

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

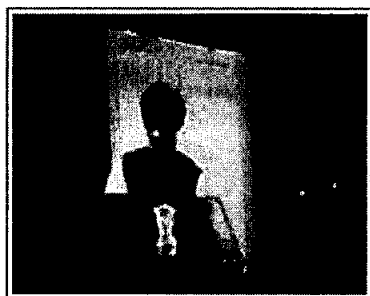
☞ 2005 : Washington DC

☞ 2006 : Mumbai

☞ 2007 : Santa Clara

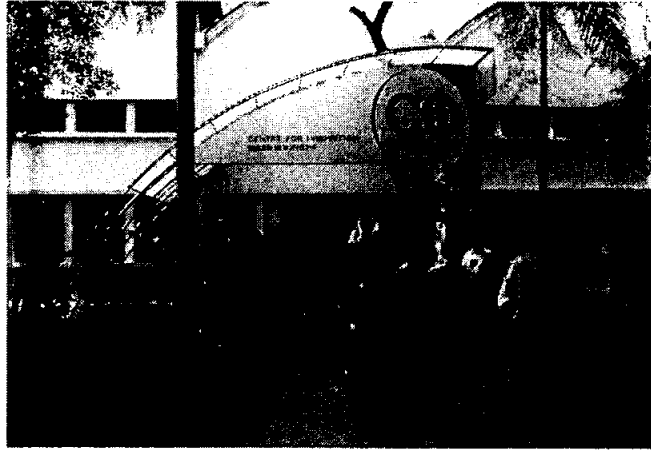
☞ 2008    Chennai !

More than 3000 delegates attended the PANIIT 2008 Global Conference, IIT Madras. Six technical tracks (in Education, Research, Innovation, Infrastructure, Entrepreneurship, Rural Transformations, a first-ever PANIIT Research Symposium, a "Leadership in Research" competition, Design and Business Plan competitions, an Exhibit and various mega Entertainment events were featured.



The Prime Minister, Hon'ble Dr. Manmohan Singh, delivered the Inaugural Address (by live video-feed) on the 19th at 9:30 am. The valedictory address was given by the Nobel Laureate, Prof. Amartya Sen. Several notable plenary speakers graced the occasion – Raghuram Rajan, C.K. Prahlad, Stephen Cohen, Kishore Mahbubani, Bob McDonald, B. Muthuraman, S. Ramadorai, Ravi Kant among them. All sessions were well-attended, and the Meet was a grand success.

- Instituting alumni sponsored endowments, scholarships and awards
- Overseeing the completion of Alumni funded projects eg., Centre for Innovation within IIT Madras



The following re-unions were held in Dec. 2008:

- Coral re-union (1973 batch) : 17th to 19th Dec 2008
- Ruby re-union (1968 batch) : 22nd – 23rd Dec 2008
- Silver re-union (1983 batch) : 22nd – 24th Dec 2008
- Pearl re-union (1978 batch) : 28th - 30th Dec 2008

The alumni of the Institute have launched, an IITM Fund Drive to raise funds for the Institute and many alumni have come forward to contribute towards this fund.

2009-2010 being the Golden Jubilee year, a new fund raising initiative, namely Golden Jubilee Growth-Fund-Drive is, being planned and the following projects are identified for this initiative:

1. Indoor Sports Complex
2. Students and Faculty Travel Grant Program
3. Research Initiatives in the fields of Bio-Processing, Communication Networks and Nanotechnology
4. IIT Madras Research Park
5. Named Chair Professorship

Staff at the Office of Alumni Affairs (from Left to Right - Ms.Lakshmi, Mr.P. Saravanan, Prof R. Nagarajan, Advisor, Mr. M. Imagaran and Mr. K. Suresh.)



10. STUDENTS PLACEMENT

10.1 Introduction:

The number of students placed during 2008-2009 is summarized below:

STUDENTS / SCHOLARS PLACED								
Branch	BTech	Dual	MTech	MBA	MSc	MS	PhD	Total
Aerospace	9	7	4					20
Applied Mechanics			5			2		7
Bio Technology	9	14				1	2	26
Civil	29	11	20					60
Chemical	36	9	18			3		66
Chemistry							2	2
Com. Science	26	12	29			9	2	78
Electrical	54	42	29			14		139
Engineering Design						1		1
Engineering Physics	6							6
Humanities & Soc Sciences								
Management Studies				55		1		56
Mathematics/IMSC			1		3			4
Mechanical	51	45	37			4	14	151
Metallurgical	14	9						23
Ocean	18	4	4			1		27
Physics			3					3
Total	252	153	150	55	3	36	20	669

During the year 669 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 2008-09 are as follows:

11.1 Assistance to B.Tech students:

Merit-cum-means scholarships of Rs. 1000/-p.m. were sanctioned to the B.Tech students whose parental income is less than Rs. 2 lakhs besides the exemption from payment of tuition fees. During the period under report 493 students benefited. The year-wise details of number of students were benefited are given in Table 11.1

SC/ST students admitted to B.Tech programme were sanctioned the concession of free messing plus pocket allowance of Rs.250/-p.m. exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules. As on 31.3.2009, 204 students were benefited.

The Institute freeship for B.Tech/Dual Degree students 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:

Govt of India Ministry of Tribal Affairs ST Scholarships
Table 11.1

Batch	No. of Scholarships
2008	5

Govt of India Ministry of Social Justice and Empowerment Scholarships
Table 11.1

Batch	No. of Scholarships
2008	10 (Amount not released)

No of MCM and SC/ST scholarships
Table 11.1

Batch	MCM Scholarship	SC/ST Scholarship	Student Freeship
2008	134	43	--
2007	98	33	--
2006	129	62	4
2005	132	66	19
Total	493	204	23

In addition to the above, the Institute sanctioned notional prize of Rs. 1000/- to 29 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
2008	18
2007	30
2006	35
2005	33
Total	116

No. of State Government Scholarship obtained by B.Tech students

State	Batch / Total no. of students				Total
	2008	2007	2006	2005	
Andhra Pradesh	--	5	10	12	27
Delhi	--	5	10	15	30
Karnataka	--	3	2	2	7
Kerala	--	4	3	3	10
Tamil Nadu	--	--	--	1	1
Other States	--	3	6	5	14
Total	--	20	31	38	89

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 270 fresh assistantships and 247 renewed assistantships were given. The discipline-wise details are given below:

No. of HTTA awarded

Sl. No.	Discipline	Fresh – 2008 batch		Renewal - 2007 batch
		I Sem.	Non-HTTA got HTTA	
1	Aerospace Engineering	8	2	8
2	Applied Mechanics	9	2	12
3	Chemical Engineering	26	1	26
4	Civil Engineering	35	5	40
5	Computer Science & Engg.	40	--	35
6	Electrical Engineering	44	--	41
8	Indl. Maths & Sc.Computing	6	3	5
9	Mechanical Engineering	50	6	55
10	Metallurgical & Mat. Engg.	15	1	12
11	Ocean Engineering	10	--	8
12	Solid State Technology	6	1	5
Total		249	21	247

11.3.2 M.Tech Dual Degree

Students who joined M.Tech programme under Dual Degree of 2004 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 168 students were awarded fresh assistantships of Rs.8000/- per month from June 2008 and 168 renewed assistantships in Jan. 2009 out of which 152 students were renewed HTTA at the rate of Rs. 8000/- p.m and 16 student at the rate of Rs. 4500/-p.m. since they obtained CGPA of less than 6.5 in July-Nov. 2008 semester. The department-wise details are given below:

Sl. No.	Discipline	2004 batch	
		Fresh (9 th Sem.)	Renewal (10 th Sem.)
1	Aerospace Engineering	10	1
2	Biotechnology	12	--
3	Chemical Engineering	12	1
4	Infrastructural Civil Engg.	12	1
5	Computer Science & Engg.	11	--
6	Electrical Engineering	47	3
7	Mechanical Engineering	45	8
8	Met. & Mat. Engineering	12	2
9	Naval Arch. & Ocean Engg.	7	--
Total		168	16

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 67 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	10	7	8	3
2.	Mathematics	5	8	5	3
3.	Physics	4	7	4	3
Total		19	22	17	9

11.5 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 239 scholars received this assistantship of which 47 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	9	14	23
2	Applied Mechanics	4	9	13
3	Biotechnology	4	9	13
4	Chemical Engineering	4	11	15
5	Civil Engineering	2	14	16
6	Computer Sc. & Engg.	5	31	36
7	Engineering Design	--	5	5

8	Electrical Engineering	4	35	39
9	Management Studies	5	11	16
10	Mechanical Engineering	8	33	41
11	Metallurgical & Mat. Engg.	2	7	9
12	Ocean Engineering	--	13	13
Total		47	192	239

11.6 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 617 students obtained assistantships of which 115 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	18	21
2	Applied Mechanics	4	15	19
3	Biotechnology	10	28	38
4	Chemical Engineering	7	20	27
5	Chemistry	14	38	52
6	Civil Engineering	8	37	45
7	Computer Science & Engg.	7	16	23
8	Engineering Design	1	3	4
9	Electrical Engineering	9	37	46
10	Humanities & Soc. Sciences	4	18	22
11	Management Studies	6	17	23
12	Mathematics	7	9	16
13	Mechanical Engineering	17	46	63
14	Metallurgical & Mat. Engg.	4	13	17
15	Ocean Engineering	3	7	10
16	Physics	11	36	47
Total		115	358	473

11.7 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/-

National conference/International conference 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 2008:

Total Sanctioned Intake	Sanctioned Intake		No. joined through				
			Programme	JEE		Preparatory Course	
	SC	ST			SC	ST	SC
B.Tech - 350	53	26	B.Tech	51	11	--	11
Dual Degree - 262	39	20	Dual Degree	39	7	--	12

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.2,00,000/- 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 2008:

Offer issued for PC		No. joined	
SC	ST	SC	ST
2	28	2	26

23 Preparatory course 2007-08 batch ST candidates were offered admission to B.Tech/Dual Degree Programme in July 2008 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 2008:

Offer issued		No. joined	
SC	ST	SC	ST
112	50	41	18

12.4 M.Sc programme:

Admission was made to the M.Sc. programme through entrance examinations only. 7 students were admitted in SC category. 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 2008, 1 foreign national student joined M.Tech programme.

At the end of March 2009, 9 foreign nationals and Indian national residing abroad 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
Canada		1				1
M.S.						
France			1			1
Ph.D						
Ethiopia		1	1			2
Korean					1	1
Total						9
2. INRA students						
Oman						--

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 38 students benefited and Rs. 4, 94,000/- 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 2007-2008:

Sl. No	Name of work	Rupees in Lakhs
1.	Air conditioning of SAC building	170.00
2.	Renovation of CLT	42.35
3.	Renovation of Dining hall and Auditorium at IC & SR	81.46
4.	Construction of Dining hall in Taramani Guest House	100.00
5.	Construction of Engineering Design Building	599.83
6.	Extension of JEE/Gate buildings	88.95
Upgradation of Facilities provided in the Departments / Centres		
Sl. No	Name of work	Rupees in Lakhs
1.	Nano Technology Lab. Department of Chemistry	67.50
2.	MSRC	9.47
3.	BSB, Department of Civil Engg.	5.00
4.	Department of Ocean Engg.	54.00
Work in progress		
Sl. No	Name of work	Rupees in Lakhs
1.	Construction of C2 type quarters	2976.77
2.	Construction of Sports Complex	817.27
3.	Construction of "G" type Quarters	948.75
4.	Re-carpeting of road	340.00
5.	<u>Re-construction of boundary wall</u> a) Taramani to Kanagam b) Taramani to Velachery	895.00 25.00
6.	Special repair works like water proofing, Leakage etc., a) Academic Zone b) Residential Zone	300.00 159.00
7.	Revamping of LT net work Phase – 3	86.00
8.	Painting of Residential and non-residential buildings	540.00

13.2 Housing Facilities:

As on 31.03.2009, 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 has 12 doctors and a team of supporting staff of strength 36 and is equipped with facilities to take care of the general health problems faced by more than 13,000 students, employees and their families. Visiting specialists are available for general medicine, cardiology, neurology, diabetology, paediatrics, psychiatry, dermatology, surgery, orthopaedics, E.N.T., dental and ophthalmology. The Hospital is also equipped with operating microscopes, laparoscopes, defibrillator with cardiac monitor; pulse oxymeter and nebulizing facility.

Doctors

Regular

Dr. Sabitha Selvam	Chief Medical Officer (i/c)
Dr. Mahalakshmi M. Ravi	Medical Officer (EOL)
Dr. B. Rebecca Punithavalli	Medical Officer
Dr. N. Porchelvi	Jr. Medical Officer
Dr. V. Thenral	Jr. Medical Officer
Dr. (Sqn. Idr) A.J. Tamilmani	Jr. Medical Officer (EOL)

Contract

Dr. V. Sangamithra	Jr. Medical Officer
Dr. R. Jayavarma	Jr. Medical Officer
Dr. D. Saraswathi	Jr. Medical Officer
Dr. S. Ganga Muruga Bharathi	Jr. Medical Officer

Consultants

Dr. Indira Chaturvedi	Pediatrician
Dr. V. P.Sivakumar	Part-time Medical Officer
Dr. S.Vijayaraghavan	General Physician
Dr. S. Manoj	Cardiologist
Dr. J.S.N.Murthy	Cardiologist
Dr. V. Kumaravel	Endocrinologist / Diabetologist
Dr. N. Mahesh	Neurologist
Dr. Vasantha Jayaram	Psychiatrist
Dr. D. Parthasarathy	Anesthetist
Dr. R. Krishna Kumar	Ophthalmologist (c/o Prems' Eye Clinic)
Dr. A. Mohan Rao	General Surgeon
Dr. P.V.Jayashankar	Orthopaedic Surgeon (c/o SMF Hospital)
Dr. R.M. Alagappan	Orthopaedic Surgeon (c/o SMF Hospital)
Dr. Shobana Priya Sampath	Gynaecologist
Dr. K. Sharadamani	Dentist
Dr. D. Sankar	Oral Surgeon
Dr. K. Balamurugan	ENT
Dr. Anu Rajan	Physiotherapist

Outpatients

Out-patient service is available on all weekdays between 8.30 a.m. to 6.00 p.m. A total of **61,755** outpatients were treated in the Hospital. We have introduced a new system for card registration to students and Project staff. The existing old files for employees have been replaced by new case record books. The medical facility has also been extended to sister concerns IIIT & DM and to IIT-Hyderabad. Essential OPD consultations of non-employees of the Institute are extended to retired employees / visiting faculties / project staff / trainees residing in campus.

Inpatients

There are **20** beds in our hospital for treating in-patients. In the year 2008-09, **362 patients** were treated as inpatients and 3 deliveries were conducted. About **Rs. 20,80,274/-** was the Medical Insurance claim for admission in IIT Hospital for the year 2008-09. We have performed **149** surgeries during 2008-09.

Emergency

Emergency service is available round the clock on all days with a duty doctor and supporting staff. A total of **7636** emergency cases were attended during Non-OP hours in 2008-09. An ambulance service run by Trauma Care Consortium is available at hospital on round the clock. Emergency first aid treatment is also extended to campus guests / contract workers / campus schools. Institute Hospital provided Medical facilities with EMRI ambulance to the Cultural Festivals Saarang / Saastra .

Vaccination Clinic

Hepatitis B Vaccination is given to students on a regular basis. Vaccination clinic is also available on all second Saturday of the month where vaccinations are available on special discounted rate for chicken pox, typhoid, Meningitis, Hepatitis – A.

Physiotherapy

This unit is supported by Alpha Physiotherapy. A total of 6663 patients were given physiotherapy this year.

Diagnosics

The diagnostic sector of the hospital is supported by in-house radiologist. The sector has the following facilities:

- X-ray (Siemens) machine 200 mA with high frequency generator and a digital computerized radiography
- Three probe sonography unit
- A computerised ECG recorder (3 channel Schiller ECG Recorder)

A total of **460** patients had Ultra-sound scans and **2272** patients had X-rays.

Clinical Laboratory

Sundaram Medical Foundation (SMF) supports the clinical laboratory. A total of 6903 patients have had various lab tests this year.

Pharmacy

The pharmacy service in the Hospital is outsourced to Apollo Pharmacy Ltd.

Other Activities

1. Doctor's Day was celebrated on 6.7.08 between 2.00 and 9.00 pm at IIT Stadium.
2. Dr. Sabitha Selvam, CMO i/c participated in the CME on "Emergency & Endocrine Imaging" held on 9.8.08 organized by GH, Chennai & Radiological & Imaging Association.
3. Dr. Sabitha Selvam attended CUSP 2008 XI South Asia Regional Conference on "Clinical Ultrasonography in Practice", Mediscan, Chennai on 25th & 26th Sept. 2008.
4. Dr. N. Porchelvi and Dr. V. Thenral attended the "FORUM" for clinicians on 27.9.08 organized by SMF.

Public Awareness Programme

S.No.	Date	Programme
1.	27.09.08	First Aid demonstration workshop on 'Training Lives to Save Lives' through SAGA charitable Trust as a part of the Golden Jubilee Celebration presided by Smt. Jayashree Ananth.
2.	01.11.08	Dr. Sabitha Selvam, CMO (i/c) visited Natham village (IVIL) and addressed the village ladies on health, hygiene and medical emergencies.
3.	08.11.08	An Interactive discussion with the female students of IIT on problems related to physical / mental well-being at Sharavathi hostel.
4.	14.11.08	On Children's Day Celebration by Golden Jubilee Committee, pamphlets on nutritional tips and Complian Sachet were complimented to all children.
5.	29.11.08	A Free Asthma and Allergy Camp was conducted with Dr. Manimaran (Pulmonologist) invited as consultant sponsored by CIPLA.
6.	5-9.1. 09	Health check up Camp was held in KV-IIT for 1500 children.
7.	01.02.09	Polio vaccine given to campus children (below 5 years)
8.	28.02.09	Golden Jubilee Inaugural Function for Women's Health Check-up Camp.
9.	14.03.09	Valedictory Function for Women's Health Check-up Camp with a special public lecture. About 200 Campus ladies and 60 Ozone / Techkids workers were included in the camp.

CME programmes

S.No.	Title of Programme	Date	Person conducted the programme
1	ECG Made Easy	15.04.08	Dr. Kailash, Dean, Venakteswara Medical College
2	RED EYE	10.05.08	Dr. Prem Raj Director of Prem's Eye Clinic
3	Pain & Aches - An Interactive Session with Doctors	29.05.08	Ranbaxy
4	Management of Post-prandial Hyperglycemia	25.06.08	Dr. V. Kumaravel, Consultant Endocrinologist
5	Tuberculosis - An update	23.07.08	Dr. Kailash, Dean, Venakteswara Medical College Dr. Sabitha Selvam, CMO i/c.
6.	Hypertension and its Management	06.08.08	Dr. S. Manoj – Cardiologist
7.	Clinical Decision made easy by ECG	08.08.08	Dr. Ulhas M.Pandurangi
8.	Management of Angina	11.10.08	Dr. Harish Somasundaram, BSS Hospitals
9.	Management of CAD	17.10.08	CIPLA
10.	Latest Review in anti-cholesterol drugs	20.02.09	Dr.S.Manoj

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 Tifany's 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 Institute.

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 74th Finance Committee of the Institute in its meeting held on 17/12/2008 recommended Non-Plan Revised Estimates of Rs. 14999 lakh (Gross) for the year 2008-09 and Budget Estimates of Rs. 18334 lakh (Gross) for 2009-10. The Committee recommended Revised Estimate of Rs. 7500 lakh under Normal Plan and Rs. 9776 lakh under Capacity Expansion (OSC Grant) for 2008-09, besides recommending budget estimate of Rs. 8000 lakh under Normal Plan Schemes and Rs. 10028 lakh under Capacity Expansion Schemes for 2009-10.

The following are the Summary of Revised Estimates 2008-09 and Budget Estimates for 2009-10 as approved by the Board of Governors of the Institute in their 200th Meeting held on 17/12/2008.

(Rs. in Lakhs)

Head	BE – 2008-09	RE – 2008-09	BE – 2009-10
I. Non-Plan			
Income	3040.00	2658.00	2829.00
Grant from MHRD	10100.00	11842.00	14621.00
Total	13140.00	14500.00	17450.00
Expenditure	13140.00	14999.00	18334.00
Suplus / Deficit	0.00	-499.00	-884.00
II. Plan			
a. Normal Plan:			
Grant from MHRD	9310.00	7500.00	8000.00
Expenditure	9310.00	7500.00	8000.00
Suplus / Deficit	0.00	0.00	0.00
b.Capacity Expansion:			
Grant from MHRD	-	9776.00	10028.00
Expenditure	-	9776.00	10028.00
Suplus / Deficit	-	0.00	0.00

Audit

The Annual Accounts of the Institute for the year 2007-08 was audited by Principal Accountant General (Tamil Nadu & Pondicherry) during July 2008. The certified copy of Accounts and Audit Report were sent to MHRD, New Delhi for placing before Parliament on 31st December 2008.

Summary of Plan/Non-Plan funds utilization for 2007-08 is as below.

PLAN

(Rupees in Crore)

Opening Balance	6.78
Grant Sanctioned during 2007-08	41.00
Funds from Corpus	5.94
Total available	53.72
Capital Expenses during 2007-08	
Buildings & Construction	18.05

Furniture & Fixtures	1.04
Equipments	5.92
Books	0.65
Journals & Periodicals	5.33
Vehicle	0.38
Revenue Expenditure	22.35
Total	53.72

NON -PLAN

(Rupees in Crore)

Opening Balance	Nil
Grant Sanctioned during 2007-08	81.00
Tuition Fees	5.54
Hostel Fees	0.72
Entrance Examination Fees	6.96
Administrative Income	4.36
Interest Income	3.53
Other fees	2.59
Other Income	0.65
Total available	105.35
Expenditure during 2007-08	
Pay & Allowances	39.86
Service Pension & Family Pension	16.28
Current Year Retirement Benefits	5.53
Library Services	3.49
Health Services	1.68
Student Scholarship	12.60
Hall Subsidy	0.34
Administrative Expenses	2.02
Departmental/Laboratory/Workshop expenses	4.71
Transport Subsidy	0.49
Student Support Activities	0.56
Computer Facilities	1.63
House Keeping & Estate Maintenance	7.49
Water/Electricity Charges	13.09
Entrance Examination Expenses	2.26
Total utilized *	112.03
Deficit	6.68

- Deficit made good from Corpus Fund interest earnings of earlier years.

1. THE SENATE

Chairman
Prof. M.S. ANANTH

Members

1. Achar, D.R.G.
2. Ajit Kumar Kolar
3. Amitava Dasgupta
4. Anantha Subramanian, V
5. Anju Chadha
6. Archita Patnaik
7. Arindama Singh
8. B.S. Murthy
9. Balakrishnan, A.R.
10. Bhaskar K
11. Bhaskaran, S
12. Bhaskar Ramamurthi
13. Bhattacharyya, S.K.
14. Boominathan, A.
15. Chandra, T.S.
16. Chandrakumar, N.
17. Chandramouli, P
18. Chaudhary, S.C.
19. Chidambaram, M.
20. Choudum, S.A.
21. Deshmukh, P.C.
22. Devdas Menon
23. Devendra Jalihal
24. Dhamodharan R.
25. Doble Mukesh
26. Enakshi Bhattacharya
27. Evangeline Manickam
28. Gandhi, S.R.
29. Ganesan, N.
30. Ganesh Babu, K.
31. Ganesh, L.S.
32. Giridhar, K.
33. Gnanamoorthy, R.
34. Gokhale, S.S.
35. Gopinath, K.
36. Govardhan, M.
37. Hariharan, K.
38. Harishankar Ramachandran
39. Hema A. Murthy
40. Idichandy, V.G.
41. Inderpal Singh Aidhen
42. Jagadeesh Kumar, V.
43. Janakiram D.
44. Janakiraman, P.A.
45. Jayachandran S.
46. Jayakrishnan, A
47. Jhunjhunwala, A.
48. Job Kurian
49. Kalpakam, S.
50. Kalyanakrishnan, R.
51. Kalyanaraman, V.
52. Kamala Krithivasan
53. Kamalanabhan T.J.
54. Kamath, S.G.
55. Karmalkar S.
56. Karunakaran D.
57. Kesavan Nair, P.
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59. Kothiyal, M.P.
60. Krishnaiah, K.
61. Krishnakumar, R.
62. Krishnan Balasubramaniam
63. Kulkarni, S.H.
64. Kumaraswamy, S.
65. Lakshmana Rao, C.
66. Lakshmi Bala, S.
67. Loganathan D.
68. Malathy Duraisamy
69. Mangala Sundar, K.
70. Mani, A.
71. Mani, J.S.
72. Markandeyulu, G.
73. Mathews, M.S.
74. Mayuram, M.M.
75. Meher Prasad A
76. Mehta, P.S.
77. Mishra A.K.
78. Mohan, S.
79. Muraleedharan, V.R.
80. Murthy B.S.
81. Murthy, V.R.K.
82. Muthuveerapan, G.
83. Nagarajan R.
84. Nandita Dasgupta
85. Narayanan, S.
86. Narendran, T.T.

87. Natarajan, R.
 88. Natarajan, T.S.
 89. Neelima M. Gupte
 90. Panda, T.
 91. Pandurangan, C.
 92. Paramanand Singh
 93. Parthasarathy, P.R.
 94. Pathak, S.D.
 95. Ponnusamy, S.
 96. Prabhu, K.M.M.
 97. Pradeep T.
 98. Prakash Maiya M.
 99. Prasad B.V.S.S.S.
 100. Prasad Rao, K.
 101. Prasanna Kumar, T.S.
 102. Pushpavanam, S.
 103. Raghavan, S.
 104. Raghavan, S.V.
 105. Rajagopal, K.
 106. Rajendran, C.
 107. Raju Sethuraman
 108. Rama, R.
 109. Ramachandra Rao, M.S.
 110. Ramachandra Rao, V.S.
 111. Ramachandraiah, A.
 112. Ramachandran, K.B.
 113. Ramakrishna, M.
 114. Ramamoorthy, B.
 115. Ramamurthy K.
 116. Ramaprabhu S.
 117. Ramasubbareddy M.
 118. Ramesh A.
 119. Ramesh Babu, N.
 120. Ramesh, K.
 121. Ravi, R.
 122. Ravinder David Koilpillai
 123. Ravindra Gettu
 124. Sai P.S.T.
 125. Sankaranarayanan M.V.
 126. Sankaranarayanan V
 127. Sankararaman, S.
 128. Santhakumar, S.
 129. Sarit Kumar Das
 130. Sathyanarayana K.N.
 131. Satyajit Roy
 132. Selvam, P.
 133. Seshadri Sekhar, A
 134. Shankar Narasimhan, S
 135. Shunmugam, M.S.
 136. Singaperumal, M.
 137. Sitaram, N.
 138. Siva Prasad, N.
 139. Siva Ram Murthy, C.
 140. Sivakumar, M.S.
 141. Sivanandan, R.
 142. Sreenivas Jayanti
 143. Sreenivasa Kumar, P.
 144. Srinivasa Murthy, S.
 145. Srinivasan G.
 146. Srinivasan, K.
 147. Srinivasan, S.
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 149. Subrahmanya Murty, V.
 150. Subrahmanyam, A.
 151. Subramanyam, P.V
 152. Sudheendra Rao, M.N.
 153. Sudhir Chella Rajan
 154. Sujatha C.
 155. Sujith, R.I.
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 157. Sundar, V.
 158. Sundararajan, T.
 159. Sundaravadevelu, R.
 160. Sunil Kumar, P.B.
 161. Suraish Kumar, G.K.
 162. Swaminathan, T.
 163. Swarnamani S.
 164. Thamban Nair M.
 165. Thamizh Arasan, V.
 166. Thenmozhi, M.
 167. Timothy A. Gonsalves
 168. Usha, R.
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 170. Varadaraju U.V.
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 172. Veeraraghavan, A.
 173. Vekatarathnam G.
 174. Vendhan, C.P.
 175. Venkateshan, S.P.
 176. Vetrivel, V.
 177. Vidyasagar, K.
 178. Vijayan, C.
 179. Vijayaraghavan, L.
 180. Vinita Vasudevan
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181. Dr. Harish Chandra
- Student Members:**
182. Amit Garg, A A S
 183. Tufail, R A S
 184. Nimit Jain, S G S
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185. Dr. Usha Titus, IAS (upto 31.07.2007)
Dr. K Panchalan (from 01.08.2007)
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Member-Secretary

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Office of the Principal Scientific Adviser to Govt
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New Delhi – 110 011

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Director
Indian Institute of Technology Madras

Shri S.K. Ray
Joint Secretary & Financial Adviser
Ministry of Human Resource
Development Department of Secondary
& Higher Education
Government of India, Shastri Bhavan
New Delhi – 110 001

Shri Ravi Mathur
Joint Secretary
Ministry of Human Resource Development
Department of Secondary & Higher Education
Government of India, Shastri Bhavan
New Delhi – 110 001

Shri V.K. Jeyakodi IAS
Commissioner of Technical Education
Government of Tamil Nadu
Chennai - 600 025.

Prof. K.P. Geetha
Sr. Joint Director of Technical Education
Government of Kerala
Padmavilasom', Fort
Thiruvananthapuram – 695 023

Secretary

Dr. K. Panchalan
Registrar
IIT Madras

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Director
& Chairman, B&WC
Indian Institute of Technology, Chennai - 600 036

Members

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Department of Higher Education
Ministry of Human Resource Development
Government of India, New Delhi - 110 001

Shri N. Seenivasagan
Chief Engineer (Distribution),
Chennai Region (South)
Tamil Nadu Electricity Board
Electricity Avenue, 5-A, Block, First Floor
No.802, Anna Salai, Chennai - 600 002

Shri A. Manickavasagam
Superintending Engineer
Cennai Central Circle - I
Central Public Works Department
Shastri Bhavan
Chennai - 600 006

Prof. Bhaskar Ramamurthi
Dean (Planning)
Indian Institute of Technology Madras
Chennai - 600 036

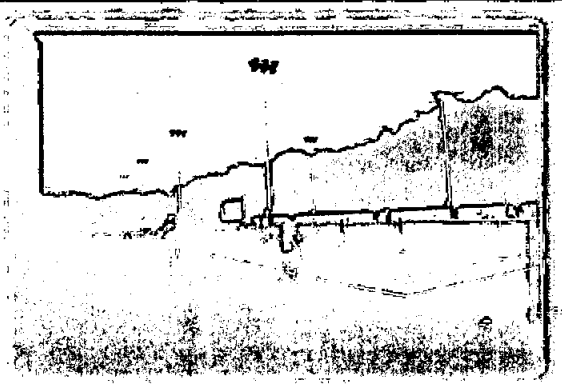
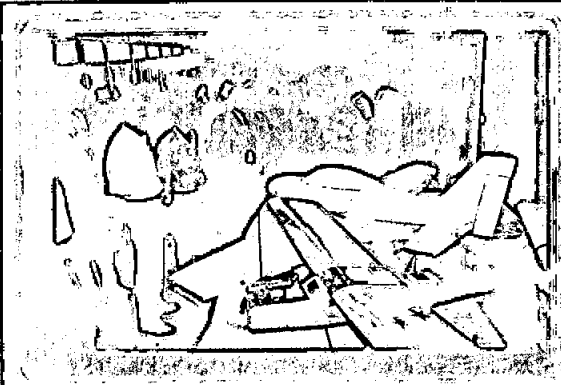
Invitee

Shri R. Arumugam
Superintending Engineer
Engineering Unit
Indian Institute of Technology Madras
Chennai - 600 036

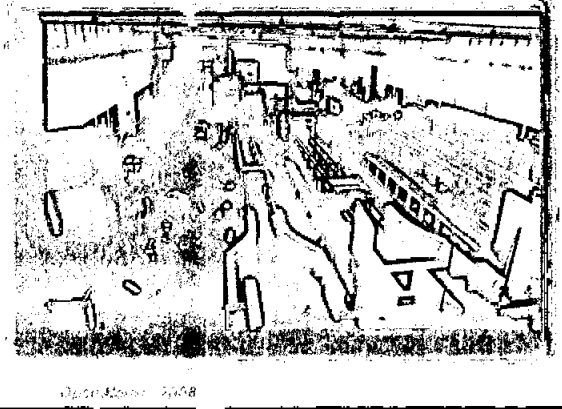
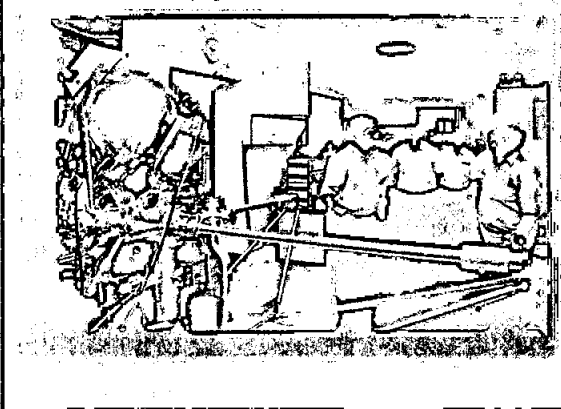
Prof. Ravindra Gettu
Chairman (Engineering Unit)
Indian Institute of Technology Madras
Chennai - 600 036

Member - Secretary

Dr. K. Panchalan
Registrar
Indian Institute of Technology Madras
Chennai - 600 036



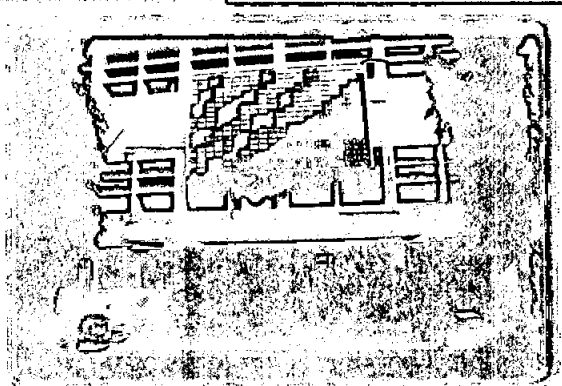
Synthetic Termite Control



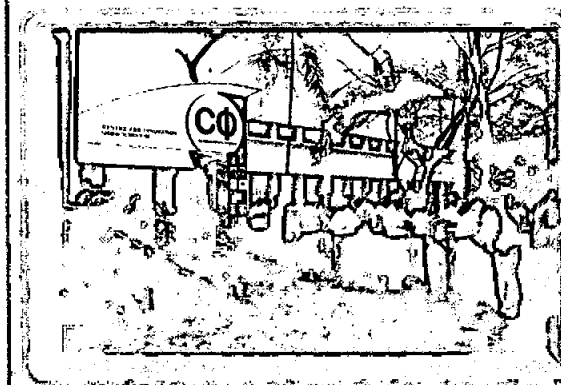
1968



Deshpande Centre for Communication Networks and Dedication of Sharavati Hostel



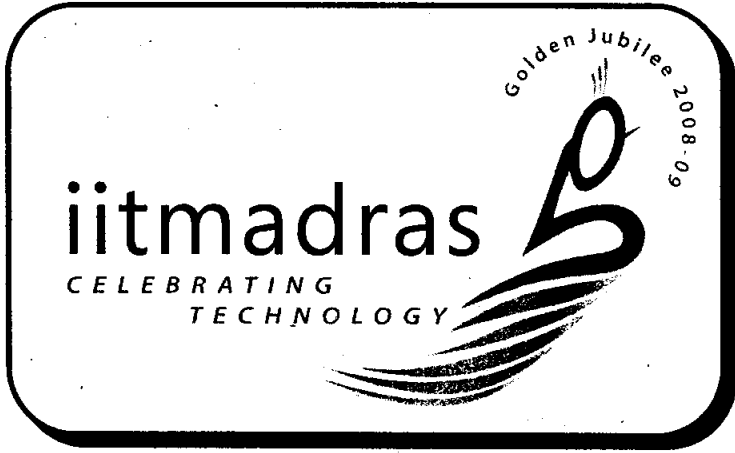
Deshpande Centre for communication Networks



1968



44th Inter-III Sports Meet



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