

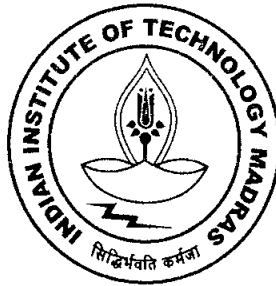
IIT
Madras

ANNUAL REPORT
2005 - 2006



FORTY SEVENTH
ANNUAL REPORT

2005 - 2006



INDIAN INSTITUTE OF TECHNOLOGY MADRAS
CHENNAI - 600 036

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1. DIRECTOR'S REPORT

1.1 Introduction

The Indian Institute of Technology Madras (IITM) was established in 1959 by the Government of India as an institute of national importance. Its primary objective was to promote higher technical education, research and consultancy. The activities of the Institute in various fields of science and technology are now being carried out by 15 Departments and 5 Research Centres. A separate department of Engineering Design will be established soon. The institute campus covers an area of 256 hectares of forest land and houses a community of about 11000 people.



The institute offers several course-based undergraduate (UG) and post-graduate (PG) programmes as well as research-based masters and doctoral programmes. It has responded to environmental changes and user needs by redesigning curricula, offering new UG and PG programmes and specially designed user-oriented (UoP) 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. 32 (19 SC & 13 ST) candidates have been admitted to this course in 2005.

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 India, Australia, Germany, Japan, Malaysia, Singapore, UK and USA. This Report provides a summary of our activities, achievements and accomplishments in the different spheres of our activity during the year 2005-06.

1.2 The Forty-Second Convocation

At this Convocation, a total of 1134 degrees were awarded: 82 Ph.D., 98 M.S., 411 M.Tech., 37 M.B.A., 83 M.Sc., 80 Dual Degree and 343 B.Tech. These degrees cover a wide range of disciplines and specializations offered by the ten Engineering departments, three Science departments, the department of Management Studies and the department of Humanities and Social Sciences. Among the graduands are : 43 QIP candidates (teachers from other colleges), 32 sponsored candidates and 51 UOP candidates, 123 ladies, comprising 13 Ph.D., 14 M.S., 44 M.Tech., 23 M.Sc., 11 MBA, 2 Dual Degree and 16 B.Tech. students.

1.3 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) and Ocean Engineering (OE) departments, Chemistry (CY), Humanities & Social Sciences (HS), Management Studies (MS), Mathematics (MA) and Physics (PH) departments. User Oriented M.Tech. programmes are offered in BT, CE, CS, EE and ME departments.

A new Integrated Masters programme in Humanities and Social Sciences is going to be introduced from the next academic year onwards. The programme has been designed to have common subjects in the first two years and to allow students to specialize in three areas thereafter: Development studies, Economics and English studies.

A new dual degree program, with a B.Tech. in Engineering Design and an M.Tech. in Automobile Engineering was started in 2005. The following new facilities have been created for this programme: A graphic art studio, a desktop virtual reality lab, mechatronics lab, vehicle dynamics lab. A new building of about 4926 sq.m. has been planned and the construction work will start soon.

1.4 Academic Research:

IITM continues to be active in research and during the year under review, 82 Ph.D theses and 98 Master's theses have been completed. Our faculty and research scholars have published 589 research papers in refereed International (450) and National (139) Journals and have presented 881 research papers in International (543) and National (338) Conferences.

Ph.D. Work

Aerospace Engineering

Ganesh Anavaradham & Sujith showed that an acoustic field of considerable magnitude can be established even in the presence of liquid injection into a flow past a cavity and this acoustic field can be used to improve fuel air mixing in the combustor.

Mohammad Ali & Job Kurian studied the scaling effect of cavities, the effect of aft wall modifications of the cavity and the passive control of cavity dynamics.

Applied Mechanics

Prahlad Rao & Radhakrishnan studied the vascular perfusion parameters in diabetic patients in early management of ulcerations using an indigenously developed near infrared imaging system.

Sakey Shamu, Lakshmana Rao & Devdas Menon investigated the use of a bilinear fracture model of concrete to predict the moment capacities, crack widths and minimum reinforcement requirements of reinforced concrete beams.

Biotechnology

Rajendra Kulothungan & Lalitha confirmed the role of mimosine, a non-protein toxic amino acid as a growth promoter and antioxidant in many model systems, established its metabolic significance for the first time and developed a tissue culture methodology for its micropropagation.

Chemical Engineering

Srinivasan, Sreenivas Jayanti & Kannan studied the influence of Taylor vortices on the mass transfer numerically as well as experimentally and developed design correlations for a variety of geometric and flow conditions.

Eswaraiah, Sankaranarayanan and Sreenivas Jayanti studied the performance of rotating wheel air classifiers for flyash and rice husk experimentally and numerically and developed models to predict their performance.

Chemistry

Dhilip Kumar & Sanjay Kumar carried out extensive ab initio quantum dynamics calculations for the $H^+ + CO$ system. Computed collision attributes compare well with experimental beam experiments and resolve earlier discrepancies between experiment and theory.

Amar Kumar Dora & Sanjay Kumar carried out a time-dependent quantum mechanical ab initio study on the formation of transient (metastable) negative ions in collisions between electrons and neutral molecules and their dissociation dynamics into neutral and negative ion fragments, unravelling many intriguing dynamical pathways and resolving some existing discrepancies between earlier experimental and theoretical studies and new experimental results.

Gnana Sutha & Murthy prepared and studied novel highly active dinuclear Cobalt and Copper compounds as bio-mimics for the structural and functional properties of DNA cleaving metalloenzymes using kinetic equilibrium, spectroscopic and structural tools both in solution and solid state.

Kishore Kumar & Baskaran developed a variety of synthetically useful transformations characterized by mild reaction conditions, cleaner reaction profiles, simplicity in operation and reusability of the catalyst using environmentally friendly and economically feasible heteropoly acid as a novel green catalyst.

Subhendu Kumar Mohanty & Baskaran synthesized, for the first time, protected Newkome-type dendrimers having a fluorophore attached at the core and observed unusual self-association behavior in aqueous solution even at nano-molar concentration.

Chidambaram & Viswanathan developed catalytic routes using di-isopropyl ether for the production of oxygenates from refinery feed stock. Various options are available for the possible oxygenate blending.

Sankar & Bhyrappa developed novel porphyrins with tunable optical absorption and electrochemical redox properties for possible applications in molecular sensors.

Sathish & Viswanath synthesized photocatalysts, active in the visible region of sunlight and demonstrated hydrogen generation rates of more than 30 ml / h as well as good activity for the removal of pollutants from industrial waste water.

Deepa & Mishra developed a novel method, based on fluorescence spectroscopy for the analysis of bromadiolone (rat poison).

Shyamala & Mishra studied the photophysical properties of certain fluorescent molecules like 3-hydroxyflavone, a series of stilbene and pyrene derivatives with specific reference to their applicability as probes for lipid bilayer membranes.

Santhosh & Sundararajan developed new techniques and novel polymer syntheses using olefin metathesis catalysts derived from metal carbonyls.

Sanjib Kumar Karmee & Anju Chadha studied the chemistry and kinetics of chemical and biocatalysed processes for the transesterification of the non-edible local oil of *Pongamia* to give biodiesel.

Karthikeyan & Mangala Sunder Krishnan derived expressions for rotational-vibrational energy levels and intensities in molecular spectroscopy and validated them by defining molecular dipole moment in a novel and unique manner.

Shankara Gayathri & Archita Patnaik developed a rectifying metalorganicmetal molecular junction operating at an applied bias voltage of 3V with a large rectification ratio of 158 from Langmuir-Blodgett monolayers of a C₆₀ fullerene-based dyad.

Civil Engineering

Ambily & Gandhi studied the load transfer mechanism of stone columns by experiments and FEM and developed design charts which can be used to support certain types of structures economically on soft clay layers.

Syed Jalaludeen Shah & Gandhi developed a continuous spring model for soil-structure interaction analysis of beams, plates and shells on elastic foundations and demonstrated its potential for analysing different types of foundations.

Uma Maheswari & Koshy Varghese modeled activity sequencing for construction projects using the dependency structure matrix as a potential tool to determine shorter duration sequence of execution of design activities.

Karthigeyan & Rajagopal showed that vertical loads have significant influence on the lateral load capacity of piles, the latter increasing under the presence of the former in sands and decreasing in clay soils.

Jegathambal & Mohan developed and tested three types of stochastic algorithms and a versatile cellular automata model for predicting the status of non-conservative ground water contaminant in porous media and a reactive transport model in mesoscopic soil media. They have validated the models with the tannery polluted field data of Palar basin.

Ramesh & Mohan carried out experimental and modeling to study the effect of recycle ratio on the performance of activated sludge process. The models have been validated with data pertaining to two treatment systems of Chennai city.

Kasthurba, Mathews & Manu Santhanam studied the characterisation of laterite from Malabar region of Kerala as a building material, and weathering mechanisms from a viewpoint of developing conservation strategies.

Veera Sudarsana Reddy & Alagusundaramoorthy fabricated and tested multi cellular GFRP composite bridge deck panels for IRC class A loading for use in highway bridges.

Prasada Rao & Satish Kumar solved the long standing problem of efficiently connecting beams and columns of steel rectangular hollow sections through an opening in the beam web through an experimental and analytical study.

Mathav Kumar & Ligy Philip developed a biological system for the complete mineralization of endosulfan, a commonly used pesticide and demonstrated its application at the lab and pilot scales.

Babu Kurian & Devdas Menon developed a new simplified procedure of transverse analysis of single-cell concrete box-girder bridges providing corrections to the prevailing simplified frame analysis and a theory to predict accurately the collapse loads in such bridges.

Computer Science

Sadiq & Deepak Khemani proposed ways of incorporating usage measures into the traditional information retrieval methods using case-based reasoning.

Ananda Rao & Janakiram proposed a mechanism for automating software version management for object oriented systems using a metric suite that categorizes attributes of an artifact into design and non-design attributes, thereby allowing the system to automate versioning in the event of changes and propagate them appropriately.

Rajasree & Janakiram provided end-to-end quality estimation models for pattern oriented software development, from requirements to architectures.

Sreenivasa Rao & Yegnanarayana proposed an approach to capture the implicit prosody knowledge using models of neural networks and support vector machines.

Nayeemullah Khan & Yegnanarayana proposed methods for the first time to derive the large span constraints directly from the speech signal based on the principles used in the latent semantic analysis for text data.

Electrical Engineering

Nandakumar & Krishna Vasudevan proposed an improved method of hysteresis current control for a grid interactive inverter and showed through analysis, simulation and experiment that the method can be extended to power factor correction, harmonic elimination and bidirectional power flow control.

Raghavan, Krishna Vasudevan & Swarup carried out modeling and simulation studies on series hybrid active power filters for selective harmonic compensation and power quality improvement in power electronic systems.

Selvan & Swarup carried out object-oriented modeling and implementation of a reusable software model for efficient power system computation of steady state unbalanced systems using design patterns.

Sunil Rafeeqe & Vinita Vasudevan proposed built-in-self-test (BIST) techniques for digital to analog converters, that are area efficient and have reduced linearity and dynamic range requirements.

Ibrahim Sadhar & Rajagopalan have proposed a recursive two-dimensional particle filter based on the sequential importance sampling principle for the restoration of images suffering from non-linear and non-Gaussian degradations.

Management Studies

Revathi & Kamalanabhan identified various organizational, extra-organizational and occupation-related factors as antecedents of turnover intent from the organization, highlighting the role of occupation-related variables and developed instruments to assess interest in the IT profession and satisfaction with various organizational factors.

Ravi Kumar & Kamalanabhan developed and listed a model which will help in eliciting employees' positive reactions to organizational change based on coping with stress mechanism. The study also tested the role of 'commitment to change', a new construct, in an organizational setting.

Venkatesh & Jayachandran developed an analytical and holistic approach to measure the impact of technology on health care marketing from a services marketing professionals perspective.

Sony Thomas & Thenmozhi used cutting edge econometric tools (ARCH, VAR-SURE, VECM-SURE) to show that spot and futures prices are co-integrated and there exists a bi-directional volatility spillover between spot and futures market and feedback effect exists between arbitrage and spot volatility.

Ganesh & Narendran addressed the classical vehicle routing problem (VRP), incorporating concurrent and sequential pick-up and delivery with constraints on route-length and time-windows and solved them using a combination of cluster analysis and meta-heuristics.

Mathematics

Dimple & Parthasarathy developed a novel approach to modelling deteriorating systems using optimal repair, replacement and warranty strategies.

Sudhesh & Parthasarathy obtained a transient closed form solution of the long standing problem of queues with state dependent arrival and service rates.

Balaji & Vetrivel proved the existence of solutions to SDLCP and characterized the simultaneous stability of a finite set of matrices.

Samir Roy & Sundar modeled the heat transfer problem through homogenization and asymptotic expansion techniques.

Mohan Kumar Somisetty & Sundar carried out modeling and simulation of incompressible fluid flow through porous obstacles in a open and closed channel.

Moon Kumar Chetry & Vasantha determined for the first time, the exact number of zero divisors in the loop rings $Z_{pL_n}(m)$ using number theoretic techniques.

Johnson & Vasantha introduced new fuzzy non-homogeneous relational matrices for use in models like fuzzy non-homogeneous data analysis model and fuzzy analytic hierarchy process method for the study of real-world problems.

Selvaraj & Vasantha developed a new notion called Fuzzy Rank Distance (RD) codes and established the difference in the behaviour of Fuzzy RD codes and Fuzzy codes with Hamming metric. They constructed new mathematical methods to analyse the metric properties of multi-covering radius of RD codes.

Mechanical Engineering

Venkitakrishnan, Krishnamurthy & Vijayaraghavan studied the response of the AA 2219 material to various thermal environments using AE monitoring and stress evaluation using hole drilling. The results indicate a good correlation between the microstructure and residual stress.

Velayudham, Krishnamurthy & Vijayaraghavan evaluated the performance of drilling of ballistic composite material by measuring the various parameters like force, acoustic emission, delamination factor, flexural strength.

Narasimha Rao & Krishnakumar have developed non-linear tyre models to predict the performance characteristics under dynamic conditions.

Ravishankar & Krishnakumar have studied the effect of martensitic transformation under strains on the forming limit diagram of stainless steels.

Gopalakrishnan, Srinivasa Murthy & Prasad carried out experimental and numerical investigations to determine stratification for thermal energy storage applications in water tanks of varying aspect ratio under static and dynamic charging conditions.

Selvaraju & Mani designed, fabricated and constructed an apparatus and carried out experiments using heat at as low as 67°C on a vapour ejector refrigeration system with environment friendly refrigerants.

Mohan & Velmurugan synthesised epoxy and epoxy/glass polymers filled with modified and unmodified aluminium silicate nano clay and studied their physical, mechanical, thermal and vibration properties.

Ramesh & Mayuram developed a test rig for multi-axial fatigue testing under combined bending and torsion and compared the experimental life of two steels with the life predicted using some of the existing theories and models.

Senthilvelan & Gnanamoorthy determined through modelling and experimentation an economical way of manufacturing polymer composite gears with effective utilization of the high strength high cost materials in the highly stressed regions and low strength low cost material in the lightly loaded regions.

Ramesh & Gnanamoorthy studied the fretting wear mechanisms and methods of combating them through sophisticated simulation in addition to analytical and experimental studies on fretting contacts.

Lingadurai & Shunmugam established 3D reference surfaces and investigated their ability to separate form and waviness.

Jagadeesha Kumar & Shunmugam developed processing methods for real engineering surfaces so as to overcome the boundary effect, sensitivity to deep-groove and inability to approximate form.

Swaminathan, Balaji & Venkateshan proposed an effective and robust algorithm to retrieve rain cloud liquid water and ice content in a raining atmosphere from satellite microwave radiances.

Roy Mathews, Balaji & Sundararajan studied conjugate turbulent mixed convection in channels with the k-epsilon model of turbulence completely avoiding wall functions in the near wall region by resolving the viscous sub layer.

Thanga Ilango & Raju Sethuraman evaluated the stress intensity factors, damage tolerant fracture design parameters for various interacting surface cracks for different realistic geometric and loading conditions.

John Rozario Jegaraj & Ramesh Babu developed a multi sensory approach for monitoring the condition of cutting head of abrasive waterjet cutting system and demonstrated a multi level decision support system based on soft computing approaches for its adaptive control.

Metallurgical and Materials Engineering

Yogesha & Bhattacharya characterised the superplastic behaviour of a Ti-Al-Mn alloy and established the amenability of the alloy towards superplastic forming.

Narayanan & Seshadri studied oxide as well as hydroxy apatite coatings of Ti-6Al-4V for orthopaedic applications by anodic oxidation and cathodic deposition respectively to improve their bio-compatibility.

Muthupandi, Seshadri & Sundaresan studied the influence of weld metal composition and heat input on the mechanical properties and corrosion behaviour of weld metals of duplex stainless steel and showed that even low heat input power beam process can be employed with appropriate means for adding filler as well as nitrogen.

Chandradass & Balasubramanian prepared alumina-zirconia ceramic fibres by sol-gel process.

Krishnaiah & Uday Chakkingal investigated various severe plastic deformation methods for producing ultra fine grained microstructures in metals and alloys and identified processing routes that produce materials with optimum mechanical properties.

Ocean Engineering

Madheswaran, Sundaravadivelu & Boominathan developed guidelines for underwater rock dredging based on field measurements of blast-induced vibration on berthing structures. Their numerical and experimental studies on ground vibration due to pile driving quantified the effectiveness of trenches for screening of vertically polarized Rayleigh waves.

Dinakar & Ganesh Babu studied self-compacting concretes leading to the development of a theoretical method for their design and verified them through experimental investigations.

Vijayakumari, Sundar & Murali studied the dynamic interaction between the twin pipelines and the wave riding on them and determined peak hydrodynamic loads and their location when pipelines are placed parallel to the shoreline/beach.

Physics

Ullash Kumar Barik, Subrahmanyam & Murty studied in detail the Silver : Indium oxide thin films for possible synthesis and understanding of a new p-type transparent conducting oxide thin films for possible applications in transparent and flexible electronics.

Dibyaranajan Rout, Subramanian & Hariharan prepared and characterized new lead based complex perovskites to observe the influence of B and A site cation substitution on structure and electrical properties.

Sudheesh, Lakshmi Bala & Balakrishnan obtained a number of interesting new results on the topical quantum phenomena of revivals and entanglement displayed by suitably prepared wave packets propagating through a nonlinear optical medium.

Kaladevi Sendhil, Vijayan and Kothiyal studied the nonlinear optical response of certain porphyrins at low laser powers and utilized it to design and demonstrate light control applications such as laser beam profile modification, lens action with tunable focal length, error correction in image processing and phase shifting interferometry.

Sandeep & Prem Bisht described the fabrication of fluorescence microscopy set-ups for steady-state and time-resolved measurements and their use for the study of the effect of morphology dependent resonances on the fluorescence properties of molecules embedded in single microspheres.

Umakanta Tripathi & Prem Bisht studied the effect of dipole-dipole interaction-induced excitation energy, migration and diffusion on excitation energy transfer in two new donor-acceptor dye-pairs at high donor concentrations by removing the artifact of self-absorption.

Rama, Sankaranarayanan & Ramachandra Rao established a 'universal-behaviour showing the existence of Griffiths phase' for the first time in colossal magnetoresistive manganites, that resulted from 4 different experimental parameters viz., electrical resistivity, thermopower, magnetic susceptibility and ESR study.

M.S. Work

Aerospace Engineering

Prasun Jana & Bhaskar obtained rigorous analytical solutions for the non-classical problem of a rectangular plate buckling under non-uniform compressive, shear and bending loads and showed that even small changes in the load distribution can alter the critical value of the total load significantly.

Applied Mechanics

Srihari Mukesh & Ramasubba Reddy realized a Brain Computer Interface (BCI) system using an indigenously developed EEG amplifier and developed an improved interface design, leading to increase the transfer rate and number selections for a set of frequencies by the BCI system.

Atul Singh Minhas & Ramasubba Reddy carried out simulation studies for developing a cost effective neural network based mass screening method for anomaly identification and localization in the human chest region.

Manika Puri, Patil & Venkatesh Balasubramaniam used ultrasound as a tool for evaluation of diabetes-induced soft tissue pathologies non-invasively using computer-based texture analyses methods.

Ramesh Vedula & Lakshminarasimhan studied experimentally and numerically the effects on two identical finite prismatic cylinders in staggered arrangement and compared the results.

Soumyajyoti Chakraborty & Lakshminarasimhan showed that perturbations cause the flow inside the shear layer to become repetitive due to forcing at a Reynolds number of 1000.

Madhu & Ramesh developed a new noise-immune colour difference formula which ensures colour matching as well as fringe order continuity and demonstrated its applicability.

Prashant Patil & Ramesh studied systematically the role of quarter wave plate error on various phase shifting techniques and developed a new ambiguity removal methodology.

Karthick Babu & Ramesh developed a novel approach to plot photoelastic fringe contours from three-dimensional finite element results.

Arunkumar & Kumaravel developed a technique to provide colour coded reflectance images as well as the optical parameters required for various laser based therapeutical applications.

Karthik & Prasad studied horse-shoe vortex around a cambered airfoil with and without tip leakage experimentally, numerically and by flow visualization studies in wind and water tunnels on cambered aerofoils and cascades.

Biotechnology

Sachin Narkhede & Guhan Jayaraman evolved a strategy for single-step purification of recombinant streptokinase using hydrophobic interaction chromatography, resulting in high purity and product recovery.

Gokulakrishnan & Sathyanarayana Gummadi showed that *Pseudomonas* strain isolated from the coffee and tea cultivation area grows even in the presence of high concentration of caffeine (~15 g/l) and can be used to successfully develop a bioprocess for degradation of caffeine.

Chemical Engineering

Balakrishnan, Susy Varughese & Abhijit Deshpande carried out characterization of natural surfactants - micellar structure and rheology of saponin from *sapindus mukorossi*.

Civil Engineering

Anjana Bhasi & Rajagopal showed that the influence of pore pressures, generated in the soil due to pile jetting process on the capacity of already installed adjacent piles, is negligible on the lateral load capacity, of adjacent piles and significant on the vertical load capacity of piles located at distance of less than 3 times the pile diameter.

Sreeja Ramachandran, Mathews & Meher Prasad addressed application of finite element methods for assessment of strength of historic stone masonry monuments and established the high seismic vulnerability of the Qutb Minar and structural failure mechanisms of corbelled vaults of Ta Prohm temple in Angkor Wat complex of Cambodia.

Prasanth Kumar Reddy & Mohan developed a comprehensive Multiparameter Line Source Model (MLSM) model that takes into account both traffic parameters and meteorological parameters for the prediction of air pollution levels at road junctions and validated the model with actual measured data pertaining to Chennai city.

Suriya Prakash & Alagusundaramoorthy studied the behaviour of masonry infill walls retrofitted with GFRP composites.

Susmitha Kopparti & Alagusundaramoorthy studied the seismic performance of beam-column joints retrofitted with glass fiber fabric and developed guidelines for strengthening using FRP composites.

Ravi Kumar & Sathish Kumar carried out analytical work providing information on the design of core-loaded braces for multi-storeyed steel buildings and addressed the retrofitting of existing concrete buildings using such braces.

Nagapadmaja & Sathish Kumar carried out experimental and analytical studies to gain new insights into the problem of fatigue crack growth in pipe elbows to be used in fast-breeder reactors.

Sakthivel & Kalyanaraman presented details of a software developed for conventional and optimum design of RC tied arch railway bridge superstructure based on genetic algorithms and object-oriented method and obtained sample results from the software.

Vinod Singh & Satyanarayana proposed a maintenance management framework for cable-stayed bridges and demonstrated its use with a case study for the Vidyasagar Setu bridge across Hoogly river.

Rajasekar & Ramachandraiah conducted a study in buildings with moderate thermal environments and arrived at a qualifying matrix to label the buildings by thermal, acoustical, lighting characteristics.

Thomson Jacob & Appa Rao proposed a theoretical model to evaluate minimum flexural reinforcement for design incorporating size effect of beam, concrete strength and yield strength of steel.

Vivek & Appa Rao studied the influence of rebar diameter and strength of concrete on anchorage bond strength in reinforced concrete beams and validated the observations using an FE analysis.

Asokan & Amlan Sengupta investigated the available methods for modelling the walls and proposed a load versus deformation model for the non-linear static analysis of buildings.

Computer Science and Engineering

Uday Bhaskar & Kamakoti presented a scalable framework for functional verification of processor-based architectures and showed that the tool can operate with a very abstract description of the processor.

Pavan Kumar, Kamakoti & Sukhendu Das proposed a new methodology and associated hardware architecture for face recognition and implemented the technique using a FPGA.

Chakka Siva Sai Prasanna, Kamakoti & Sudha proposed a new neural net based hardware architecture for face recognition.

Vivek Garg & Kamakoti proposed three novel configurable logic block architectures for field programmable gate arrays that were more area and power efficient than conventional ones.

Subhash Babu Rasamsetty & Narayanaswamy showed using experiment and theory that the online algorithm, First-Fit, uses at most 8 (not 10 as believed earlier) times the optimum number of colours to colour an interval graph.

Ashish Choudhary & Kamala Krithivasan considered a few variants of network of evolutionary processors where in each node splicing rules are used and proved universality results and efficient solutions to some NP complete problems in these models.

Oommen Thomas & Gonsalves proposed an efficient technique for providing Internet over the corDECT WLL.

Jithendra Kumar Reddy & Janakiram addressed issues involved in object oriented design pattern interaction and proposed a "pattern hybridization" method.

Vinod Kumar Jammula, Hema Murthy & Timothy Gonsalves presented analysis, design and implementation of remote management for corDECT-type exchanges for emerging service providers in rural areas.

Manohar & Hema Murthy developed speech and handwriting interfaces to the computer along with keyboard.

Sarada & Hema Murthy developed automatic transcription of continuous speech for syllable centred Indian languages.

Dhanaraj & Siva Ram Murthy proposed efficient solutions to three important problems, in the area of wireless sensor networks, namely (i) latency minimized energy efficient Medium Access Control (MAC) protocol, (ii) battery-aware energy efficient MAC protocol which also minimizes latency and (iii) optimal placement of cluster heads in a widely dispersed network.

Electrical Engineering

Souvik Basu, Anil Prabhakar & Enakshi Bhattacharya developed an analytical model of stiction force and estimated it from electrical measurements on surface micromachined cantilever beams.

Nagaraju & Amitava Das Gupta developed a simulation package for estimation of gate currents in bulk and double gate MOSFETs with stacked gate dielectrics based on self-consistent solution of Poisson's and continuity equations

Anupama & Janakiraman put the entire complex digital control and computing circuit except the motor and its MOSFET transistors into a single IC chip.

Sivaranjani & Janakiraman put the equivalent of a bulky analog computer into a single chip FPGA (Field programmable Gate Array) that can be wire programmed just like an analog computer.

Simmi Saxena & Janakiraman successfully formulated a clustering algorithm for automobiles with many electronic control units (EUC) providing spare capacity in each ECU for redundancy.

Chandrashekar & Srikrishna proposed a new superior dynamic resource allocation algorithm for wireless packet data systems that use orthogonal frequency division multiple access.

Murali Mohan & Aravind discussed the application of an improved channel decoder to the next generation GSM speech transmission system and used it to quantify the achievable performance gains.

Sundararajan & Ramalingam proposed the idea of variance boosting and demonstrated improved robustness to channel variations when quantizing speech line spectral frequencies for speech coding applications.

Vishnumohan & Karmalkar proposed a simple, continuous and asymptotically correct closed-form expression to predict the involved calculations of 3-dimensional electrical / thermal spreading resistances with rectangular or circular contacts.

Dnyanesh Havaladar & Nandita Das Gupta developed analytical models for advanced devices like FinFET and Dual-material Gate MOSFET that successfully explain the available experimental results.

Venkata Srinivas & Shanthi Pavan designed and tested a low power 6-bit CMOS flash analog-to-digital converter incorporating a novel distortion cancellation and background offset correction technique.

Management Studies

Santhi & Ganesh examined software productivity across the Software Development Life Cycle (SDLC) using both, code and documentation productivity and identified variables that influence productivity in each phase. It has proposed statistical models for predicting phasewise productivity and dynamic effort.

Mayuri & Rajendran investigated critical factors and operating elements of Total Quality Management in health sector in India, as perceived by the Management and by patients.

Radha & Thenmozhi developed short-term interest rate indices - SHINDEX and WASHINDEX and empirically showed that ARIMA-GARCH based models forecast interest rates better than other traditional models.

Mechanical Engineering

Raghu Vegi, Narayanan & Padmanabhan showed that a simple classical evolutionary optimization algorithm performs better than genetic algorithms for optimization of secondary sound source locations in a car interior for active control of car cabin noise.

Sharath Chandra, Vengadesan & Padmanabhan carried out CFD based modeling of perforated muffler impedance and demonstrated geometry-dependent behaviour which has been neglected by prior researchers.

Sai Krishna, Ganesan & Padmanabhan investigated fluid-structure interaction in a pipeline circuit and developed simplified models for surge tank and pumps in the pipeline circuit enabling a quick design estimate of the vibration loads in the case of a sudden pressure surge.

Sudharsan & Nagarajan investigated the dynamics of two-arm robotic manipulator in various industrial applications under certain load conditions using different control strategies.

Manjusha Janyavula & Sujatha developed a 2 D biomechanical model of the spine, as well as a 3 D finite element model of a functional spine unit, to estimate the effect of vehicular vibration on low back pain in young, mature and elderly human beings in erect, normal and slouched postures for dynamic loads coming from a vehicle seat and compared the results with ISO 2631 limits.

Cini & Sujatha synthesized earthquake accelerograms using Required Response Spectra method, autoregressive moving average models and wavelet transforms, retaining the non-stationarity in amplitude and frequency of the earthquake signals in the simulation.

Bala Krishna Reddy & Ramesh developed and demonstrated an electronic diesel engine governing system for a large 12 cylinder military engine.

Narayana Reddy & Ramesh optimized the injection rate, pressure, timing and enhancing the air swirl level to enhance the performance of a Jatropha oil fuelled CI engine to levels close to diesel operation.

Raja Sekhar & Krishnan Balasubramanian optimized the nonlinear ultrasonic harmonic generation technique for the quantitative measurement of adhesive strength of weak interfaces in metal-polymer bonded structures confirming that the nonlinear to linear amplitude ratio (A_2/A_1^2) proves to be an effective measure of adhesive bond strength and correlates well with the slope of the binding energy curves.

Prasanth Kumar & Prasad obtained the thermal stratification patterns numerically in the high Rayleigh number regime, taking into account evaporation at the free surface of partially filled smooth and ribbed liquid hydrogen tanks.

Jayaprakash & Swarnamani showed that wavelet transform of vibration modal data of structures detects damages very early and very effectively compared to existing methods.

Kapadam Mahesh Babu & Swarnamani carried out active control of vibration and sound of structures in real time using smart piezo patches attached to structures and developed algorithms utilising the statespace form and control implemented using system identifying controllers.

Tamilmaran & Krishnakumar developed a framework for Design Management system using the well known functional decomposition model.

Muralikrishna, Siva Prasad and Shunmugam analysed the sealing performance of gasket joints using non-linear finite element method considering the flange rotations and pretension in the bolts.

Krishna Kishore & Mayuram investigated the response of semi elliptic surface cracks in round bars to combined bending and torsion loading and evolved a methodology to determine the stress intensity factors

Metallurgical and Materials Engineering

Nagarajan & Uday Chakkingal investigated the effect of post processing by conventional cold extrusion on mechanical properties and microstructure of an aluminium alloy.

Surya Prakash Rao & Bhattacharya identified two aluminium AA 5083 alloys characterised by their high temperature superplastic behaviour for use in the automotive industry and predicted their mechanical response using analytical as well as numerical procedures.

Vinothini, Balasubramanian & Paramanand Singh prepared barium titanate nanopowders and thin tapes out of these powders for use in micro-electronic circuits.

Abhishek Dudhmande & Balasubramanian prepared fly ash based aluminium alloy composites by powder metallurgy technique and studied their wear resistance.

Dhanalakshmi & Balasubramanian prepared silicon carbide reinforced aluminium alloy composites by casting and optimised the process parameters to get better composites.

Manisekaran & Kamaraj showed quantitatively and qualitatively that the erosive wear resistance of laser hardened steel was significantly better than pulsed plasma and laser nitrided steels.

Byomakesh Sahoo, Sampath Kumar & Seshadri developed a novel and simple method for producing high purity boron carbide using inexpensive commercial raw materials.

Sunitha Prem Victor & Sampath Kumar developed a ceramic based system for efficient delivery of drugs with desired controlled-drug-release profiles.

Jayaprakash & Ganesh Sundara Raman investigated the effect of grain size, contact pressure, pad span and plasma nitriding on the fretting fatigue behaviour of AISI 304 stainless steel under uniaxial loading. The effect of martensitic transformation on fretting fatigue lives was also studied.

Ocean Engineering

Goutam & Surendran concentrated on the dynamic tension at the top end of a cable body system moored to sea bottom and determined the reduction in dynamic tension when there was a sub surface buoy.

Amminikutty & Anantha Subramanian used computational fluid dynamics techniques to assess the complex flow and performance characteristics in terms of torque, thrust and efficiency of nozzle propellers and hubless marine propellers.

Asokumar & Anantha Subramanian replaced intricate hardware processing electronics by virtual instrumentation to incorporate feedback control using stabilizer fins for ship roll motion and validated the approach with physical simulations. Kannayya Setti Varigala, Sundar & Murali addressed the issue of extreme events (such as landslides, earth quakes and high sea-states) leading to subsistence of ocean bottom and hence of offshore structures through experimental study.

Manasa Ranjan Behera & Murali addressed complex free surface behaviour (such as dam breaking and wave breaking) using an emerging technique called Interface Tracking technique.

Srinivas, Vendhan & Bhattacharyya formulated and implemented finite element modeling of the dynamic behavior of amphibious floating bridge ferry system under vehicle loads using beam elements and adopted the mode superposition approach of solution augmented with static correction to significant computational advantage.

1.5 Inter Disciplinary Research Groups

The Institute has initiated Inter Disciplinary Research projects in order to bring faculty from different areas together in addressing meaningful problems. The research is of a fundamental nature or concerns the development of novel and inexpensive technologies or the development of technologies for strategic areas. The work undertaken by different groups each of which consist of approximately 15 to 20 faculties drawn from different departments is briefly enumerated below:

The Biotechnology group is working on interdisciplinary investigations into two complex, multi-factorial diseases Parkinson's Disease and Cardiac Arrhythmias. The primary research concern of the Chemical Physics and Molecular Biology group is the structure and reactivity of atoms, molecules, surfaces and solids, as well as bio-molecular systems such as enzymes. The Communication Technology group is focused on these areas: One is the development of an easy to use multimodal interface to the desktop computer for Indian languages. The second is investigating issues of stability and reliability of fibre bragg gratings. The third has developed a silicon-on-insulator device. The Complex Systems group is investigating Complex fluids such as micellar solutions, surfactants, liquid crystals, colloidal suspensions and membranes; Complex networks, with reference to their spatio-temporal properties; Complex dynamics in classical chaotic dynamical systems and Complex behaviour in quantum chaos and the quantum dynamics of nonlinear systems. The Development Studies group is seeking to identify and establish the links between environmental status of an area and the health status of the population with reference to pesticides for Thiruvayar Taluk of Tanjavur District, Tamil Nadu. A health status assessment has been completed and a cross-sectional survey carried out among the farmers.

The Energy Technology group is conducting fundamental and application oriented studies on thermophotovoltaic co-generation systems, which can simultaneously generate heat and electricity. The Environmental Technology group is looking at three subject areas namely municipal solid waste management, traffic control strategies to mitigate environmental pollution and localized wastewater treatment system development. The Infrastructure Technology group is looking at the 3 issues namely real-time traffic monitoring for efficient management of traffic and better use of transportation networks, more accurate prediction of travel demand and its growth over time and evaluating alternate modes of travel aided by GPS-GIS technology for capacity optimisation. The focus of the Instrumentation and Control group is in the areas of application of intelligent instrumentation and control for process and productivity improvement.

The Materials Technology group is working on biomaterials, fuel cell materials and recycling of PCBs. The Micro Electro Mechanical Systems group is working on topics that combine microelectronics, micro-mechanics and micro-optics. The focus is on MOS integrated pressure sensors, a micropump for drug delivery and drug dosage control, fabrication of a simple microfluidic network, silicon and porous silicon based biosensors, RF MEMS and MEMS test structures. The Measurement, Testing and Diagnostics group is looking at flow and combustion diagnostics, microwave imaging for materials characterisation, thermal wave imaging, rehabilitation biomechanics and biomedical measurements and femto-second laser based measurements. The Methodologies group is engaged in developing and applying a new and innovative mesh-free method, called the Finite Pointset Method or Finite Particle Method for simulating incompressible and free surface flows. The Quality Assured Design and Manufacturing group is looking at fundamental studies on understanding fatigue crack closure under variable amplitude loading and is also involved in development of models for various manufacturing systems and their performance evaluation.

1.6 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 faculties have written books, monographs and earned patents for their inventions. Some of these are listed below:

Awards

Dr.J.Raamachandran (AM)
Dr.S.Jayachandran (MS)
Dr.B.Guha (MM)
Dr.V.Damodara Das (PH)
Dr.Tanmay Basak (CH)

M.Arun Prasad (CY)

Dr.Manu Santhanam (CE)

Dr.P.Alagusundaramoorthy (CE)

Dr.Ashok Jhunjhunwala (EE)

Dr.Bhaskar Ramamurthi (EE)

Dr.S.Karmalkar (EE)

Dr.Sarit Kumar Das (ME)

Dr.V.Ganesan (ME)

Dr.D.R.G.Achar (MM)

Dr.P.Venugopal (MM)

R.Balaji (OE)
Dr.V.Sundar (OE)
Dr.S.A.Sannasiraj (OE)
Dr.V.Sundar (OE)

Dr.Harish Chandra
Library

- Bharat Jyoti Award (India International Friendship Society)
- Young Engineer Award 2005 (Indian National Academy of Engineering)
- Amar Dey-Cham Award 2005 (Indian Institute of Chemical Engineers)
- Oronzio De Nora Foundation Young Author Prize for 2005 (International Society of Electro-chemistry)
- AICTE Career Award (All India Council for Technical Education)
- Vijay Shree Award (India Friendship Society)
- Jawaharlal Nehru Birth Centenary Lecture Award for 2006
- Shri Om Prakash Bhasin Award for Science and Technology for 2004 Electronics and Information Technology (Shri Om Prakash Bhasin Foundation for Science and Technology)
- IETE Gowri Memorial Award (Institution of Electronics & Telecommunications Engineers)
- National Award 2005 (Technology Development Board)
- Hari-Om Prerit Vikram Sarabhai Research Award for 2005
- Prof.K.N.Seetharamu Medal and Prize for Research in the Heat and Mass Transfer for 2006
- A Certificate of Appreciation for his outstanding lifetime achievements (American Society of Engineers of Indian Origin)
- Dr. Daya Swarup Memorial Lecture Award for 2005 (Indian Institute of Metals)
- FIE Research Foundation Award this year in the field of Education / Engineering
- Maritime Award 2005-06 (Ministry of Shipping, Road Transport and Highways)
- Honorary Doctor Degree for extra-ordinary scientific merits (University of Wuppertal, Germany)
- Life Time Achievement Award 2005 (Society for the Advancement of Library and Information Science)
- Dr. S. R. Ranganathan Award for Best Library Services (Tamilnadu Library Association)

Fellowships

Dr.K.Ramesh (AM)
Dr.S.Mohan (CE)
Dr.C.Pandu Rangan (CS)
Dr.R.Sundaravadivelu (OE)

Dr.S.Ponnusamy (MA)
Dr.V.Ganesan (ME)
Dr.S.Mohan (CE)
Dr.G.Appa Rao (CE)
Dr.B.Nageswara Rao (CE)

- Fellow, Indian National Academy of Engineering
- Fellow, The National Academy of Sciences
- Fellow, SAE International
- Fellowship, Indian Water Resources Society
- Alexander Von Humboldt Fellowship, Alexander Von Humboldt Foundation, Germany

Membership of the Editorial Boards

- | | |
|------------------------------|--|
| Dr.A.R.Balakrishnan (CH) | ○ Editor, International Journal of Heat and Mass Transfer, Elsevier |
| | ○ Editor, International Communications in Heat and Mass Transfer, Elsevier |
| Dr.Sreenivas Jayanti (CH) | ○ Associate Editor, International Journal of Heat and Mass Transfer, Elsevier |
| | ○ Associate Editor, International Communications in Heat and Mass Transfer, Elsevier |
| Dr.C.Pandu Rangan (CS) | ○ Member, Editorial Board, Journal of Parallel and Distributed Computing, Elsevier |
| Dr.C.Siva Ram Murthy (CS) | ○ Associate Editor, IEEE Transactions on Computers by IEEE Computer Society |
| | ○ Member, Editorial Board, Journal of Parallel and Distributed Computing, Elsevier |
| Dr.T.T.Narendran (MS) | ○ Member, Editorial Board, International Journal of Industrial and Systems Engineering, Inderscience Publishers |
| Dr.P.R.Parthasarathy (MA) | ○ Member, Editorial Board, International Journal of Modern Mathematics, Dixie W. Publishing Corporation |
| Dr.M.Singaperumal (ME) | ○ Member, Editorial Board, International Journal of Automation and Control, Inderscience Publishers |
| Dr.S.Narasimha Rao (OE) | ○ Member, Editorial Board, ASTM Geotechnical Testing Journal |
| Dr.C.Vijayan (PH) | ○ Member, Editorial Board, International Journal of Nanotechnology and Applications, Research India Publications |
| Dr.M.S.Ramachandra Rao (PH) | ○ Member, Editorial Board, Journal of Physics D : Applied Physics (JPD) |
| Dr.Harish Chandra
Library | ○ Member, Editorial Advisory Board, SALIS Journal of Library and Information Science |

Books

- | | |
|-------------------------|---|
| Dr.C.Lakshmana Rao (AM) | ○ Recent Advances in Solid Mechanics, Allied Publishers |
| | ○ Modeling of Engineering Materials, Anne Publishing House |
| Dr.Doble Mukesh (BT) | ○ Biotreatment of Industrial Effluent, Elsevier |
| Dr.M.Chidambaram (CH) | ○ Control of Unstable System, Narosa Publishing House |
| Dr.S.Sankararaman (CY) | ○ Pericyclic Reactions – A Textbook, Wiley – VCH Weinheim |
| Dr.D.Janakiram (CS) | ○ Grid Computing, Tata McGraw Hill Publishers |
| Dr.L.S.Ganesh (MS) | ○ Sustainability and Human Settlements, SAGE Publications |
| Dr.S.Ponnusamy (MA) | ○ Foundations of Complex Analysis, Narosa Publishing House Pvt. Ltd. & Alpha Science International Publications |
| Dr.Sarit Kumar Das (ME) | ○ Process Heat Transfer, Narosa Publishing House |

Best Paper / Design / Project Awards

J.Srinivasan (BT)
Dr.Venkatesh Balasubramanian (BT)

K.Muthukumar (OE)
Dr.R.Sundaravivelu (OE)
Dr.S.R.Gandhi (CE)
Ch.Ramana (CE)
Dr.A.Boominathan (CE)
M.M.Buhler & Dr.G.Gudehus
University of Karlsruhe, Germany
M.Muthukumar (CE)
Dr.S.Mohan (CE)

Dr.K.P.Sudheer (CE)

Hima Prasad (CS)
Ch.Rajesh (CS)
A.Rajeshkumar (CS)
Dr.P.Sreenivasa Kumar (CS)
N.Madhu Mohan (EE)
Amol Ravikant Shet (EE)
Dr.V.Jagadeesh Kumar (EE)

Manish Kumar &
Dr.M.Thenmozhi (MS)
S.Radha &
Dr.M.Thenmozhi (MS)
Neera Katwal (MS)

K.V.Vijayashree (MA)

Somashekhar S.Hiremath (ME)

- o Outstanding Paper Award, 12th International Conference on Biomedical Engineering, Singapore
- o IGS Prof. Dinesh Mohan Biennial Prize for the best paper on Pile Foundation, Indian Geotechnical Society 2003-2004
- o IGS M. S. Jain Award for the best paper on Innovations in Piling and other constructions techniques, Indian Geotechnical Society.
- o Best Paper Award among the papers published in the Journal of Environmental Engineering, The Institution of Engineers (India)
- o Best Discussion Paper Award, American Society of Civil Engineers
- o Best Paper Award for their two different papers presented in COMAD 2005 B at IIT, Hyderabad
- o IEEE Student Travel Award, IEEE Instrumentation and Measurement Technology Conference 2006 held at Sorrento-Italy, Instrumentation & Measurement Society
- o State Bank of India Award for the Best Research Paper in Finance, International Conference of the 5th Consortium of Students in Management Research, Indian Institute of Science, Bangalore
- o IISc. Batch of 1993 Alumni Award in HRM for the Best Research Paper, International Conference of the 5th Consortium of Students in Management Research, Indian Institute of Science, Bangalore
- o Best Thesis Award, Annual Convention of Operations Research Society of India
- o Innovative Student Projects Award 2005, Indian National Academy of Engineering

Patents Filed

Dr.N.Chandrakumar (CY)

Dr.T.Pradeep (CY)

Dr.T.S.Sampath Kumar (MM)

Dr.Prem B.Bisht (PH)

Dr.S.Ramaprabhu (PH)
Dr.G.K.Suraish Kumar (BT)

Dr.P.Sasidhara Rao (EE)
Dr.S.Kumaraswamy (ME)

Dr.S.Sankararaman (CY)

- o A method of 2D -NMR correlation spectroscopy with double quantum filtration followed by evolution of single quantum transitions
- o A method of manufacture of a device to monitor the flow of liquids & a device so manufactured
- o Boron carbide powder & a method of manufacture thereof
- o A method of detecting the change in concentration of an organic dye in a sample
- o Carbon nanotubes and their synthesis
- o A novel shoot culture bioreactor system for cultivating shootlets under controlled conditions
- o A device for converting single phase AC to three phase balanced AC
- o An axial flow impeller with twistless or single curvature shape vanes or blades particularly, though not exclusively, for axial flow turbomachines
- o An improved stage procedure for the synthesis of cross-linked polyallylamine hydrochloride
- o Synthesis of various salts of cross-linked polyallylamine polymer by ion exchange metathesis

Dr.A.Subrahmanyam (PH)	○ A device and a method for the preparation of oxygen for artificial infusion in human blood
Dr.Y.Shanthi Pavan (EE)	○ Power and area efficient adaptive equalization
	○ Improved integrated circuit implementation for power and area efficient adaptive equalization
Dr.T.Pradeep (CY)	○ Manufacture of single walled carbon nanotubes providing visible emission for imaging of nanostructures
Dr.Bhaskar Ramamurthi (EE)	○ A broad band wireless communication system

Patents Granted

Dr.R.Vasudevan (MM)	○ A device for fatigue testing of materials
Shri M.R.Sriram (MM)	○ A method of manufacture of a metallic member of improved fatigue strength and a device for carrying out the said method
Shri P.C.Majhee (EE)	
Dr.P.Sankaran (EE)	○ A device for reducing the exciting current drawn by a magnetizing winding
Dr.V.Jagadeesh Kumar(EE)	○ A fully protected buck converter
Dr.S.Santhakumar (AE)	○ A self-calibrating resistive gauge for the measurement of liquid levels
Dr.V.Jagadeesh Kumar (EE)	○ A long range relay base dect system
Dr.Paul Mario Koola (OE)	
Dr.Ashok Jhunjunwala (EE)	○ A refrigerant composition for refrigeration systems
Dr.Bhaskar Ramamurthi (EE)	○ A device for reducing backlash in gear drives
Dr.G.Venkatarathnam (ME)	
Dr.M.S.Shunmugam (ME)	
Dr.N.Sivaprasad (ME)	

1.7 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 113 for a total value of Rs.284 millions including 8 international projects for a value of Rs.13 millions and 3 Industry projects for Rs. 5 million. Of these were 44 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 174. A National Centre for Catalysis Research is being established at IITM for which DST has granted Rs. 16.05 crores.

The number of active consultancy projects during the year is 533, for a total value of Rs.132 million including 52 Research Based Industrial Consultancy projects for Rs.53 million. The number of faculty members involved in these consultancy projects is 185 while 16 have been retained as consultants in various industries at a cost of Rs.4.2 million. An amount of Rs. 4.68 crores was received as royalty towards technology transfer for CorDECT Wireless Technology.

The ISRO-IITM Space Technology Cell renewed 19 projects and sanctioned 11 new projects during this year. Under the IGCAR-IITM Cell, 9 new projects have been initiated and 2 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. As a first step to sponsor projects on cell mode, both BHEL Trichy and BHEL Bhopal have identified more than 20 projects each and entered into Memorandum of Understanding with IITM.

The Industrial Associateship Scheme fostering close interaction with industry has 258 members this year. Six Technology Appreciation programmes were conducted during the year for the benefit of the Industrial Associate Members.

We have signed 31 Memoranda of Understanding during the year under review with 29 industries such as High Energy Batteries (India) Ltd.; DRDL Hyderabad; Vikram Sarabhai Space Centre, ISRO; Tata Motors Ltd., Mumbai; Combat Vehicles Research and Development Establishment; BHEL, Trichy and Bhopal.

The establishment of the IITM R&D Park has made further progress with the allocation of land to the extent of 6.59 acres by the Government of Tamil Nadu to IITM. This land is adjacent to Tidal Park across the road

from IIT. The plan is to set up a facility, which will rent out space to industries that have R&D collaborative projects with IIT and incubate companies initiated by the faculty and students of IITM. It is hoped that this Park will increase both the scope and the quality of interactions between IITM and the industry.

The Centre for IC & SR 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.

1.8 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: 9 under the Quality Improvement Programme and 81 under Continuing Education which benefited 2434 participants. The CCE generated a revenue of Rs. 127 lakhs through its activities.

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 a total of 21 courses in the year 2005 and 11 courses since January 2006. Currently the intranet web site hosts more than 200 IITM courses.

Two Projects were sanctioned, one by the Sun Microsystems as equipment grant to create an e-learning environment awareness in schools and another by the Alumni Association, IITM to create interactive learning environment in Mathematics, Physics and Chemistry jointly with Carnegie Mellon University, Pittsburgh. The total value of the two projects is approximately US \$ 1,30,000/-. The web studio and the Educational Technology Cell worked together to deliver the courses on Computational Engineering through the internet synchronously to students selected by BHEL, Tiruchirapalli.

Under the Book Writing Scheme, 5 proposals have been received. 5 books have been published during the year. 46 Books have so far been published by our faculty, under this scheme.

The Educational Technology Cell was established in 1989 by the Ministry of Human Resources Development, Government of India with an objective to provide the expertise of the faculty of IITM to the students of IITM as well as several educational institutions and industrial organizations across the country by means of professional audio visual teaching materials. About 1148 video-based lectures have been supplied to various engineering institutions and R&D establishments. ETC has grown to include high-end non-linear editing systems to meet the broadcast requirement of the National Programme on Technology Enhanced Learning (NPTEL) video lectures. ETC has developed its second broadcast standard studio with a seating capacity of over 100 students. The studio has a video conferencing facility. The latest inclusion in the studio is a facility for linking EDUSAT the exclusive educational satellite of ISRO.

To explore interesting avenues for innovation in design and delivery of courses, activities such as course structuring, preparation of instructional and support for preparation of resource materials such as monograph, laboratory manuals, problem books etc., as well as development of computer aided instruction packages is available under Curriculum Development Cell funded by AICTE. The materials developed under this activity can be made available for use by the various engineering institutes in the country. 6 such projects were sanctioned during 2005-06.

1.9 Our Contributions to the National S&T Educational System

IITM plays a lead role in providing guidance and assistance to the other engineering institutions in the country. Deputation to the academic programmes of the institute viz., M.Tech. & Ph.D. facilitates career development of the faculty of AICTE approved technical institutions in the country. Under Quality Improvement Programme (QIP), 403 faculties from other institutions have obtained their Ph.D. degrees and 506 faculties from other institutions have obtained their M.Tech. degrees from IITM since its inception. Currently we have a total of 90 QIP Scholars - 73 Ph.D. & 17 M.Tech. which includes 12 women in Ph.D. and 5 in M. Tech in the Institute.

IITM has been actively participating as a host Institution for the Early Faculty Induction Programme. This programme aims at attracting bright young persons to the teaching profession. Specially designed training programme in the area of pedagogy and teaching skill was conducted for 12 EFIP and 34 QIP candidates.

The first phase of MHRD's National Programme on Technology Enhanced Learning (NPTEL) project involving all the IITs and IISc co-ordinated by IITM has been completed. The Honourable Minister for Human Resources is expected to release over 300 courses through video and the web this August. These courses will be made available at highly subsidized rates to all engineering and management institutions in India, thus enhancing the reach and quality of technical education in the country.

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; 6 students participated in the programme this year.

1.10 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 the following 11 international universities in Australia, France, Germany, Japan and Singapore. So far IITM has signed 74 MoUs with international universities. We have also signed 6 MoUs with international companies and research laboratories for collaborative R & D.

During the summer, as many as 106 faculty members from the Institute visited universities and research laboratories abroad for collaborative research, participation in conferences, visiting assignments, lectures, consultancy, etc.

1.11 International Student Exchange Programme

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 12 M.Tech. and 1 Dual Degree student and 1 M.S. scholar to undertake their project / thesis work in these German Universities this year. We have also received a few Ph.D. and Dipl.-Ing. scholars from Germany to undertake their projects in our research laboratories. Under the MoU with EPFL, 7 students from EPFL did their course work in IITM. 4 Ethiopian students joined the M.Tech. programme in this institute in August 2005.

1.12 Career Development and Welfare Schemes for the Employees

HR training has been planned and implemented for providing opportunities to our technical and administrative staff to update and upgrade their knowledge and skills, in order to enable them to perform their work more effectively. Under this scheme, 23 in-service training programmes were conducted covering 492 staff and faculty members and 51 staff and faculty were nominated for external training programmes.

1.13 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 Applied Mechanics completed their visit and have provided us valuable inputs this year.

IITM has been awarded ISO-9000 certification for academic and support processes since 1999 and for administrative support processes since 2001. Both have been recertified in 2005. In addition to the ISO 9001:2000 certification, the Central Electronics Centre is NABL accredited for its Testing and Calibration Laboratories.

1.14 Infrastructure Development

Phase I of the state-of-the-art Data Center with a building management system and on-line backup for all support infrastructure for 24x7 operation has been completed and the Phase-II is in progress. The Centre already has 3 multi-processor computers, and is built to accommodate much more powerful computers, such as 2000-processor system.

Digitisation of all old records has been completed. Smart cards for all faculty, staff and students have been issued and are operational. Majority of the library holdings have been tagged with RFIDs. Entry / Exit into library are being tracked by the smart card, and issue of books tracked using RFIDs. Campus Network upgradation is close to completion. With this, the entire campus now has a multi-gigabit backbone with redundant paths for 24x7 connectivity. The entire campus network is centrally managed, and traffic can be monitored and controlled to individual nodes to prevent storms, etc. The campus now has a 34 Mbps internet link. The traffic from different zones of the campus (hostel, academic, residential) is being shaped depending on priority and time of day. Workflow automation for two major activities namely, academics and stores & purchase has been completed. The campus will move over to this fully computerized system in the coming semester. All academic records and purchase-related documentation can be maintained and accessed, depending on the levels of authorization, by anyone and from anywhere on the campus network. After these two workflows are successfully adopted, the remaining workflows will be taken up for automation. Industrial consulting and sponsored research workflow automation is already under development.

The building for the Department of Management Studies was completed by renovating the old library building and constructing an additional second floor.

The construction of MRI / MRS building has been completed in a record time of 10 months with special features like foundation for magnets, use of nonmagnetic materials in ventilation ducts, windows and interior works and special ramp facility for transport of heavy equipments.

The construction of Sindhu, Pamba and Tamirabarani hostels has been completed easing the pressure on the student's accommodation in this residential campus and Mahanadhi hostel is at the finishing stage. A new large dining facility "HIMALAYA" with a capacity of 3000 has been added to the hostel sector, facilitating the closure of nearly all small dining facilities attached to individual hostels. Hygienic aspects, state of the art kitchen equipments, ventilation system, pollution free environment and beautiful architecture are the salient features. These long overdue additions to the student sector restore the true residential character of the campus after many years.

Our former Director Prof. A. Ramachandran inaugurated the carefully planned and designed Heritage Centre during March this year. A building for the Day Care Centre has been completed for the welfare of the campus children. The new building for the Department of Biotechnology has been completed. The interior works, lab furniture and clean room facilities are expected to be ready by August 2006.

Considering the increased power load and to ensure reliable and regular supply, the 11 kV sub-station was upgraded to 33 kV and revamping of HT distribution has been completed.

The Central Library has installed contactless smart card enabled access control system, electronic book drop, auto checking and checkout system, RFID gates, auto-self checking and RFID tagging station. In addition to these, the central library has added various new facilities including children's library corner, research carrels, students discussion hall, media resource centre with 200 seats, having internet connectivity, large motorized screen TV, wireless networking. The Central Library has also implemented Z39.50 protocol, the only library in India to join Z39.50 gateway to library catalogues maintained by Library of Congress, USA. Users can access the catalogue of books with abstracts, images, contents of the books from any place. The Central Library has been awarded the Highest Usage Award for Science direct for the year 2005 in South Asia including Japan, Singapore, Australia, New Zealand for the highest downloads.

1.15 Student Co-Curricular and Extra-Curricular Activities

For the student's sector the academic year 2005-06 has been very remarkable. The co- and extra-curricular activities continued with great enthusiasm. Eminent personalities from all walks of life addressed our students in different forums.

The annual technical festival SHAASTRA in October 2005 attracted engineering students from all over the country. Two successful Spirit of Engineering projects were executed - the hovercraft and the bascule bridge. The participation in events increased manifold, with some workshops like the b-plan workshop not being able to accommodate even one-tenth of those interested. The interest in Shaastra was also evident in the number of shaastra.org hits 3.3 millions ! Lectures from leaders from industry (Biocon, Sycamore, etc) and eminent scientists (Dr. Chidambaram, Dr. Hari Dass, etc) also kept the audience captivated.

SAARANG held during January 2006 attracted thousands of students from the length and breadth of the country. This year all professional shows had a record crowd. This year also IITM contributed a sum of 3.58 lakhs from the Saarang earnings towards charity. Participation of our students in various Inter university technical and cultural festival has been on the increase and every team left their mark wherever participated.

EXTRAMURAL LECTURE SERIES at IITM has a long cherished tradition of inviting prominent people in various walks of life to address students on a spectrum of issues. This year the list of eminent speakers included : Mr. Prabhu Chawla (Group Editorial Director and Editor, India Today), Mr. B. Muthuraman (MD, Tata Steel), Mr. R. Gopalakrishnan (Executive Director, Tata Sons), Mr. Yashwant Sinha (former Finance Minister), Dr. Anil Kakodkar (India Atomic Energy) and Mr. Krishna Moorthy (former Chief Election Commissioner).

REFLECTIONS, is a forum involving students and faculty, with the main objective of enabling character improvement and well-being through reflection and self-awareness. The activities comprise lectures and discussions led by eminent thinkers, panel discussions, and creative writing. In the academic year 2005-2006, a wide variety of themes were discussed. REFLECTIONS also brought out magazines in November 2005 and April 2006, filled with stimulating articles by students, faculty and guest writers.

The third edition of the TCS-IITM Open Quiz was held on October 2nd coinciding with Gandhi Jayanthi. The participation touched an all time high of over 1500 people consisting of about 150 college teams, 75 teams from various city schools and 75 teams of experienced veteran quizzers from as far as Bombay.

In the 41st Inter IIT Sports Meet held during December 2005 at IIT Roorkee, both the men's and the women's contingent were positioned third in the general championships. Our football team, tennis team and the waterpolo teams won the first positions. The women basketball team also won the first position.

The interhostel Schroeter and Dean's trophy tournaments saw a very stiff competition among the hostels and the overall participation of the students was higher than in the previous years. This year saw the fitness, tennis badminton and swimming clubs of our institute attract more students than ever before.

The Sanmar open cricket tournament and the Sanmar open tennis tournament were huge success with some skillful games on display. The inter collegiate tournament Sportsfest held in October saw IIT students giving tough fight to the local colleges. The GF & KR tournament and the IITM Open bridge tournaments were also conducted successfully by IITM. The Institute sports secretary Mr. Anand Ravikumar was adjudged the best outgoing sportsman while the institute tennis captain for women, Ms. R Suganya was adjudged the best outgoing sportswoman.

1.16 Socially Relevant Activities

IITM initiated activities for transfer of technologies, which are of immediate relevance to the society. For this purpose, the following three projects have been taken up.

Socially Relevant Projects is an initiative of IITM. Under this initiative, a metal-free, non-toxic organic polymer based phosphate-binding agent was developed and the technical know-how was transferred to a pharma company. This product (FOSEAL) will soon be available to renal patients in India at an affordable cost. Other projects are under progress.

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 (OWZone) project has employed 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 has begun operating the Day Care Centre with trained personnel to cater to the needs of the children of working parents. As of now, 92 campus children are enrolled in the center. The Atma Charity Wing (ACW) of the Ladies Club working with the support of the IITM Alumni Charitable Trust conducts a ticketed charity show every year in order to raise funds in support of charitable organizations in the vicinity of Chennai. This annual fund-raiser receives voluntary support from faculty, staff, students and alumni.

IITM as a partner in the Rural Technology Action Group, initiated by the Principal Scientific Advisor to the Prime Minister, has identified several projects for improvement in product quality such as banana fibre extraction machine & solar energy operated tricycle for rural physically challenged. Preparation of database and a web site on rural technologies have been initiated to bridge the information gap on technologies. Formation of a few Village Knowledge centers is also in the offing. One or two villages are proposed to be taken up as model villages and technological inputs given for their overall benefit.

The Lemelson Foundation Recognition and Mentoring Programme (L-RAMP), a novel programme to encourage innovators to come up with inventions to aid rural development has been jointly set up by IITM and Rural Innovations Network, with the funding from L-RAMP. L-RAMP will provide the technical and financial support to innovators with commercially viable ideas. The Innovation Awards (IA) programme received 462 applications. They covered a wide spectrum of innovations addressing a range of basic human needs. Of these 10 ideas were selected for 'Award of Excellence' and 6 ideas for 'Award of Appreciation'.

90 applications have been received by L-RAMP India for incubation support. Of these 85 have been selected after screening by the L-RAMP team, and 4 are currently being funded. In addition, 9 innovations have been selected for administration of the proposal development grant. Two nodal institutions, Tamil Nadu Agricultural University and Gandhigram Rural Institute are currently coordinating the administration of the proposal development grants.

1.17 Alumni Matters

Our Institute has so far awarded over 28000 degrees, ranging from Ph.D. to B.Tech. The education and training our alumni have received at the Institute have enabled them to launch themselves into professionally satisfying and successful careers. They have distinguished themselves professionally, and many of them occupy top positions in the Industry, Government and the Academe. Since 1997, we have been honouring selected alumni for their accomplishments through the Distinguished Alumnus Awards. The list of Awardees for this year, announced during the Republic Day function are:

Dr.G.Sundararajan (ARCI, Hyderabad, India), Dr.Krithi Ramamritham (IIT Bombay, India), Dr.Murali Sastry (Tata Chemicals Ltd., Mumbai, India), Dr.Jaishankar Menon (IBM Research, USA), Dr.T.V.Rajan Babu (Ohio State University, USA) and Mr.Sunil Kumar (International Speciality Products Inc, USA).

The Office of Alumni Affairs coordinates the interaction between the institute and the alumni. In addition to the parent Alumni Association on campus, we have several Chapters within the country and abroad. The 1981 batch will celebrate its Silver Reunion this year. The alumni of all IITs have come together to form the

PAN IIT Alumni organization. The next PAN IIT Alumni conference is to be held in Mumbai in December 2006.

A major fund raising drive called the IITM Growth Fund under the Chairmanship of Mr.S.Gopalakrishnan, COO, Infosys was launched. The funds raised will be utilized towards upgrading research and infrastructure in the campus.

1.18 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. A. E. Muthunayagam, 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 headed by our dynamic and visionary Chairman.

2. ADMINISTRATION

2.1 General:

Indian Institute of Technology, Madras is an autonomous statutory organization 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 given in the Appendix.

2.2 Staff Position:

As on 31.03.2006, 344 Faculty, 18 Scientific Staff, 3 Design Staff, 288 Technical Staff and 553 Administrative Staff were in position totaling 1206. During the period under report 86 faculty/staff members comprising 5 Associate Professors, 26 Assistant Professors and 55 other staff were appointed. 52 staff members comprising 20 Faculty members, 7 Officers and 25 Staff retired from their services. 3 Staff members expired. 17 faculty members and 5 staff members were on long leave. The details of all the above are given below:

2.2.1 Faculty / Staff appointed from 01.04.2005 to 31.03.2006:

List of staff members appointed during the period April 2005 to March 2006:

Sl. No.	Name	Designation	Dept./ Section	DOJ
1.	Dr. Sonjoy Majumder	Assistant Professor (on contract)	Physics	26.04.2005
2.	Dr. Indumathi Nambi	Asst. Professor	Civil Engg.	01.06.2005
3.	Dr. Anuradha Banerjee	Asst. Professor	Applied Mechanics	02.06.2005
4.	Dr. M. Manivannan	Asst. Professor	Applied Mechanics	09.06.2005
5.	Dr. Nagendra Krishnapura	Asst. Professor	Electrical Engg.	13.06.2005
6.	Dr. Kavita Dorai	Asst. Professor	Physics	24.06.2005
7.	Dr. P.A. Ramakrishna	Asst. Professor	Aerospace	01.07.2005
8.	Dr. Sarika Mehra	Asst. Professor	Biotechnology	12.07.2005
9.	Dr. Amit Kumar	Asst. Professor	Aerospace	21.07.2005
10.	Dr. Arvind	Assistant Professor	Physics	01.08.2005
11.	Dr. A.P. Baburaj	Assistant Professor	Applied Mechanics	03.08.2005
12.	Dr. Shankar Balachandran	Asst. Professor	Computer Sc. & Engg.	10.08.2005 (AN)
13.	Prof. Dhinakar S. Kompala	Visiting Associate Prof.	Biotechnology	18.08.2005
14.	Dr. V. Nirmal Kumar	Visiting Asst. Professor	Physics	22.08.2005
15.	Dr. Arun Kumar Tangirala	Assistant Professor	Chemical Engg.	09.09.2005
16.	Dr. Avijit Bhunia	Assistant Professor	Mechanical Engg.	19.09.2005
17.	Dr. A.V. Jayanthan	Assistant Professor	Mathematics	26.09.2005
18.	Dr. Nilesh Jayantilal Vasa	Visiting Associate Professor	Mechanical Engg.	17.10.2005
19.	Dr. Jyotirmaya Tripathy	Asst. Professor	Humanities	02.11.2005
20.	Dr. Amal Kanti Bera	Asst. Professor (on contract)	Biotechnology	12.12.2005
21.	Dr. Prasanta Kumar Tripathy	Asst. Professor	Physics	19.12.2005

22.	Dr. A. Thillairajan	Asst. Professor (on contract)	Management Studies	21.12.2005
23.	Dr. Sanjib Senapati	Asst. Professor (on contract)	Biotechnology	21.12.2005
24.	Dr. Sundargopal Ghosh	Asst. Professor	Chemistry	23.12.2005
25.	Dr. Kesavan Venkitasamy	Asst. Professor (on contract)	Biotechnology	30.12.2005
26.	Dr. R. Swarnalatha	Asst. Professor	Humanities and Social Sciences	30.12.2005
27.	Dr. M. Suresh Babu	Assistant Professor	Humanities	02.01.2006
28.	Dr. S. Nallayarasu	Associate Professor	Ocean Engg.	09.01.2006
29.	Dr. Anurag Mittal	Asst. Professor (on contract)	Computer Science	09.01.2006
30.	Dr. Nilesh Jayantilal Vasa	Associate Professor	Mechanical Engg.	17.01.2006

List of Staff Members who have joined during the period from April 2005 to March 2006:

Sl. No.	Name	Designation	Dept./ Section	DOJ
1	Shri P. John George	Senior Technical Officer	Central Workshop	26.04.2005
2	Shri G. Bala Ganesan	Senior Technical Officer	Central Workshop	27.04.2005
3	Mrs. Anu Rajan	Physiotherapist	Instt. Hospital	13.05.2005
4	Mrs. D. Lakshmi	Helper (Nursing)	Instt. Hospital	24.05.2005
5	Shri J. Lazar	Asst. Registrar (on deputation)	Engg. Unit	25.05.2005
6	Mrs. Vidhya Rameshkumar	Optometrist (Part-time)	Instt. Hospital	27.06.2005
7	Dr. Indira Chaturvedi	Consultant (Pediatrician)	Institute Hospital	01.07.2005
8	Ms. Caroline Claudet	Nurse(on contract)	Institute Hospital	01.08.2005
9	Shri T. Vengadesan	Asst. Registrar(on deputation)	Academic	01.08.2005
10	Dr. R. Abirami	JMO(on contract)	Institute Hospital	08.08.2005
11	Shri H. Anandaram	Asst. Exe. Engr (Civil)	Engg. Unit	08.09.2005
12	K. Jayamahesh	Consultant Ophthalmologist	Institute Hospital	05.10.2005
13	Alagappan Ramanathan	Consultant Orthopaedics	Institute Hospital	13.10.2005
14	P. Hariharan	Technical Assistant	CWS	28.10.2005
15	R. Thirupathi	Technical Assistant	CWS	28.10.2005
16	R. Pazhanivel	Technical Assistant	CWS	28.10.2005
17	K. Kumar	Technical Assistant	CWS	28.10.2005
18	N.T. Sasikumar	Technical Assistant	CWS	28.10.2005
19	M.Gajendran	Technical Assistant	CWS	28.10.2005
20	K. Balasubramanian	Technical Assistant	CWS	28.10.2005
21	P. Dilli Babu	Technical Assistant	CWS	28.10.2005
22	A.R. Parthasarathy	Technical Assistant	CWS	28.10.2005
23	G. Saravanan	Technical Assistant	CEC	28.10.2005
24	S. Ravichandran	Technical Assistant	Computer Science	28.10.2005
25	P. Arthur Gnaniaraj	Technical Assistant	Mechanical Engg.	28.10.2005
26	K. Arulanandan	Technical Assistant	Mechanical Engg.	28.10.2005
27	S. Lakshmi Narayanan	Technical Assistant	Mechanical Engg.	28.10.2005
28	K. Kothandaraman	Technical Assistant	Electrical Engg.	28.10.2005
29	J.A. Suresh	Technical Assistant	Metallurgy	28.10.2005
30	K. Rangan	Technical Assistant	Metallurgy	28.10.2005
31	A. Malarnvizhi	Technical Assistant	Civil Engineering	28.10.2005 AN
32	K. Thirunavukkarasu	Technical Assistant	Chemical Engg.	28.10.2005
33	J. Desinghu	Technical Assistant	Chemical Engg.	28.10.2005
34	V. Samayan	Technical Assistant	Civil Engg.	28.10.2005
35	T. Chandranath	Mechanic	CWS	28.10.2005
36	S. Chellapandian	Mechanic	CWS	28.10.2005
37	J. Prakash	Mechanic	Electrical Engg.	28.10.2005
38	M. Jayaraman	Lab Assistant	Civil Engg.	28.10.2005
39	V. Udhaya Banu	Technical Assistant	Physics	31.10.2005
40	A. Prakash	Technical Assistant	CWS	31.10.2005
41	V. Govindasamy	Technical Assistant	COMPTEC	31.10.2005
42	H. Udhyakumar	Technical Assistant	Applied Mechanics	31.10.2005 AN
43	Y. Sasikala	Nurse (on contract)	Institute Hospital	07.11.2005

Sl. No.	Name	Designation	Dept./ Section	DOJ
44	P. Jeyanthi	JMO (on contract)	Institute Hospital	16.11.2005
45	V. Thenral	JMO (on contract)	Institute Hospital	16.11.2005
46	G. Gowthami	JMO (on contract)	Institute Hospital	18.11.2005
47	Dr. Sridevi Sitaraman	JMO (on contract)	Institute Hospital	16.12.2005
48	Dr. J. Indu Lekha	Medical Officer (on contract)	Institute Hospital	19.12.2005
49	Dr. Azaku Tamil Selvi	Consultant Radiologist	Institute Hospital	09.01.2006
50	Dr. J.S.N. Murthy	Consultant Cardiologist	Instt. Hospital	25.01.2006
51	Mr. M. Manoj	Driver Gr.II	Transport Cell	02.02.2006
52	Dr. S. Manoj	Consultant Cardiologist	Instt. Hospital	06.02.2006
53	Shri Jayakumar	Dy. Registrar (TP & PR)	PRO Office	01.03.2006
54	Shri R. Arumugam	Superintending Engineer	Engg. Unit	10.03.2006
55	Dr. B. Rebecca Punithavalli	Medical Officer	Instt. Hospital	20.03.2006

2.2.2 Faculty / Staff retired from 01.04.2005 to 31.03.2006:

S.No.	Name	Designation	Department	Date of Retirement
1.	Sasidhara Rao P	Assoc. Prof.	Elec. Engg.	30/04/2005
2.	Kannan, V.K.	Draughtsman Gr.I(SG)	Mech.Engg.	30/04/2005
3.	Narayanasamy K.	Professor	Mech. Engg.	30/04/2005
4.	Maha Seshasayee	Professor	Physics	30/04/2005
5.	Visvam, K.	Supervisor(SG)	Mech. Engg.	30/04/2005
6.	Unnikrishnan S.	UDC (SG)	Mech. Engg.	30/05/2005
7.	Desikan C.G.	Superintendent	Fin. & Accts	31/05/2005
8.	Ganesan C	Superintending Engr	Engg. Unit	31/12/2005
9.	Tulapurkara, E.G.	Professor	Aero. Engg.	30/06/2005
10.	Panchaksharam N.	Sr. Care. taker Gr. I (SG)	IC & SR	30/06/2005
11.	Manavalan, B.	Sr. Mech. (SG):(Carptr.)	Engg. Unit	30/06/2005
12.	Subramani, P.	Sr. Mech. (SG):(Carptr.)	Engg. Unit	30/06/2005
13.	Venkataramudu, G.	Supervisor(SG)	Mech. Engg.	30/06/2005
14.	Philips M.	Driver GR. I	Transport	31/07/2005
15.	Subramanian, G.	Professor	Aero. Engg.	31/07/2005
16.	Raamachandran, J.	Professor	Appl. Mech.	31/07/2005
17.	Narayana Bhat, K.	Professor	Elec. Engg.	31/07/2005
18.	Badhi Guruvaiah	Sr. Helper	Engg. Unit	31/07/2005
19.	Loganathan K	Sr. Lab Asst. (SG)	Civil Engg.	31/07/2005
20.	Philips, M.	Sr. Mechanic	A.C. Unit	31/07/2005
21.	Srinivasan V	Superintendent	Admn.III	31/07/2005
22.	Ganesan V.R.	Sr. Stenographer (SG)	Placement	31/07/2005
23.	Ramaseshagiri Rao P	CDE	Electrical Engg	31/08/2005
24.	Kannan A.	Sr. Helper	Chemistry	31/08/2005
25.	Viswanath R.P	Assoc. Prof.	Chemistry	30/09/2005
26.	Rajendran K	CSO	Security Sec.	30/09/2005
27.	Rangan A.	Professor	Mathematics	07/09/05
28.	George G.	Driver GR. I	Transport	31/10/2005
29.	Goodman, A.	Jr. Mech. (SG)	C.W.S.	31/10/2005
30.	Rengaraju, V.R.	Professor	Civil Engg.	31/10/2005
31.	Muthukrishnan, C.R.	Professor	Comp. Sci & Engg.	31/10/2005
32.	Dheenadayalu R	Sr. Sys. Engr.	Comp. Centre	31/10/2005
33.	Radhakrishnan, S.	Professor	Appl. Mech.	30/11/2005
34.	Veerabhadra Rao M	Sci.Officer Gr.II	Physics	30/11/2005
35.	Seshaiah M	Sr. Helper	Engg. Unit	30/11/2005
36.	Balachandramani, S.	Sr. Mechanic (SG)	A.C. Unit	30/11/2005
37.	Unnikrishnan K	Asst. Regr.	IC & SR	31/12/2005
38.	Chandran R.	Office Attendant (SG)	Library	31/12/2004
39.	Raman S.	Professor	Comp. Sci & Engg.	31/12/2005
40.	Avudainayagam, A.	Professor	Mathematics	31/12/2005
41.	Balabaskaran, V.	Professor	Mech. Engg.	31/12/2005
42.	Balakrishnan, V.	Professor	Physics	31/12/2005
43.	Venkataiah, L.	Sr. Sweeper	Library	31/12/2005
44.	Balasundaram, K.	Draughtsman Gr.I(SG)	Mech. Engg.	31/01/2006
45.	Yegnanarayana, B.	Professor	Comp. Sci & Engg.	31/01/2006

46.	Nagarajan, T.	Professor	Mech. Engg.	31/01/2006
47.	Arulananda Swamy L	Sr. Helper	Engg. Unit	31/01/2006
48.	Sambandan, V.	Sr. Mechanic (SG)	C.W.S.	31/01/2006
49.	Subbi Reddy M	Sr. Sci. Officer Gr.I	Civil Engg.	31/01/2006
50.	Madhusudhana Rao, M.	Professor	Mech. Engg.	28/02/2006
51.	Rangarajan, G.	Professor	Physics	31/03/2006
52.	Subramanian K.H.	Superintendent	Web. Office	31/03/2006

2.2.3 Expired: (while in service)

Sl.No	Name	Designation	Department	Date
1.	Sri K D Chandrasekaran	SSO Gr.I	MSRC	11-06-2005
2.	Sri S Sankaranarayanan	Professor	Chemical Engg.	12-06-2005
3.	Sri N Baskaran	Sr. Daftry Gr.I (SG)	Central Library	09-08-2005

2.2.4 Faculty/ Officers/ Staff on long leave:

Sl. No.	Name & Department	From	To	Nature of Leave
1.	Dr. M. Govardhan Professor / Mechanical Engg.	17.06.2004	31.05.2006	EOL
2.	Dr. K. Krishnaiah Professor / Chemical Engg.	09.07.2004	24.06.2006	EOL
3.	Dr. O.V. Krishnaiah Chetty Professor / Mechanical Engg.	20.07.2004	30.06.2006	EOL
4.	Dr. R.N. Anantharaman Professor / Management Studies	19.08.2004	20.08.2006	EOL
5.	Sri K. Gopalakrishna Assistant Professor / Civil Engg.	25.03.2005	27.03.2007	EOL
6.	Dr. Shamit Bakshi Assistant Professor Mechanical Engg.	04.06.2005	31.07.2006	EOL
7.	Dr. G. Ramasubramanian Associate Professor Management Studies	01.07.2005	30.06.2006	EOL
8.	Dr. K. Ganesh Babu Professor / Ocean Engg.	11.08.2005	10.08.2010	EOL
9.	Sri J. Rammohan Deputy Registrar (F&A)	08.10.2005	09.10.2007	EOL
10.	Dr. S.S. Gokhale Professor / Aerospace Engg.	19.10.2005	18.10.2010	EOL
11.	Dr. M. Chidambaram Professor / Chemical Engg.	27.10.2005	26.10.2010	EOL
12.	Dr. Gangolu Appa Rao Assistant Professor/ Civil Engg.	31.05.2006	30.05.2007	EOL
13.	Sri M. Koteswara Rao Deputy Librarian / Central Library	05.04.2006	05.04.2008	EOL
14.	Dr. S. Surendran Associate Professor/ Ocean Engg.	14.05.2005	16.05.2006	Sabbatical Leave
15.	Dr. C. Balaji Associate Professor/ Mechanical Engg.	01.06.2005	31.05.2006	Sabbatical Leave
16.	Dr. K. Swaminathan Sr. Scientific Officer Gr-I Mathematics	01.07.2005	30.06.2006	Sabbatical Leave
17.	Dr. P. Bhyrappa Assistant Professor / Chemistry	01.07.2005	30.04.2006	Sabbatical Leave
18.	Dr. P.B. Sunil Kumar Associate Professor / Physics	07.07.2005	06.07.2006	Sabbatical Leave
19.	Dr. Suresh Govindarajan Associate Professor / Physics	01.08.2005	31.07.2006	Sabbatical Leave
20.	Dr. T. Pradeep Professor / Chemistry	29.03.2006	28.01.2007	Sabbatical Leave
21.	Sri. V.S. Balaji U.D.C. , Academic	09.07.04	07.07.06	EOL with FST
22.	Sri P.D. Dilli Raj Helper Gr.I, Stores	23.02.04	22.10.05	EOL with FST

2.3 Staff Welfare:

2.3.1 Human Resource Development:

As part of human resources 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 Ministry of Human Resources Development, Government of India constituted a Task Force in 2002 to review the administrative practices at the various IITs, National Institutes of Technology (erstwhile RECs) and other National Institutes of Higher Learning. One of the key components here was seen to be higher efficiency and Computerization of all Administrative processes. The inputs from HRD at each Institution were seen to be central to the Efficiency Improvement and Computerization activities. IIT Madras has been commended for the early start it has taken in this direction.

In the past, the major thrust of the HRD activities at the Institute had been aimed at the non-teaching staff. In this year, courses have been organised for faculty, for students of the Institute and for the children of employees. Classes were held for interested employees, including special sessions for women employees, to upgrade their skills in computer use. As for hardware, employees were deputed for training and skills enhancement in a variety of areas such as CNC Machining, PLC Electro hydraulic of pneumatics, use of computers for secretaries, Training in supervision in machining, milling and shaping as well as in NDT and Advanced Evaluation of Concrete structures. Other than these, fighting fire hazards and yoga, meditation has also received attention.

The HRD activities were initiated at the Institute in 1997 under the charge of a professor. During the period of reporting, the total number of in-service training program was 23 and staff members have been nominated for 52 various training programmes organized by other Institutions/Organisations. The impact of the various programs, as seen from the feedback at the end of each program, appears to be advantageous to the Institute as the employees were able to upgrade their knowledge through these programs as the programs were designed on need based.

HRD Programmes Conducted:

Various Type of Programmes attended by our staff members organized by the other organizations during April 2005 to March 2006

S.No	Name	Designation	Dept.	Course Title	Duration	Venue
1.	Sri K K Muthuswamy	STA	CEC	Lab Quality System, Management and Internal Audit	6-9, June 2005	NITS, Noida
2.	Sri. R Elango Santhuram	Sr.Lab.Asst.	CSE	Computer and Networking	15.6.2005 to 14.9.2005	SISI, Ch.42
3.	Sri S Ravi	Assistant	Admn.	Pay Fixation Under FRs	18-20, July 2005	Parsam Instt.of Statutory Rules, Bangalore
4.	Srei J Edwin	Assistant	Recruit.	Pay Fixation Under FRs	18-20, July 2005	Parsam Instt.of Statutory Rules, Bangalore
5.	Sri D Venkatesan	UDC	Admn.	Modern Management for the Officials of the Univ./Edu.Instt.	25-29, July 2005	IIPA,, New Delhi
6.	Sri M Rajendran	UDC	Fin.& Accts.	Modern Management for the Officials of the Univ./Edu.Instt.	25-29, July 2005	IIPA,, New Delhi
7.	Smt.N Mary Sabthiha Rani	Asst.	Admn.	Modern Management for the Officials of the Univ./Edu.Instt.	25-29, July 2005	IIPA,, New Delhi

8.	Smt.S T Sarasavalli	UDC	Chemical	Modern Management for the Officials of the Univ./Edu.Instt.	25-29,July 2005	IIPA,, New Delhi
9.	Sri R Thirupapathi	Mechanic	CWS	Autocad with MDT (9.01)	18.7.05 to 29.07.05	ATI ,Guindy
10.	Sri R Murali	Jr.Mechanic	CWS	Manufacturing of JIGs and fixtures (1.04)	18.7.05 to 5.8.2005	ATI,Guindy
11.	Smt.N Karthiyayini	STA	CEC	NABL Assessor Training-NITS	1-5,Aug 2005	NABL,Noida
12.	Sri M Murugan	Asst.Librarian	Central Library	Creative Security Management Strategies	9.9.2005	Gateway Hotel Chennai-107
13.	Sri T Ramakrishnan	SPA(SG)	Central Library	Creative Security Management Strategies	9.9.2005	Gateway Hotel Chennai-107
14.	Sri Ajay Krishnan	Tech.Asst.	Engg.Unit	Creative Security Management Strategies	9.9.2005	Gateway Hotel Chennai-107
15.	Sri D Venkatesan	UDC	Admn.	Creative Security Management Strategies	9.9.2005	Gateway Hotel Chennai-107
16.	Sri P N Raghurajan	UDC	Security	Creative Security Management Strategies	9.9.2005	Gateway Hotel Chennai-107
17.	Sri Sathiyarayanan M	UDC	Academic	Creative Security Management Strategies	9.9.2005	Gateway Hotel Chennai-107
18.	Sri V Govindarajan	LDC	Fin.& Accounts	Creative Security Management Strategies	9.9.2005	Gateway Hotel Chennai-107
19.	Sri Z. Aslam Basha	Tech.Asst.	Bio-Tech.	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
20.	Sri K Narayana Rao	Tech.Asst.	Chemical	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
21.	Sri R Palanivelu	Mechanic	Chemical	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
22.	Sri P Amavasiyan	Supervisor	CWS	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
23.	Sri K Esakkimuthu	Tech.Officer (P)	Chemistry	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
24.	Sri V Ramkumar	Tech.Asst.	Chemistry	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
25.	Sri G Murali	Tech.Asst.	Mechanical	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
26.	Sri S Ravi Subramanian	Tech.Asst.	Mechanical	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)

27.	Sri S V Subramanian	Tech.Officer (P)	Met.Engg.	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
28.	Sri R Murugesan	STA	Met.Engg.	General Safety & Fire Safety	14.9.2005	Hotel Shan Royal (Everlife fire serv.)
29.	Sri P Sadasivam	Tech.Asst.	CEC	Customer Focus as per ISO 9001 17025	14.9.2005	Hotel Ashraya International Bangalore
30.	Sri G Saravanan	Mechanic	CEC	Customer Focus as per ISO 9001 17025	14.9.2005	Hotel Ashraya International, Bangalore
31.	Sri S Veeraraghavan	Mechanic	CEC	Customer Focus as per ISO 9001 17025	14.9.2005	Hotel Ashraya International, Bangalore
32.	Sri S Sundara Vinayagam	Asst.Regr.	Admn.	Contract Labour (Regulation & Abolition)Act 1970	19.9.2005 to 20.9.2005	NIPA,, B'lore Venue :Goa
33.	Sri V Seenivasan	AEE	Engg.Unit	Contract Labour (Regulation & Abolition)Act 1970	19.9.2005 to 20.9.2005	NIPA,, B'lore Venue :Goa
34.	Sri H Anandram	JE	Engg.Unit	Contract Labour (Regulation & Abolition)Act 1970	19.9.2005 to 20.9.2005	NIPA,, B'lore Venue :Goa
35.	Sri P J Winston	Jr.Mechanic	CWS	Maintenance & Servicing of Electrical Machines & controls	19.9.2005 to 30.9.2005	ATI,Guindy
36.	Sri R Mehanathan	Mechanic	CWS	Maintenance & Servicing of Electrical Machines & controls	19.9.2005 to 30.9.2005	ATI,Guindy
37.	Sri D Jayachandran	Assistant	Admn.	Departmental Enquiry For Major penalties	28.9.2005 to 30.9.2005	Parsam Institute of Statutory Rules, Bangalore
38.	Sri M Imagaran	Assistant	Admn.	Departmental Enquiry For Major penalties	28.9.2005 to 30.9.2005	Parsam Institute of Statutory Rules, Bangalore
39.	Sri. V Perumal	Sr.Acct.t	Fin.&Accts.	Management Dev. Programme	17.10.2005 to 21.10.2005	NITIE,Mumbai
40.	Sri P Arul	Officer i/c,	TGH	Management Dev. Programme	17.10.2005 to 21.10.2005	NITIE,Mumbai
41.	Sri S Sambasivam	Asst.Regr.	F & A	"Cash Accounts Management"	20.10.2005 to 22.10.2005	CTSR,N.Delhi Venue:The Connaught
42.	Sri B Dhamodaran	Assistant	Fin.&Accts.	Cash & Accounts Management	20.10.2005 to 22.10.2005	The Conaught New Delhi
43.	Sri R Muralidharan	Assistant	Registrar's Office	Cash & Accounts Management	20.10.2005 to 22.10.2005	The Conaught New Delhi
44.	Sri M V R Seshagiri	UDC	Placement	Vigilance & Non-Vigilance Functionaries	20.10.2005 to 22.10.2005	The Conaught New Delhi
45.	Sri M.Lenin Peusic	LDC	C C W	Vigilance & Non-Vigilance Functionaries	20.10.2005 to 22.10.2005	The Conaught New Delhi

46.	Sri C R Jeevandoss	Instru .Engineer	CEC	NABL Assessor Trg.Programme	24.10.2005 to 28.10.2005	NIOT,Chenn ai
47.	Sri K Kumar	Tech.Asst.	C W S	CNC Turning Prog. & Operation	19.12.2005 to 30.12.2005	ATI,Guindy
48.	Ms.K Sulochana	Technical Assistant	CEC	Technical Assessor	30.01.2006 to 03.02.2006	National Accreditation For Testing & Calibration Lab. New Delhi At Noida
49.	Mr.P Radhakrishnan	Tech. Asst.	Mech.Engg.	National Symposium And Trg.Course on Coordinate Metrology	28.2.2006 to 3.3.2006	National Physical Laboratory, New Delhi
50.	Sri K Esakkimuthu	Tech. Officer	Chemistry	National Seminar on 'Anaytical Chemistry'	17 th & 18 th March 2006	Conducted by Vishwa Bharati Educational Trust Hyderabad Venue: Hotel Atithi, Mumbai 99.
51.	Sri V Samayan	Technical Asst.	Civil Engg.	Modern Methods to Monitor Environmental Pollution(Air,Water & Soil)	31 st March 06 to 2 nd April 2006	Conducted by Vishwa Bharati Educational Trust Hyderabad Venue: Hotel Atithi, Mumbai 99.
52.	Sri K Kamaraj	Tech.Officer Gr.I(Lib.)(P)	Central Library	Conservation of Library Materials at TMSSM Library,Thanjavur	7 th April 2006 to 9 th April 2006	TMSSM , Thanjavur

In service Training Programme for our Staff Members related to various activities Academic, Admin, Accounts and Personal Computer and Technical:

S.No	Name	Title	Date	Venue
1.	Mrs.A V Rama & 49 others	Academic Procedures	26.8.2005	Mechanical Engg. Seminar Hall
2.	Mrs. A V Rama & 46 others	Administration Procedures	06.09.2005	Mechanical Engg. Seminar Hall
3.	Mrs.N S Rama Devi & 42 Others	Accounts Procedures	14.10.2005	IC & SR Hall
4.	Mrs.M Vijayalatha & 31 others	Personal Computer (Word,Excel,Powerpoint)	19.10.05 - 22.10.05, 24.10.05 - 26.10.05, 8.11.05 - 10.11.05	Central Library
5.	Sri M Kasi Raju & 10 others	"Overview of ISO 9001:2000	12.9.2005	CEC
6.	Sri C Rajendran & 11 others	Measurement of Electrical Parameters	19.9.2005	CEC
7.	Sri V Govindasamy & 6 others	Laboratory Quality System Management Practices	3.10.2005	CEC

8.	Sri V Govindasamy & 11 others	Reliable Soldering Practices	31.10.2005	CEC
9.	Sri A Thayalan & 19 others	Basics of Electronics and Equipment Maintenance	14.11.2005	CEC
10.	Sri M Jeevanandam & 10 others	Calibration philosophy and Estimation of uncertainty in Measurements	28.11.2005	CEC
11.	Sri E Sankarasumaraswamy & 16 others	Testing and Performance Evaluation of stabilizers and UPS	08.12.2005	CEC
12.	Sri E Sankarakumaraswamy & 11 others	Multimeter Calibration Practices	19.12.2005	CEC
13.	Sri D Meganathan & 13 others	Operation of Test and Measuring Instruments	22.12.2005	CEC
14.	Faculty members – Dr.T Swaminathan & 10 others Non-faculty members – Sri B Ramaswamy ,Asst. Repr. And 21 others	Individual Taxation and Fringe Benefits Tax	22.12.2005	IC & SR Hall -II
15.	Sri A Thayalan and 10 Others	Basics of Oscilloscope Measurements	9.01.2006	CEC
16.	Sri M Jeevanantham & 10 Others	Transducers and their Applications	23.01.2006	CEC
17.	Sri B Nagarajan and 20 Others	ISO 9000 Internal Audit Training Programme	17.2.2006 to 18.2.2006 and 24.2.2006	Civil Engg. Seminar Room
18.	Sri A Thayalan and 10 others	Electronic Circuits-Basics	6.2.2006	CEC
19.	Sri M Jeevanantham and 11 others	Maintenance aspects of Stabilizers and UPS	20.2.2006	CEC
20.	Mrs.Thilakavathi Rajamani & 24 others	HRD Training programme On 'effective Assistance For preparing Annual Report'	24.3.2006	IC & SR Hall 1
21.	IIT Staff & Students 50 Nos.	Atma Gnana Yoga Program	6.3.2006 to 15.3.2006	
22.	Sri A Thayalan and 11 others	Wiring and Testing of Basic Electronic Circuits	6.3.2006	CEC
23.	Sri M Jeevanantham and 8 others	Basics of Digital Circuits	23.3.2006	CEC

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 2005-2006, 38 staff members were offered this course. As on 31.3.2006, 815 staff members were offered this course.

2.3.3 School Fee Concession:

Institute reimbursed fees paid by staff members for their childrens' education as per Government of India norms. During the period under report 65 staff members were benefited.

2.3.4 Transport Facilities to Children of the Staff:

Institute provides concessional fare to the children of the staff members to attend schools on the Campus. In the year 2005-2006, 466 children were benefited.

2.3.5 Advances:

During the period under report a sum of Rs. 66.27 lakhs was sanctioned for the following:

S.No.	Advance	No. of Employees	Amount sanctioned in Rs.
1.	House Building Advance	6	28,35,779
2.	Car Advance	2	3,40,000

3.	Two Wheeler Advance	24	5,17,199
4.	Personal Computer Advance	64	25,23,690
5.	Cycle Advance	2	3,000
6.	Festival Advance	272	4,08,000
Total		370	66,27,668

2.3.6 Meetings of the Authorities:

Board of Governors	:	Two meetings were held on 29.07.2005 and 02.02.2006
Finance Committee	:	Two meeting were held on 29.07.2005 and 02.02.2006
Buildings & Works Committee	:	Two meetings were held on 17.10.2005 and 02.03.2006
Senate	:	Four meeting were held on 08.07.2005, 14.10.2005, 19.12.2005 & 30.03.2006

2.4 List of faculty members and officers in the academic and general administration:

2.4.1 Academic Administration:

DIRECTOR

Prof. M.S. Ananth

Deans:

Academic Courses	:	Dr. S. Santhakumar
Academic Research	:	Dr. S. Narayanan
Administration	:	Dr. S.K. Seshadri
Industrial Consultancy & Sponsored Research	:	Dr. V. Kalayaraman (upto 05.03.2006) Dr T T Nareandran (from 06.03.2006)
Students	:	Dr. V.G. Idichandy
Planning	:	Dr. S.V. Raghavan (upto 22.06.2005) Dr Bhaskar Ramamurthy (from 23.06.2005)

Heads of Departments:

Aerospace Engg.	:	Dr. Job Kurian
Applied Mechanics	:	Dr. S. Radhakrishnan (upto 27.11.2005) Dr. K. Ramesh (from 28.11.2005)
Bio-Technology	:	Dr. Guhan Jayaraman (upto 31.07.2005) Dr. G.K. Suraish Kumar (from 01.08.2005)
Chemical Engg.	:	Dr. A.R. Balakrishnan
Chemistry	:	Dr.M.N. Sudheendra Rao (from 13.12.2005) Dr. S.K. Seshadri (incharge from 14.12.05- 01.01.06) Dr. G. Sundararajan (from 02.02.2006)
Civil Engg.	:	Dr. S. Mohan
Computer Sci.& Engg.	:	Dr. S.Raman (upto 31.07.2005) Dr.T.A. Gonsalves (from 01.08.2005)
Electrical Engg.	:	Dr.S. Srinivasan
Humanities & Soc.Sci.	:	Dr. V.R.Muraleedharan
Mathematics	:	Dr. S. Kalpakam (upto 01.12.2005) Dr. S.A. Choudam (from 02.12.2005)
Management Studies	:	Dr. L.S. Ganesh

Mechanical Engg.	:	Dr. S. Srinivasa Murthy
Metallurgical & Materials Engg.	:	Dr. S.D. Pathak
Ocean Engg.	:	Dr. V. Sundar
Physics	:	Dr.A. Subrahmanyam
	:	

Heads of Research Centres:

Composite Technology Centre	:	Dr. S.K. Malhotra
Materials Sciences Research Centre	:	Dr.M.N. Sudheendra Rao (from 13.12.2005) Dr. S.K. Seshadri (incharge from 14.12.05-01.01.06) Dr. G. Sundararajan (from 02.02.2006)
Sophisticated Analytical Instrument Facility	:	Dr. A.K. Mishra

Head of Special Facilities for interaction with Other Institutions:

Centre for Industrial Consultancy & Sponsored Research	:	Dr. V. Kalayaraman (upto 05.03.2006) Dr. T T Narendran (from 06.03.2006)
Centre for Continuing Education	:	Dr. K. Ramamurthy
Central Electronics Centre	:	Dr. M. Kumaravel

2.4.2 Central Administration

Director	:	Prof. M.S. Ananth
Registrar	:	Dr. Usha Titus, IAS

Deputy Registrars

Academic	:	Dr. T. Suryakumar (upto 13-04-2005) Dr. K. Panchalan (from 14-04-2005)
Administration	:	Dr. K. Panchalan (upto 13-04-2005) Dr. T. Suryakumar (from 14-04-2005)
Finance & Accounts	:	J. Rammohan (EOL from 10-10-2005 to 05-05-2006)
Stores & Purchase	:	A.Thirunavukkarasu (upto 12-04-2005) R. Esakkimuthu (from 13-04-2005)
Internal Audit Officer	:	R. Esakkimuthu (upto 12-04-2005) A. Thirunavukkarasu (from 13-04-2005)
Training & Placement	:	Shri Jayakumar

Assistant Registrar:

Stores & Purchase	:	A.V. Sudarsanam
Finance & Accounts	:	S. Mahalingam S. Sambasivam
Administration	:	S. Sundaravinayagam D. Ravee
Engineering Unit	:	J Lazar (upto 02.03.2006) B Ramaswamy (from 03.03.2006)
IC & SR	:	G. Ravichandran

Hostels : B. Nagarajan (In-charge from 07.02.2005)
 Academic : B. Nagarajan
 T. Vengadesan
 Training & Placement : Prema Chakrapani
 Internal Audit Section : J Lazar (from 03.03.2006)
 Institute Hospital : B Ramaswamy (upto 01.03.2006)

Chief Security Officer : K. Rajendran
 Col (Retd) P V V Vidhyasagar
 Security Officer (SS) : G. Selvamani
 Secretary (SG) to Director : G. Natarajan

Head of Central Services, Facilities and Section:

Central Library : Dr. Harish Chandra
 Chief Medical Officer (Incharge) : Dr. N.A. Jayavelan
 Air-conditioning Unit : Dr. G. Venkatratnam
 Central Gas Supplies Unit : Dr. T K Varadarajan
 Central Glass Blowing Section : Dr. R.P. Viswanath
 Central Photographic Section : Dr. B. Ramamoorthy
 Central Workshop : Dr.L.Vijayaraghavan, Prof-in-charge
 National Service Scheme : Dr. B. Subramanian
 Advisor, Sports : Dr. K. Srinivasan
 Advisor, Cultural : Dr. M.Prakash Maiya
 Foreign & Weaker Section Students : Dr Hema A Murthy
 Vigilance : Dr. M.S. Shanmugam
 Placement & Training : Dr. T.T. Narendran
 Dr BVSS Prasad
 Guidance & Counselling Unit : Dr. David Koilpillai
 Prof-in-charge (Alumini Affairs) : Dr.K.N. Satyanarayana

Engineering Unit

Chairman , Estate & Works Committee : Dr. R. Sundaravadivelu
 Superintending Engineer : C. Ganesan (upto 09-03-2006)
 R Arumugam (w.e.f. 10-03-2006)
 Sr, Executive Engineers : Shasank Sekar Sarma (on deputation)
 C.R. Harish (on deputation)
 Assistant Executive Engineers : F. John De Britto
 V. Seenivasan
 K. Dharmaraj
 M. Ramachandran
 K. Viswanath
 L. Venkatarakan
 M. Murali Prakash
 H Anandaram (from 08.09.2005)
 Public Health Officer : V. Veerasamy

3. ACADEMIC PROGRAMMES AND AWARD OF DEGREES

The Institute offered Ph.D. programme in 15 departments, M.S. programme in 11 departments, M.Tech programme in 30 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 and M.B.A. programme besides a preparatory course for SC/ST students during the year under report. The Institute introduced Dual Degree (B.Tech & M.Tech) Engineering Design with an intake of 30 and M.Tech Medical Biotechnology under User Oriented Programme sponsored by Frontiers Life line & KM Cherian Heart Foundation (FLL) during the period under report.

3.1 Admissions 2005-06:

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 programme schemes 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 conducted jointly by seven IITs. This Institute was the nodal Institute for this test. For M.B.A. programme selection was made through JMET and interview.

The number of students and scholars admitted to various programmes both in July 2005 and in January 2006 are given below:

TABLE 1 – Fresh Admission

Sl. No.	Department	B.Tech	Dual Degree	M.Sc	M.Tech	M.B.A	M.S	Ph.D	Total
1.	Aerospace Engg.	22	09	-	10	-	8	7	56
2.	Applied Mechanics	-	-	-	13	-	6	9	28
3.	Biotechnology	30	15	-	14	-	6	17	82
4.	Chemical Engg	51	10	-	19	-	6	9	95
5.	Chemistry	-	-	32	-	-	-	31	63
6.	Civil Engg.	46	15	-	76	-	15	27	179
7.	Comp. Sc. & Engg.	26	12	-	47	-	33	19	137
8.	Electrical Engg.	60	39	-	53	-	36	19	207
9.	Hum. & Soc. Sci.	-	-	-	-	-	-	11	11
10.	Management Studies	-	-	-	-	67	9	8	84
11.	Mathematics	-	-	32	09	-	-	4	45
12.	Mechanical Engg.	57	45(27)	-	70	-	21	36	256
13.	Met. & Mat. Engg.	23	09	-	13	-	6	20	71
14.	Ocean Engg.	18	05	-	06	-	2	8	39
15.	Physics	08 [†]	-	31	06	-	-	16	61
	Total	341	186	95	336	67	148	241	1414

[†]Engineering Physics () Engineering Design

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

Foreign Nationals	4	Q.I.P.	M.Tech	17	43
			Ph.D.	26	
Scheduled Castes	157	Sponsored	M.Tech.	19	19
Scheduled Tribes	48	Project	M.S.	33	60
			Ph.D.	27	
Physically Handicapped	10	External Registration	M.S.	14	42
Women Students	164		Ph.D.	28	
Defence Officers (M.Tech)	26	User-oriented Programme (M.Tech)			50

In addition to the above, 19 SC and 13 ST students joined Preparatory Course.

3.2 Students/Scholars Enrolment:

The total numbers of students on roll in various programmes of the Institute in the academic year 2005-06 are given below:

TABLE 2 – Students on roll

Sl. No.	Department	B.Tech	Dual Degree	M.Sc.	M.Tech.	M.B.A.	M.S.	Ph.D.	Total
1.	Aerospace Engg.	91	44	-	25	-	19	18	197
2.	Applied Mechanics	-	-	-	35	-	27	31	93
3.	Biotechnology	133	46	-	14	-	12	48	253
4.	Chemical Engg.	185	51	-	53	-	13	46	348
5.	Chemistry	-	-	58	-	-	-	142	200
6.	Civil Engg.	172	55	-	168	-	56	114	565
7.	Comp. Sc.& Engg.	124	47	-	117	-	111	60	459
8.	Electrical Engg.	296	197	-	156	-	112	75	836
9.	Hum. & Soc. Sc.	-	-	-	-	-	-	35	35
10.	Management Studies	-	-	-	-	112	19	55	186
11.	Mathematics	-	-	64	17	-	-	50	131
12.	Mechanical Engg.	304	189*	-	170	-	98	195	956
13.	Met. & Mat. Engg	108	36	-	28	-	22	64	258
14.	Ocean Engg.	76	23	-	16	-	25	36	176
15.	Physics	38*	-	54	14	-	-	87	193
	Total	1527	688	176	813	112	514	1056	4886

*Engineering Physics; * including Engineering Design

The above total includes the following:

Foreign Nationals	10	QIP	M.Tech Ph.D.	50 112	162
DASA (Indian origin)	21	Sponsored	M.Tech M.S.	47 3	50
Scheduled Castes	512	Project	M.S. Ph.D.	73 85	158
Scheduled Tribes	122	External Registration	M.S. Ph.D.	42 112	154
Physically Handicapped	20	Registration Kept Alive	M.S. Ph.D.	12 18	30
Women students	540	User-oriented Programme (M.Tech)			92
Defence Officers (M.Tech)	56	Part Time Programme (M.Tech)			17

SC/ST Students on roll

Sl.No	Programme	SC	ST
1.	B.Tech	226	58
2.	Dual Degree	82	18
3.	M.Tech	97	43
4.	M.Sc.	20	-
5.	M.B.A	11	1
6.	M.S	9	-
7	Ph.D	67	2
	Total	512	122

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	2005	2004	2003	2002	2001 & Others	Total
1.	Aerospace Engineering	20	23	23	23	02	91
2.	Biotechnology	28	33	38	33	01	133
3.	Chemical Engineering	49	49	40	46	01	185
4.	Civil Engineering	46	41	43	37	05	172
5.	Computer Sc. & Engg.	29	29	30	33	03	124

6.	Electrical Engineering	63	64	76	79	14	296
7.	Engineering Physics	10	7	11	10	0	38
8.	Mechanical Engineering	58	70	85	87	04	304
9.	Met. & Mat. Engineering	22	30	31	24	01	108
10.	Naval Architecture	16	21	17	19	03	76
Total		341	367	394	391	34	1527

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

Sl. No.	Branch	2005	2004	2003	2002	2001	2000 & others	Total
1.	Aerospace Engineering	10	09	06	10	09	-	44
2.	Biotechnology	15	15	09	07	-	-	46
3.	Chemical Engineering	10	11	10	10	10	-	51
4.	Infrastructural Civil Engg.	13	13	10	08	10	01	55
5.	Computer Science & Engg.	12	12	09	07	07	-	47
6.	Micro Elec. & VLSI Design	17	19	12	10	16	02	76
7.	Communication Engg.	17	16	13	12	14	03	75
8.	Power Sys. & Power Electronics	10	17	09	10	-	-	46
9.	Engineering Design	26	-	-	-	-	-	26
10.	Energy Technology	14	16	08	08	07	-	53
11.	Intelligent Manufacturing	15	18	10	08	07	01	59
12.	Product Design	15	15	07	09	05	-	51
13.	Metallurgical & Materials Engg.	08	10	05	08	05	-	36
14.	Naval Arch. & Ocean Engg.	04	06	03	04	06	-	23
Total		186	177	111	111	96	07	688

TABLE 5 - M.Sc students on roll

Sl. No.	Branch	2005	2004 & others	Total
1.	Chemistry	32	26	58
2.	Mathematics	32	32	64
3.	Physics	31	23	54
Total		95	79	176

TABLE 6 - M.Tech students on roll

Sl. No.	Department \ Discipline \ Batch	2005	2004 & others	Total
1.	Aerospace Engineering	10	15	25
2.	Applied Mechanics:			
	AM 1 – Engineering Mechanics	5	5	10
	AM 2 – Industrial Tribology	4	5	9
	AM 3 – Maintenance Engg & Management	4	5	9
	AM 4 – Bio-medical Engineering	-	7	7
3.	Biotechnology	14	-	14
4.	CH 1 - Chemical Engineering	19	34	53
5.	Civil Engineering:			
	CE 1 - Building Technology	8	8	16
	CE 2 - Environmental Engineering	8	5	13
	CE 3 – Geotechnical Engineering	6	8	14
	CE 4 - Hydraulic & Water Resource Engg.	5	8	13
	CE 5 – Structural Engineering	14	20	34
	CE 6 - Transportation Engineering	6	13	19
6.	CE 7 – Construction Technology & Mgmt.	19	20	39
7.	CE 8 - Computational Engineering	10	10	20
8.	CS 1 - Computer Science & Engineering	47	53	100
9.	CS 2 - Information Technology	-	11	11
10.	CS 3 - Software Engineering	-	6	6

11.	Electrical Engineering:			
	EE 1 - Communication Systems	27	32	59
	EE 2 - Power Systems and Power Electronics	8	18	26
	EE 3 - Micro Electronics and VLSI Design	18	23	41
	EE 4 - Control & Instrumentation Systems	-	20	20
12.	EE 5 - Digital Signal Processing	-	10	10
13.	Mathematics:			
	Industrial Maths & Scientific Computing	9	8	17
14.	Mechanical Engineering:			
	ME 1 - Thermal Engineering	34	33	67
	ME 2 - Design	23	39	62
	ME 3 - Manufacturing Engineering	6	16	22
15.	ME 4 - Automotive Engine Technology	7	12	19
16.	MM - Metallurgical & Materials Engg.	13	15	28
17.	OE - Ocean Engineering	6	10	16
18.	Physics:			
	PH - Solid State Technology	6	8	14
Total		336	477	813

TABLE 7 – M.B.A. students on roll

Sl. No.	Branch	2005	2004	Total
1.	M.B.A	67	45	112

TABLE 8 – Ph.D scholars on roll

Sl. No.	Branch	2006	2005	2004	2003	2002 & others	Total
1.	Aerospace Engg.	-	7	5	1	5	18
2.	Applied Mechanics	4	7	5	5	10	31
3.	Biotechnology	5	25	10	3	5	48
4.	Chemical Engg	3	12	12	6	13	46
5.	Chemistry	12	25	29	26	50	142
6.	Civil Engg.	11	25	23	16	39	114
7.	Comp. Sc. & Engg.	5	18	13	5	19	60
8.	Electrical Engg.	4	20	20	17	14	75
9.	Hum. & Soc. Sci.	3	12	10	4	6	35
10.	Management Studies	1	12	16	11	15	55
11.	Mathematics	2	9	16	10	13	50
12.	Mechanical Engg.	8	34	51	42	60	195
13.	Met. & Mat. Engg.	5	14	16	11	18	64
14.	Ocean Engg.	3	8	9	7	9	36
15.	Physics	7	15	9	23	33	87
	Total	73	243	244	187	309	1056

TABLE 9 – M.S scholars on roll

Sl. No.	Branch	2006	2005	2004	2003 & others	Total
1.	Aerospace Engg.	2	8	7	2	19
2.	Applied Mechanics	2	5	6	14	27
3.	Biotechnology	2	5	3	2	12
4.	Chemical Engg	2	6	4	1	13
5.	Civil Engg.	3	12	17	24	56
6.	Comp. Sc. & Engg.	15	32	42	22	111
7.	Electrical Engg.	12	38	37	25	112
8.	Management Studies	2	7	2	8	19
9.	Mechanical Engg.	11	21	35	31	98
10.	Met. & Mat. Engg.	2	4	7	9	22
11.	Ocean Engg.	1	4	9	11	25
	Total	54	142	169	149	514

In addition to the above, 5 CSIR Research Associates and 32 Preparatory Course students were on the rolls.

3.3 Courses Offered:

In the academic year 2005-06, 1443 courses were offered of which 859 courses in July–Nov. 2005 and 584 courses in Jan–May 2006. The Department-wise details of the courses offered are given below:

TABLE 8 – No. of Courses offered

Sl. No.	Department	No. of courses offered in July – Nov 2005				No. of courses offered in Jan – May 2006			
		Core	Elect.	Lab.	Total	Core	Elect.	Lab	Total
1	Aerospace Engineering	12	6	2	20	8	8	4	20
2	Applied Mechanics	7	5	2	14	11	5	3	19
3	Biotechnology	11	12	4	27	12	13	5	30
4	Chemical Engineering	11	12	3	26	14	11	1	26
5	Chemistry	12	3	5	20	7	14	2	23
6	Civil Engineering	29	15	7	51	30	23	7	60
7	Computer Sc. & Engg.	9	19	6	34	12	18	4	34
8	Electrical Engineering	27	20	10	57	15	32	11	58
9	Hum. & Soc. Science	0	27	0	27	0	32	0	32
10	Management Studies	13	27	2	42	14	26	0	40
11	Mathematics	18	11	1	30	8	16	2	26
12	Mechanical Engineering	41	32	10	83	43	15	6	64
13	Met. & Mat. Engineering	11	16	5	32	11	17	8	36
14	Ocean Engineering	16	13	4	33	12	8	2	22
15	Physics	19	8	6	33	11	15	5	31
16.	Composite Technology Centre	1	2	1	4	0	6	0	6
Total		237	228	68	533	208	259	60	527

3.4 Convocation:

The 42nd Convocation was held on 29th July 2005. Shri. Montek Singh Ahluwalia, Deputy Chairman, Planning Commission, GOI delivered the Convocation address. 1134 candidates were awarded various degrees. 1000 candidates received degrees in person. The department-wise details of degrees awarded are given below:

TABLE 9 – Degrees awarded

Sl. No.	Department	B.Tech.	Dual Degree	M.B.A.	M.Sc.	M.Tech.	M.S.	Ph.D.	Total
1.	Aerospace Engineering	24	05	-	-	13	06	01	49
2.	Applied Mechanics	-	-	-	-	32	02	04	38
3.	Biotechnology	-	-	-	-	-	01	-	01
4.	Chemical Engineering	41	10	-	-	33	03	05	92
5.	Chemistry	-	-	-	22	-	-	16	38
6.	Civil Engineering	42	11	-	-	67	09	01	130
7.	Computer Sc. & Engg.	32	06	-	-	49	22	05	114
8.	Electrical Engineering	73	21	-	-	83	11	04	192
9.	Management Studies	-	-	37	-	-	03	02	42
10.	Mathematics	-	-	-	28	07	-	06	41
11.	Mechanical Engineering	89	19	-	-	98	21	14	241
12.	Metallurgical & Materials Engg	24	04	-	-	14	08	09	59
13.	Ocean Engineering	18	04	-	-	10	12	06	50
14.	Physics	-	-	-	33	05	-	09	47
Total		343	80	37	83	411	98	82	1134

With this Convocation, the total number of degrees awarded so far by the Institute is 28323, the details of which are given below:

S.No.	Programme	No.
1	Ph.D.	2,580

2	M.S.	1,888
3	M.Tech	9,540
4	M.Sc.	2,128
5	M.B.A.	116
6	Dual Degree (B.Tech & M.Tech)	231
7	B.Tech	11,575
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 42nd Convocation:

- President of India Prize .. Arvind Thigarajan, B.Tech, Computer Science & Engg
- Governor's Prize .. Mahesh Krishnamurthi, B.Tech, Metallurgical & Materials Engg.

□ Other Prizes:

Sl.No.	Donor	Department	Name of student
Doctor of Philosophy – Ph.D.			
1.	Prof Werner Prize	Chemistry	Prabhakaran D
2.	Prof C N Pillai Prize	Chemistry	Baskar B
3.	Prof Langmuir Prize	Chemistry	Brajagopal Mishra Shanmugam S
4.	Sudharshan Bhat Memorial Prize	Met. & Mat. Engineering	Vamsi Krishna B Kotipalli Srinivasa Rao [Joint winners]
5.	Prof A L Laskar Memorial Prize	Physics	Angappane S Ranjith P [Joint winners]
Master of Technology – M.Tech.			
1.	Air India Prize	Aerospace Engineering	Jain Praveen Kumar Babulala
2.	Indira Sivasailam Merit Prize	Industrial Tribology	Aditya Chowdhry
	Institute Merit Prize	Industrial Tribology	Aditya Chowdhry
3.	Prof B V A Rao Endowment Prize	Industrial Tribology	Aditya Chowdhry
4.	Usha Kothandaraman Memorial Prize	Engineering Mechanics	Harishanker G
5.	Institute Merit Prize	Maintenance Engineering and Management	Surojit Sinha
6.	Institute Merit Prize	Biomedical Engineering	Vasanthi S
7.	Dr K Subba Raju Memorial Prize	Chemical Engineering	Santhosh Kumar R Vetukuri Sree Rama Raju [Joint winners]
8.	Valli Anantharamakrishnan Merit Prize	Civil Engineering	Harikumar A
9.	K Devarajan Memorial Prize	Civil Engg. – Transportation Engg.	Suhas B K
10.	L & T Endowment Prize	Construction Technology and Management	Shriram M Oka
11.	Institute Merit Prize	Computational Engineering	Hemanth B N
12.	CMC Prize	Computer Science & Engg.	Sudhir Kumar Veluguri
13.	Prof H N Mahabala Endowment Prize	Computer Science & Engg	Gomathi V Ramesh Balan [Joint winners]
14.	Siemens Prize	Electrical Engineering	Venkateswara Rao Mandela
15.	Prof. Achim Bopp Endowment Prize	Electrical Engineering	Amareswar Reddy Padma Gayathri T K [Joint winners]
16.	Dr. Ing. Dieter Kind Prize	Electrical Engineering	Rezuana Bai J

17.	Prof Helmut Neunzert Endowment Prize	Industrial Mathematics & Scientific Computing	Ramalakshmi S
18.	Prof B Sengupto Prize	} Mechanical Engineering	Baluragi Hanamantray Sangappa
19.	Dr S Vaidyanathan Memorial Prize		
20.	Giri Brothers Prize		
21.	S Anantharamakrishnan Merit Prize		
22.	Prof Ramamohana Rao Memorial Prize	Mechanical Engineering	Nithyanand K
23.	Bhagyalakshmi and Krishna Ayengar Award	Mechanical Engineering	Raghu R
24.	Mico-Bosco Prize	Automotive Engine Technology	Sanjith V Pradeep V [Joint winners] Nitin Ramchandra Sheth
25.	Delphi-TVS Diesel Systems Ltd. Prize	Automotive Engine Tech.	Santhosh T Arasan
26.	Sudharshan Bhatt Memorial Prize	Metallurg. & Mat. Engg	Parhar Sachin Dattatraya
27.	American Bureau of Shipping Prize	Ocean Engineering	Arun Jyoti Sarkar Dholekar Viraj Arun [Joint winners]
28.	Institute Merit Prize	Solid State Technology	Rohit Soni

Master of Science – M.Sc

1.	Dr. S R Ramadas 60 th Birthday Commemoration Award	} Chemistry	S Ashok
2.	Ratna Rao Memorial Prize		
3.	Mira Paul Memorial Prize	Mathematics	Vaidyanathan Prahlad
4.	Prof Chilukury Rama Sastry Memorial Prize	Physics	Prabha M D

Master of Business Administration - M.B.A.

1.	Coka Parthasarathy Prize	M B A	Soumya Rebecca Thomas
2.	K V Arunkumar Memorial Prize	M B A	Dipankar Mukherjee

Dual Degree - B.Tech. & M.Tech.

1.	Institute Merit Prize	} Chemical Engineering	Ravikanth A V N
2.	B Ravichandran Memorial Prize		
3.	Dr V Mohan Raman Prize	Aerospace Engineering	Aditya Mohan T C
4.	Institute Merit Prize	Civil Engineering	Supriya Garg
5.	Alumni Association Prize	Computer Science & Engg	Praveen J
6.	Philips India Prize	Electrical Engineering	Redekar Girish Arjun
7.	Prof G V N Rayudu Memorial Prize	Mechanical Engineering	Adarsh K
8.	S Anantharamakrishnan Memorial Prize	Metallurg. & Materials Engg	Anoop R D
9.	Institute Merit Prize	Naval Architecture & Ocean Engineering	Bhagatwala Ankit Vijay

Bachelor of Technology - B.Tech.

1.	President of India Prize	} Computer Science & Engg	Arvind Thiagarajan
2.	Bharat Ratna M Visvesvaraya Memorial Prize		
3.	B Ravichandran Memorial Prize		
4.	Governor's Prize	Metallurg. & Materials Engg	Mahesh Krishnamurthi
5.	Dr Shankar Dayal Sharma Prize	} Mechanical Engineering	Kartik Srivatsa
6.	Vaidy Krishnan Memorial Prize		
7.	HAL Prize	Aerospace Engineering	Sriram D
8.	Reliance Heat Transfer Pvt. Ltd. Prize	Chemical Engineering	Vinod Cartic K
9.	Larsen & Toubro ECC Endowment Prize	Civil Engineering	Varun Ramanujam
10.	Motorala Prize	Electrical Engineering	Dipish Rai

11. Siemens Prize	Electrical Engineering	Naresh Satyan
12. Banco Foundation Prize	Mechanical Engineering	Sharadha V
13. Sivasailam Merit Prize	Mechanical Engineering	Varsha V Sowmya K [Joint winners]
14. Dr Dhandapani Memorial Prize	Metallurg. & Materials Engg	Shankar Swaminathan
15. American Bureau of Shipping Prize	Naval Architecture and Ocean Engineering	Arun Srinivas S

3.5.2 Institute Day Prizes:

On the basis of performance during the academic year 2005-06, the following students were awarded Merit Prizes on the Institute day held on 21.04.2005:

Sl.No.	Donor		Name of student
I. Institute Merit Prizes:			
B.Tech / Dual Degree (1st & 2nd Semesters) (with a Silver Medal)			
1.	Second Prize	EE03B077	Lokesh Chandra
B.Tech / Dual Degree (3rd & 4th Semesters) (with a Silver Medal)			
2.	Aerospace Engineering	AE02B022	Santhosh M
3.	Biotechnology	BT02B026	Shrivastav P
4.	Chemical Engineering	CH02B054	Ankur Gigras
5.	Civil Engineering	CE02B050	Purva Bhandari
6.	Electrical Engineering	EE02B071	Sundeeep B
7.	Engineering Physics	EP02B010	Supradeepa V R
8.	Mechanical Engineering	ME02B060	Ramsharan R
9.	Metallurgical & Materials Engineering	MT02B011	Karthik J
10.	Naval Architecture & Ocean Engg	NA02B006	Devvrath Khatri
B.Tech/Dual Degree (5th & 6th Semesters) (with a Silver Medal)			
11.	Aerospace Engineering	AE01B023	Siva Prasad Kochi S R
12.	Chemical Engineering	CH01B046	Vinod Cartic K
13.	Civil Engineering	CE01B055	Nirmal Jayaram
14.	Computer Science & Engineering	CS01B006	Arvind Thiagarajan
		CS01B012	John P John (Joint winners)
15.	Mechanical Engineering	ME01B108	Sharadha V
16.	Naval Architecture & Ocean Engg.	NA01B003	Arun Srinivas S
Dual Degree (7th & 8th Semesters) (with a Silver Medal)			
17.	Aerospace Engineering	AE00025	Adithya Mohan T C
18.	Civil Engineering	CE00137	Vivek Jha
19.	Chemical Engineering	CH00076	Ravikanth A V N
20.	Computer Science & Engineering	CS00170	Praveen J
21.	Microelectronics & VLSI Design	EE00343	Sumit Popli
22.	Intelligent Manufacturing	ME00368	Nithyanand K
23.	Product Design	ME00362	Adarsh K
24.	Energy Technology	ME00357	Kartik Srivatsa
25.	Metallurgical & Materials Engineering	MT00407	Ramprasad C
26.	Naval Architecture & Ocean Engg.	NA00428	Bhagatwala Ankit Vijay

	M.Sc (1st & 2nd Semesters)		
27.	Chemistry	CY03C003	Ashok S
28.	Mathematics	MA03C028	Vaidyanathan Prahlad
	M.B.A (1st & 2nd Semesters)		
29.	Management Studies	HS03A034	Soumya Rebecca Thomas
II.	Donors Prizes:		
	B.Tech (1st & 2nd Semesters) (with a Silver Medal)		
30.	Sri S Subramanian Prize	EE03B056	Siva Kumar G
	B.Tech (3rd & 4th Semesters) (with a Silver Medal)		
31.	Sri Biswajit Sain Endowment Prize (a silver medal and cash award of Rs.2000/-)	CS02B027	Shyamnath G V S
32.	Rajalakshmi Krishnamurthy English Prize	CE02B044 CS02B026	Aaftaab Kharbanda Shivendra Pratap Singh Jadon
	B.Tech 5th & 6th Semesters) (with a Silver Medal)		
33.	Sri Ramasarma V Kolluri Memorial Prize	EE01B049	Naresh Satyan
34.	Sri Ratna Rao Award	MT01B025	Shankar S
	B.Tech (First Four Semesters)		
35.	Sri Raghavendra Memorial Prize	ME02B060	Ramsharan R
	B.Tech (First Six Semesters)		
36.	Dr. S. Chandrasekharan Memorial Prize (Cash prize of Rs.1000/- with a Silver Medal)	ME01B108	Sharadha V
	B.Tech /Dual Degree (3rd to 8th Semesters)		
37.	K Srinivasan and Indira Srinivasan Prize (Cash Prize of Rs. 5000/- with a Certificate and Silver Medal)	CS01B012	John P John
	B.Tech/ Dual Degree (Best Project)		
38.	Class NK-100 Award - First Prize (Cash Prize of Rs. 10,000/- with a Silver Medal)	NA99523	Ashish Kumar Chaudhury
39.	Class NK-100 Award - Second Prize (Cash Prize of Rs. 5000/- with a Silver Medal)	NA00412	Deepti James Madathany
40.	Bhagyalakshmi & Krishna Ayengar Award (Cash Prize of Rs. 3000/- for the faculty guided the project work in respect of Sri Apurva Gollamudi and Sri N Arun)	Mech. Engg Physics CEC	Prof. S Srinivasa Murthy Prof. A Subrahmanyam Dr. M Kumaravel
41.	Bhagyalakshmi & Krishna Ayengar Award (Cash Prize of Rs. 3000/- for the faculty guided the project work in respect of Sri Apurva Gollamudi and Sri N Arun)	Physics Met. & Mat. Engg.	Prof. S Ramaprabhu Prof. K Prasad Rao
	Dual Degree (7th & 8th Semesters) (with a Silver Medal)		
42.	D Anand Subramaniam Memorial Award	EE00275	Redekar Girish Arjun
	Dual Degree (1st to 9th Semesters) (with a Silver Medal)		
43.	Prof V Radhakrishnan Endowment Award	ME00368	Nithyanand K

**B.Tech (for cultural & co-curricular activities)
(with a Silver Medal)**

44. Sri K M Ramamurthi Prize (Cash Award of Rs. 5000/-) Mahesh Krishnamurthi

M.Sc (1st & 2nd Semesters)

45. Chilukuri Ramasastry Memorial Prize (Cash prize of Rs.1500/-) PH03C011 Prabha M D
46. R Padmanbhan Memorial Prize (Cash prize of Rs.1000/-) CY03C001 Abhisek Banerjee

M.Tech (1st & 2nd Semesters)

47. Prof N Vekatarayulu Memorial Prize (Cash prize of Rs.1000/- with a Silver Medal) ME03M030 Senesh K

M.Tech (Best Project)

48. 48th Pharmaceutical Congress Prize (with a Silver Medal) CH03M006 Jim Joy
49. Prof. V Ramamurti Award AM02M026 Gurumoorthy G
50. Lucas – TVS Limited Prize (Cash Award of RS. 1000/- with a silver medal) ME02M098 Sandeep Kumar Nayak

M.S (Best Project)

51. Prof C.S. Krishnamoorthy Endowment Prize (with a Certificate and a Silver medal) EE02S008 Rohit Kumar Pancholi

M.S (Best Thesis)

52. Sri Sreeharsha Memorial Prize CE00M09 Sanjay Kumar Bawaskar

M.S (Best Paper)

53. CFD Award (Cash Award of Rs. 5000/-) Naga Kishore B

A certificate to the following faculty:

54. CFD Award Chemical Engg. Dr. Sreenivas Jayanti

Notional Prize - Certificate and cash award of Rs.1000/- awarded to the following student for having secured high position in the merit list of JEE 2005

A K Arun
G Anirudh
K Ramakrishnan
Siva Sankar R
Anushya Chandran
Anusha Kokkula
Indrapu Sameer
V P Sivaprakash Saripalli
Vibhav Bukkapatanam
Bandi Chaithanya
Sri Ram Vanama
Pankaj Chand
Nikhil A Handigol
Lakshmi Sowjanya Uppala

A V S Praneeth
Pradhan P
Gajanana G K
Punna Uday Bhanu
Samuel David P
George Kurian
Hattiwale Vipul Prakash
Ragavendran G
Deepthi Cheboli
Baradwaj V
V R H Santosh Kumar S
S Anandh
Ravi Sashank Yellelli
Muddaraju Surendra Manjunath

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:

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	20	23	23	23	02	91
Dual Degree	10	09	06	10	09	44
M.Tech.	10	15	-	-	-	25
M.S.	2	8	7	1	1	19
Ph.D.	-	7	5	1	5	18
Total	42	62	41	35	17	197

4.1.3 Faculty and their Activities:

Faculty:

Name and Qualification	Major Area of Specialization
Gokhale S. S., Ph.D. (Univ. of Illinois, USA) Director, VNIT Nagpur	Aircraft and missile propulsion, computational methods, simulation and optimization, computer aided instructions
Job Kurian, Ph.D., (IIT Madras)	Gas Dynamics, Combustion, Shock tube flows and measurements
Santhakumar S., Ph.D., (IIT Madras)	Aerodynamics, flight mechanics, instrumentation
Subramanian G., Ph.D., (IIT Madras)	Structural analysis, finite element and finite difference techniques, experimental moiré interferometry
Tulapurkara E.G., Ph.D., (IIT Madras)	Aerodynamics, Fluid mechanics, turbulent flows, CFD
Ramakrishna M., Ph.D., (Univ. of Texas at Arlington)	Fluid Mechanics, numerical methods, computer solutions
Sriram P., Ph.D. (Georgia Inst. of Technology)	Structural mechanics, fatigue & fracture, Parallel computing
Bhaskar K., Ph.D., (IIT Madras)	Structural mechanics, Plants & Shells, composite structures
Sujith R.I., Ph.D., (Georgia Inst. of Technology)	Acoustics and combustion Instability Optical Flow Diagnostics
Chakravarthy., S.R. Ph.D., (Georgia Inst. of Technology)	Propulsion, Combustion & Fluid Mechanics
Rajan S.C, M.Tech. (IIT Madras)	Aerodynamics, Theory and Computation of Vortex Dominated Flows
R. Velmurugan., Ph.D. , (IIT Delhi)	Composite Structures Analysis and Design, Impact Mechanics, 3-D Composites
H.S.N. Murthy, Ph.D (Purdue University)	Fatigue and Fracture, Non-destructive evaluation, Tribology, Advanced Materials., Elasticity
Amit Kumar, Ph.D Case Western Reserve Univ.	Fluid-Thermal science & engineering
K.V. Nagendra Gopal, Ph.D. Ph.D. (Aero) Indian Institute of Science	Structural Mechanics, Composites and Advanced Materials, Fatigue and Fracture, Computational Mechanics
P.A. Ramakrishna, Ph.D., Indian Institute of Science	Combustion, Propulsion & Fuel Cells
Nandan Kumar Sinha, Ph.D., IIT Bombay	Flight Dynamics and Control
T.M. Muruganandam Ph.D., Georgia Institute of Technology	Combustion, Blowout dynamics, Optical diagnostics, Spectroscopic methods, Vortex breakdown, Dynamics of mode shifting

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

S. No.	Co-ordinators	Title	Period
Workshop :			
1.	Prof. E.G. Tulapurkara	Comprehensive Course on CFD	13 th to 25 th June 2005.
Short term Course:			
1.	HAL Management Trainees (Technical) Program	-	4 th January 2006 to 5 th May 2006

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
Workshops:			
1.	Dr. S.R. Chakravarthy	International Workshop on the role of Combustion Diagnostics on Modelling, Design and Control, Jadavpur University, Kolkata	Jan 2-3, 2006
2.	Dr. S.R. Chakravarthy	Diagnostics Meeting on Flow Control & Diagnostics, Indian Academy of Science, Coorg	Feb 21-23 2006
3.	Dr. S.R. Chakravarthy	Workshop on the role of Nano-Materials in the field of High Energy Materials, HEMPL, Pune	March 2-3, 2006
Symposia:			
1.	Job Kurian	Intl. Symposium on Air breathing Engines, Munich, Germany	05 th Sept. to 11 th Sept 05.
Conferences:			
1.	Prof. E.G. Tulapurkara	17 th AIAA Conference at Toronto, Canada	June 6-9, 2005
2.	Prof. E.G. Tulapurkara	8 th Annual CFD Symposium of Ae.S.I	Aug 11-13, 2005 at Bangalore
3.	Prof. E.G. Tulapurkara	32 nd National Conference on Fluid Mechanis & Fluid Power at Osmanabad	Dec 15-17, 2005
4.	Prof. E.G. Tulapurkara	Recent Advances in Computational methods in Aerospace Engineering by Ae.S.I at	Feb 24-25, 2006
5.	Dr.R.Velmurugan	National Conference on Composite Materials (INCCOM – iv)	Dec. 9-10,2005 Coimbatore
6.	Dr. S.R. Chakravarthy	5 th International High Energy Materials Conference & Exhibit	Nov 23-25, 2005 DRDL Hyderabad
7.	Dr. S.R. Chakravarthy	19 th National Conference on IC Engines & Combustions	Dec 21-23, 2005 Annamalai Univ. Chidambaram

Special Lectures Delivered by the faculty in other Institutions:

Sl.No	Name of Faculty	Topic of Lecture	Venue & Date
1.	Prof. E.G. Tulapurkara	A brief overview of recent developments in computation of flow past airplanes	1 st S. Krishnan Memorial lecture organized by Ae.S.I at Chennai, February 24-25, 2006.
2.	Prof. EG. Tulapurkara	Basics of LES	Institute of Aerospace Studies, University of Toronto, Canada during June 6-9, 2006
3.	R Velmurugan	Invited Talk, "Synthesis and characterization of Epoxy/clay Nano Composites",.	Sacoferece National Conference at SACE, Trichendur, 18-19 August 2005

Visits Abroad by Faculty :

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of visit
1.	Prof. E.G. Tulapurkara	Canada	June 5-11, 2005	To attend 17 th AIAA CFD Conference

Honours and Awards obtained:

Prof. E.G. Tulapurkara - Requested to continue as President of the National Society of Fluid Mechanics and Fluid Power for year 2005.

4.1.4 Design and Development Activities:

Brief and specific details of Process/Instruments/Equipment/Software

1. Designed and developed: Software for the Aerodynamic Analysis for Air breathing Missiles
2. Finite Element Analysis software has been developed for the analysis of Composite Shells subjected to thermal and mechanical Loads. The software has the provision to estimate the interlaminar stress for the above loading conditions.

New facilities added or major equipment procured through project funds:

1. Bi-axial Loading system ... 8 lakhs

Patents awarded: one

4.1.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-codinators
1.	FIST	3 years	DST	250	Job Kurian, S.R. Chakravarthy, R.I. Sujith and HSN Murthy
2.	LES of flow in channel with built-in Winglet pair	3 years	ARDB	9.23	Prof. G. Biswas of IIT Kanpur
3.	Numerical study of multiple jets with particulate suspension	2 years	ISRO-IITM cell	7.82	Prof. R. Usha
4.	Vibration Control of Nano Composites	March 2004-Feb.2006	MHRD	17.0	Dr.R.Velmurugan Dr.R.Sarathi
5.	Low & Medium vel impact of projectiles on laminated plates	August 2003- July 2006	ARMREB	14.83	Dr.R.Velmurugan
6.	Investigations of Ti-lined composite pressure bottles	Oct, 2004-Sept.2006	ISRO-Respond	12.32	Dr.R.Velmurugan Dr.R.Palaninathan
7.	Development of Ankle support	2005-2006	RuTAG	3.05	Dr.R.Velmurugan Dr M Balasubramanian
8.	Investigation of the onset of Acoustic Instability in Turbulence Combustion Systems	2003-2006	MHRD	10,27,708	Dr.S.R. Chakravarthy/ Dr. R.I. Sujith
9.	Investigation of the onset of Acoustic Instability in Turbulence Combustion Systems	2004-2006	DFG	30,73,360	Dr.S.R. Chakravarthy/ Dr. R.I. Sujith
10.	Facilities for advanced optical diagnostics & Digital Image Processing of Fluid Flow & Combustion	2004-2006	MHRD	17,84,593	Dr.S.R. Chakravarthy
11.	Characterization of Nano Aluminium power for combustion in solid propellants,	2004-2006	ARMREB	9,48,000	Dr.S.R. Chakravarthy/Dr. R. Sarathy, EE
12.	Impedance Tube Technique for the measurement of driving provided by solid propellants	2005-2008	ISRO-IITM	37,26,000	Dr.S.R. Chakravarthy

Industrial Consultancy:

Sl.No	Name of the Faculty	Title	Industry	Amount
1.	Prof. E.G. Tulapurkara & Prof. T. Sundararajan	Modeling of flow through annular diffuser with volute exhaust	GTRE	4.86

2.	S.K.Malhotra R.Velmurugan	Design of Kevlar Vibration test fixture	SDSC, Shar Sriharikota	2.50
3.	R Velmurugan	Testing of Insulating Materials	L&T, Madras	0.60
4.	R Velmurugan	Analysis of Composite trays	EID PARRY (INDIA) LTD	0.50.

RBIC:

Sl.No	Name of Faculty	Title	Industry	Amount (in lakhs)
1.	S. Santhakumar / S.C. Rajan	Aerodynamic Analysis and Design of Grid Fins	DRDL Hyderabad	6.00 (Foreclosed)
2.	Dr.R.Velmurugan	Energy absorbing characteristic of dual phase steel tubes	Tubes India Ltd, Chennai	4.90
3.	Dr. S.R. Chakravarthy / Dr. R.I. Sujith	Fuel Injection Characterization studies	VSSC	6.03
4.	Dr. S.R. Chakravarthy / Dr. R.I. Sujith	Development of T-Burner facility for characterization of oscillatory combustion response of solid propellants	DRDL	9.91
5.	Dr. S.R. Chakravarthy / Dr. R.I. Sujith / Dr Sarathy	Development of testing of composite propellant formulations for control of solid rocket rotors	DRDL	9.90
6.	Dr. S.R. Chakravarthy / Dr. R.I. Sujith	PDPA characterization of binder spray nozzles for th TEC process	Saint Gobain, France	5.70

Journal Editorial Boards:

S.No	Name of the Faculty	Level	Journal
1.	P.A. Ramakrishna-	Reviewer	Journal of Propulsion & Power -
2.	P.A. Ramakrishna	Reviewer	Proceedings of Combustion Symposium

Research Publications:

Total No. of papers published in Refereed National Journals	....	04
Total No. of papers published in Refereed International Journals	....	18
Total No. of papers presented in National Conference	....	14
Total No. of papers presented in International Conferences	....	04

In Refereed National Journals:

1. H. MURTHY, DANIEL B. GARCIA, JOHN F. MATLIK, THOMAS N. FARRIS, Fretting Fatigue of Single Crystal/ Polycrystalline Nickel, ACTA Astronautica, Volume 57, Issue 1, Pages 1-9.
2. R.Velmurugan and K.Karthikeyan, "The effect of reinforcement of nanoclay on the damping characteristics of ybrid laminated composites", Jl. of Aerospace Science & Technologies, v-55, n-3, pp.345-353,2005.
3. R.Velmurugan and V.Manikandan, "Mechanical properties of glass/palmyra fibre waste sandwich composites", India Jl. of Engg & Materials Sciences, v-12, pp.563-570, 2005.
4. Karthik, B., Kowsik, B. V. R., Venkateswarlu, N., Sujith, R. I., and Chakravarthy, S. R., "Acoustic Field in a Duct Resulting from Vortex Shedding from Multiple Restrictors," *Journal of Aerospace Sciences and Technologies*, Vol. 57, No. 4, Nov. 2005, pp. 1-8.

In Refereed International Journals:

1. A .Satyanarayana, S. Santhakumar, S. Panneerselvam and sajeer Ahmed " Effect of Intake Geometry on Longitudinal Aerodynamics of Air-breathing Vehicles". *Journal of Spacecraft and Rockets*, Vol.42, Nov.Dec 2005 pp1011-1016.
2. Ramakrishna. P.A, Paul, P, Mukunda H.S, "Combustion of Sandwich Propellant at Low Pressures", *Proceedings of the Combustion Institute*, 30, The Combustion Institute 2005, pp 2097-2014.
3. Ramakrishna. P.A, Paul, P, Mukunda H.S. "Revisiting the Modeling of Ammonium Perchlorate Combustion: Development of an Unsteady Model" In press, *Journal of Propulsion and Power*
4. Shi Yang, P.A Ramakrishna and C.H. Sohn, "Issues Related to the Modeling of Solid Oxide Fuel Cell Stacks", In Press, *Journal of Mechanical Science and Technology*.
5. Usha R, Senthilkumar S and Tulapurkaa, E.G., "stability characteristics of suspension flow through wavy-walled channels" *Acta Mechanica*. Vol.176, pp.1-26,2005

6. P.A. Ramakrishna, Shi Yang and C.H. Sohn "Innovative Design to Improve the Power Density of Solid Oxide Fuel Cell", In Press, Journal of Power Sources.
7. Arun M, Tulapurkara E.G "Computation of turbulent flow inside an enclosure with central position" Progress in CFD Vol.5, pp.455-465, 2005.
8. Tulapurkara E.G "Hundred years of boundary layer – some aspects" Sadhana vol.30, pt.4, pp.1-14, 2005.
9. Arun M, Tulapurkara E.G and Sundararajan T "Computation of flow through an annular diffuser and volute exhaust" Defence Science Journal, scheduled to appear in April 2005 issue.
10. Ravisundar T, Tulapurkara E.G and Balabaskaran V, "An experimental investigation of flow in an elbow type draft tube with swirl " International Journal Fluid Mechanics Research, Vol 32, pp 55-78, 2005.
11. Senthilkumar K, Tulapurkara E.G, Biswas G and Gowda Bhl, "Reverse flow in channel with obstruction at entry" Fluid Dynamics Research, Vol.37, pp.387-398, 2005.
12. Tulapurkara E.G., Gowda Bhl and Chaukar J.S "Mean velocity field around prismatic bodies in tandem arrangement" . To appear in J. Wind Engg. And Industrial Aerodynamics, Vol.93, pp.777-796, 2005.
13. T.P. Mohan, M. Ramesh Kumar and R Velmurugan, "Rheology and Curing Characteristics of Epoxy – Clay Nanocomposites ", Journal of Polymer International, 54:1653-1659(2005),
14. K.Bhaskar & B.Kaushik, Analysis of clamped unsymmetric cross-ply rectangular plates by superposition of simple exact double Fourier series solutions, Composite Structures, 68(3), 2005, 303-307.
15. P.Umasree & K.Bhaskar, Accurate flexural analysis of clamped moderately thick cross-ply rectangular plates by superposition of exact untruncated infinite series solutions, Jl. of Reinforced Plastics and Composites, 24(16), 2005, 1723-1736.
16. Chandra, B. U. and Chakravarthy, S. R., "Experimental Investigation of Cavity-Induced Acoustic Oscillations in Confined Supersonic Flow," *ASME Journal of Fluids Engineering*, Vol. 127, July 2005 pp. 1-9.
17. Manoharan, S., Chandra, B. U., Chakravarthy, S. R., Ramakrishnan, S. R., and Subramanyam, J. D. A., "Experimental Studies on Supersonic Cold Flow Mixing with Ramp Mixers," *ASCE Journal of Aerospace Engineering*, Vol. 18, No. 4, October 2005, pp. 197-205.
18. Arora, D., Deshpande, A. P., and Chakravarthy, S. R., "Experimental Investigation of Fluid Drop Spreading on Heterogeneous and Anisotropic Porous Media," *Journal of Colloid and Interface Science*, 2005.

In Proceedings of National Conferences:

1. Mukhopadhyay.S, Usha R and Tulapurkara E.G., "Numerical study of concentrated suspension flow through wavy-walled channels" Proc. 8th Annual CFD symposium, Bangalore, August 11-13,2005, pp.cp. 9.1 to 9.8.
2. Abraham.S, Sriram.S, Tulapurkara E.G and PushpavanaM.S, "Flow in a three dimensional cubical cavity with oscillating lid using particle image velocimetry" Proc. 32nd National Conference on Fluid Mechanics & Fluid Power, Osmanabad, Dec 15-17, 2005, pp 27-28.
3. Tulapurkara, E.G, "A brief overview of the recent developments in computation of flow past airplane in recent advances in computational methods in Aerospace Engg., Chennai , Feb. 24-25, 2006 (or CD-ROM_
4. R Velmurugan and V Manikandan, "Mechanical properties of randomly oriented Sann-Hemp fiber/polyester composites", 14th ISME international conference, Delhi college of Engg., Delhi, CD-Proc., Dec. 2005.
5. R Sarathi, R K Sahu, P Rajesh Kumar and R Velmurugan, "Diagnostic Study on Electrical and Mechanical Properties of Epoxy and Nanocomposite Insulating Material, ICERP 2006, Chennai, CD-Proc.,February 23-25.
6. V Manikandan and R Velmurugan , Absorption studies on Palmyra/Polyester composites, Sacoference conference , SVCE, Tiruchendur, pp. 154-159, August 2005.
7. Raja Singh, et. al and R Velmurugan, "0/90 Glass/Epoxy Prepreg Tape Laying Technology for missile Canister development", 19th National Aerospace Convention 2005, Jaipur, CD-Proc., Nov. 2005.
8. R.Velmurugan and V.Vijaya Kumar, "Mechanical and thermal properties of Nylon / Clay Composites", proc. of National conf. on composites (IN CCOM iv), Coimbatore Dec 9-10, 2005, pp.340-341.
9. Chakravarthy, S. R., "Some Aspects of Combustion Dynamics: Experimental and Theoretical Development," International Workshop on the Role of Combustion Diagnostics in Modelling, Design, and Control, Kolkata, Jan 2006.
10. Chakravarthy, S. R., Shreenivasan, O. J., and Sivakumar, R., "The Role of Unsteady Fluid Mechanics and Diagnostics in Combustion Dynamics," Discussion Meeting on Flow Control and Diagnostics, Coorg, Feb 2006
11. Sindhu, T. K., Chakravarthy, S. R., Jagannathan, R., and Sarathi, R., "Studies on Generation and Characterization of Nano Aluminium Nitride Using Wire Explosion Technique," NANO 2005, Sivakasi, July 2005.

12. Banerjee, S. and Chakravarthy, S. R., "Further Results on Plateau Burning Ammonium Perchlorate-Based Composite Propellant Formulations," 5th International High Energy Materials Conference and Exhibit, Hyderabad, Nov. 2005.
13. Ignatius, J. K., Satyanarayana, T. N. V., Ashok Kumar, R., Sankaran, S., Viswanathan, K., Satyanarayana, N., and Chakravarthy, S. R., "Effect of Water Injection on Cold Supersonic Jet Noise Suppression," National Symposium on Acoustics, Bangalore, Dec. 2005.
14. Gurubaran, K. R., Sujith, R. I., and Chakravarthy, S. R., "Atomization Characteristics of a Prefilming Air-Blast Atomizer," 19th National Conference on IC Engines and Combustion, Chidambaram, Dec. 2005.

In Proceedings of International Conferences:

1. Srikanth J, Tulapurkara E.G and BISWAS G, "Large eddy simulation of flow past built-in winglet-pair in a rectangular channel", 17th AIAA CFD conference, Toronto, June 6-9, 2005, AIAA paper 2005-4996.
2. R.Velmurugan and M.Ganeshbabu, "Medium velocity impact on FRP composite panels", Proc. of Intl. Conf. on Impact loading of light weight structures", Florianopolis, Brazil, pp.103-120, 2005.
3. Gurubaran, K., R., Sujith, R. I., and Chakravarthy, S. R., "Planar Flow Field Measurement in a Prefilming Air-Blast Atomiser," 41st AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, Tucson, Arizona, July 2005.
4. Tyagi, M., Chakravarthy, S. R., and Sujith, R. I., "Unsteady Combustion Response of a Ducted Non-Premixed Flame and Acoustic Coupling," AIAA Paper No. 2005-0536, 44th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, USA, Jan 2006.

Distinguished Visitors to the Department:

S. No.	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
1.	Prof. T.K. Bose, Formerly Head, Dept. of Aerospace Engg., IIT Madras	05.04.05	Seminar Talk
2.	Dr.S. Sundararajan, DRDL Hyderabad	06.04.05	Industrial Lecture
3.	Dr. T.N. Venkatesh, Head, Flosolver Unit, NAL Bangalore	19.04.05	Guest Lecture
4.	Dr. P. Ramachandran, Scientist, RCI, DRDO Hyderabad	27.04.06	Industrial Lecture
5.	Dr. Manivanne Pourouchottamane, Saint Gobaine Recherche, France	11.08.05	Guest Lecture
6.	Dr. Nandan Kumar Sinha, Guest Lecture, TU-Darmstadt, Germany	19.08.05	Guest Lecture
7.	Dr. Richard Mondal, SNECMA (Retd.), France	21.09.05	Guest Lecture
8.	Mr. Paul Hacker, Head, Core Engine Design, Rolls-Royce, Defence Aerospace, UK	30.01.06	Guest Lecture
9.	Dr. Venkataraman Shankar, Scientist 'G', Additional Director, GTRE, Bangalore	14.02.06	Industrial Lecture
10.	Dr. Sunetra Sarkar, Post Doctoral Fellow, Delft University, Netherlands	22.02.06	Guest Lecture
11.	Dr. Dhanushkodi Dorai, GE Research	21.02.06	Industrial Lecture
12.	Dr. K. Ramamurthy, Formerly ISRO, Dept. of Mech. Engg.	28.02.06	Industrial Lecture
13.	Prof. A. Krothapalli, Eminent Scholar & Professor, Dept. of Mech. Engg., Florida State University, USA	28.02.06	Guest Lecture
14.	Dr. Madhukar Rao, Chief Technology Officer, Analytic & Computational Research (ACRI)	07.03.06	Industrial Lecture
15.	Dr. (Ms.) Neeta Trivedi, Scientist 'E', ADE/DRDO, Bangalore	14.03.06	Industrial Lecture

4.2 DEPARTMENT OF APPLIED MECHANICS

4.2.1 Introduction:

The Department of Applied Mechanics was established in 1959, and it offers Ph.D., M.S. and M.Tech programmes. The major areas of teaching and research of the Department are the following:

The research in the Biomedical Engineering Division is concentrated in Bioinstrumentation, Biomechanics and Biomedical Image and Signal Processing. The faculties of this division are carrying out research in collaboration with hospitals and medical research institutes in the areas of Biomechanics of Leprotic hand and foot, Rehabilitation aids, finite element method, Image and Signal processing applications etc. Recent emphasis of the division is to develop medical diagnosis modalities in the areas of Macro-Micro-Hemodynamics, Laser and Artificial Neural Networks based instrumentation.

The faculty in the Solid Mechanics Division are doing research in Stress analysis of plates and shells by finite element and boundary element techniques, Elasto-plastic analysis, Fracture mechanics, Fatigue, Reliability, Metal matrix composites, High temperature design, Experimental Mechanics, Digital photoelasticity, Computer assisted experimentation, Natural Fiber composites, granular flow, continuum Mechanics, Smart Materials and structures.

The Fluid Mechanics Division is doing research in Industrial Aerodynamics, Automobile Aerodynamics, Helicopter Aerodynamics, Aerodynamics of Wind turbines, and Wind energy problems. Wind effects on buildings structures, and bridges; flow induced vibration, computational Fluid Dynamics, and Atmospheric boundary layers, Internal flow problems and Flow through conical and curved diffusers, turbulent shear flows, wall jets, turbulence modeling.

4.2.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	AM 519	Haptics in Biomedical Engineering

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Tech.	13	22	-	-	-	35
M.S.	2	5	6	9	5	27
Ph.D.	4	7	5	5	10	31
Total	19	34	11	14	15	93

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.	Md. Gulab Shaikh	Intl. Conf.	Smart Materials, Structures & Systems	July 2005 IISc, Bangalore
2.	S. Sathiyarayanan	Intl. Conf.	Smart Materials, Structures & Systems	July 2005 IISc, Bangalore
3.	Indira Priyadarshini	Intl. Conf.	Smart Materials, Structures & Systems	July 2005 IISc, Bangalore
4.	M. Kishore Kumar	Intl. Conf.	Smart Materials, Structures & Systems	July 2005 IISc, Bangalore
5.	G.B. Mukartihal	Intl. Conf.	IEEE Engg in Medicine & Biology	September 1-4, 2005 Shangai, China
6.	J. Manivannan	Intl. Conf.	IEEE Engg in Medicine & Biology	September 1-4, 2005 Shangai, China
7.	Srihari Mukesh	27 th Intl. Conf.	IEEE Engg in Medicine & Biology	September 1-4, 2005 Shangai, China
8.	P.R.D. Karthick Babu	Intl. Conf.	(Asian Comm. Exp. Mech., Japan 2005)	September 10-15, 2005, New Delhi
9.	K.R. Madhu	Intl. Conf.	(Asian Comm. Exp. Mech., Japan 2005)	September 10-15, 2005, New Delhi

10.	Ramji M.	Intl. Conf.	(Asian Comm. Exp. Mech., Japan 2005)	September 10-15, 2005, New Delhi
11.	R. Senthil Gurunathan	Intl. Conf. on ICCES 2005	IIT, Madras	1-6, December 2005.
12.	M. Ramji	Intl. Conf. on Opt & Optoelectronics	Instruments Research & Development Establishment.	12-15 December 2005, Dehradun
13.	Prashant L. Patil	Intl. Conf. on Opt & Optoelectronics	Instruments Research & Development Establishment.	12-15 December 2005, Dehradun
14.	N.K. Suresh Kumar	Intl. Conf.	Bio-electro Magnetism	12-15 May 2006 Univ. of Minnesota, USA
15.	J.Krishnan	12 th Intl.Conf.	Voltage-sensitive dynamics of Gap junctions gives memory like property to cardiac function	7-10 Dec. 2005 at Singapore
16.	V.Sivakumar	ICCES 2005	Solid Rocket Booster Segment joints with external Composite bands	Dec 5, 2005
17.	J.Manivannan	ICBME 2005	"Early identification of systolic dysfunction from 3D echo cardiogram" & "Quantification of Mitral Regurgitation with 2 D Doppler Echocardiographic images.	7-10 Dec 2005
18.	M.Ramji	ICOL, 2005	Isoclinic parameter unwrapping and smoothening in digital photoelasticity	-
19.	R.Senthil Gurunathan	ICCES 2005	Effect of partial patching on interfacial edge crack in a biomaterial by digital photoelasticity.	December 1-6, 2005
20.	K.Ashokan	ICOL, 2005	Preliminary studies of multi imager and its uses in digital photoelasticity	-
21.	M.S.Chakraborty	3 rd National Conf. On Wind Engg, 2006.	Numerical simulation of the separated shear flow past a blunt, leading edge	5-7 2006, Jadavpur Univ, Kolkatta

4.2.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization

Professor:

Dr. C. Lakshmana Rao

Fracture Mechanics, Smart Materials, Boundary & Finite Element Methods, Natural Fibre composites

Assistant Professor:

Dr. M.Manivannan

Haptics, Medical Simulation, Robotics and Control Systems, Patient Monitoring, Patient Simulation, Alternative medicine and Biomedical Engineering, Combat Tactile Jacket for soldiers.

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Dr.J.Lakshminarasimhan Coauthored by S.Vengadesan V Ramesh	3 rd National Conference on Wind Engineering – paper titled "Experimental and Numerical study of interference effect high rise bodies in staggered arrangement" and also chaired a technical session	Jadavpur University 7.1.06
Seminar:			
1.	Dr.M.Manivannan	"Technology commercialization" by Dr. Renu Bapna, Senior scientist, Dept. of Science and Technology, Govt. of India - under the banner C-Tides of IITM.	Nov, 10 th 2005
Workshop:			
1.	M. Manivannan	One day workshop of GE Imaging Systems	March 2006

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
Symposia:				
1.	Dr.M.Manivannan	On invitation - "Modelling of Materials and Structures for Vehicles"	India Science Lab, GM, Bangalore	12 th Dec, 2005
2.	Dr.M.Manivannan	On Invitation - Brain Storming Session on Occupant & Pedestrian Safety	India Science Lab, GM, Bangalore	2 nd Feb 2006
3..	Dr. K. Ramesh		Indo-US Frontiers of Engineering Symposium	1-5 March 2006
Conference:				
1.	Dr. R. Palaninathan	38 th AIAA Thermophysics conf, paper titled "Low Temperature Ablative heat shield for re-entry vehicles"	Toronto, Canada	6-9 June 2005
2.	R. Palaninathan	3 rd MIT Conference paper titled "Bolted and pin joints in solid rocket boosters"	MIT, Cambridge, USA	14-17 June 2005
3.	C. Lakshmana Rao	Intl. Conf. Smart Materials, Structures & Systems	IISc, Bangalore	July 2005
4.	M.S. Sivakumar	Intl. Conf. Smart Materials, Structures & Systems	IISc, Bangalore	July 2005
5.	K. Ramesh	Intl. Conf. on Experimental Mech, ICEM 2005	New Delhi	10-15 Sept. 2005
6.	J. Raamachandran	7 th Intl. Conf. on vibration problems	Istanbul, Turkey	5 – 9, September 2005.
7.	A.P. Baburaj E.J. Hopfinger	American Physical Society, paper titled "Drop ejecting conditions from breaking capillary waves"	Chicago, USA	20-22, November 2005.
8.	A.P. Baburaj	American Physical Society, paper titled "Plume structure in High Ra convection" poster title	Chicago, USA	20-22, November 2005.
9.	R. Palaninathan	Intl. Conf. on ICCES 2005, paper titled "Solid rocket booster segment joints with external composite bands"	IIT Madras	5, December 2005
10.	K. Ramesh	Intl. Conf. on ICCES 2005	IIT, Madras	1-6, December 2005.
11.	C. Lakshmana Rao	Intl. Conf. on ICCES 2005	IIT, Madras	1-6, December 2005.
12.	M.S. Sivakumar	Intl. Conf. on ICCES 2005	IIT, Madras	1-6, December 2005.
13.	S. Radhakrishnan	International conf 'Indcon 2005' of IEEE, paper titled "Biomedical systems"	IC & SR, IIT Madras	12 December 2005
14.	J. Lakshminarasimhan	3 rd Natl. Conf on Wind engineering – paper titled "Experimental and Numerical study of Interference effect high rise bodies in staggered arrangement" and also chaired technical sessions.	Jadavpur Univ	January 7, 2006.

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Dr.M.Manivannan	"Engineering the touch for Biomedical"	Under the banner of the IEEE local chapter (Madras) on 24 th Dec. 2005
2.	Dr.M.Manivannan	Invited Talk and Demonstration to "Haptics based Medical Simulation" Neurosurgeons	Apollo Hospitals on 9 th Dec. 2005
3.	Dr.M.Manivannan	"Engineering the touch for Biomedical"	IEEE-Chennai Chapter, 24 th December 2005.

4.	Dr.M.Manivannan	"Epidural injection demonstration"	Apollo Hospitals, 9 th December 2005
5.	Dr. M.Ramasubba Reddy	Biomedical signal processing	Bharathi Vidya Peth, Pune 16 September 2005
6.	Dr.D.Sriram	"Standards for Health Care"	29 th December 2005
7.	Dr.Suresh Sitaraman	"Interfacial Fracture and Reliability Challenges in Micro and Nano-scale thin film interface in Electronic systems:	20 th December 2005
8.	Dr.R.Palaninathan	Modelling of ablative thermal protection systems	VSSC, Trivandrum 7 th Dec 2005
9.	K Ramesh	Digital Photoelasticity Recent trends & future possibilities	ICCES, 2005 IIT Madras 1-6, Dec, 2005
10.	S.Radhakrishnan	"Rehabilitation Engg	Sree Vidyaniketan Engg. College, Tirupathi, 5-6, December 2005
11.	M.Ramasubba Reddy	"Biomedical Instrumentation, Biomedical Signal Processing, Biomedical Image Processing	Sree Vidyaniketan Engg. College, Tirupathi, 5-6, December 2005
12.	C. Lakshmana Rao	Use of smart materials for sensor applications in defence & also discussion on collaboration between PXE & IIT Madras	DRDO, Chandipur, Balasore 4 – 6 January 2006
13.	M. Ramasubba Reddy Dr. M. Manivannan	Ventricular dysfunction identification	Madras Medical Mission 12 January 2006
14.	Dr. S. Vengadesan	Non-linear k-epsilon model	HCE 28 January 2006

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
1.	C.Lakshmana Rao	ISNT Best Paper Award	ISNT	Paper on "Development of an Advanced Ultrasonic TOFD System	2 December 2005.
2.	J. Raamachandran	Bharat Jyoti award	International Friendship Society (IFS)	Certificate of Excellence	7 January 2006
3.	S. Vengadesan	Best paper award for CFD	CFD	Best paper	March 2006
4.	M. Manivannan	Innovative Student Project Award	IC & SR	Student project award	March 2006

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	C. Lakshmana Rao	Recent Advances in Solid Mechanics	Allied Publishers New Delhi	-
2.	C. Lakshmana Rao	Modeling of engineering Materials	Anne Publishing House	Abhijit Deshpande Raju Sethuraman S.M. Sivakumar

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Name of the Academy/ Professional Society	Level	Year of admission
INAE:				
1.	K. Ramesh	INAE	Fellow	2006

4.2.4 Design and Development Activities:

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

Combat Tactile Jacket: A soldier's survival is dependent on tactical information in the battle field .Battle is seldom won by sheer overpowering force; the side that has the best intelligence can gather more accurate information and thus concentrate their efforts on areas where they can get the most impact. Though gathering information is critical for success, conveying the gathered information to the right person is equally critical. Combining vocal order giving with visual symbols to enhance communication gives a limited effect, due to the fact that soldiers need eye contact to retrieve orders. Normal ways of communication with visual or auditory commands do not work very well in the chaos of battle.

We designed a communication tool for the soldiers using touch technology. We have developed a wireless tactile display (combat tactile jacket - CTJ), contained within a standard shoulder pad of infantry soldier that presents a stimulus to the soldier to aid information management and enhance situational awareness and decision making for future combat operations. The shoulder pad has been used since our user group, the soldiers, needs to have their hands free for solving the tasks they are set out to do. The selection of tactile actuators in CTJ was done after detailed evaluation of four elementary attributes of a stimulus yield sensation to shoulder.

The selection of location of four tactile stimulators on both the sides of the shoulders has played a critical role in the design of CTJ. The environmental conditions of soldier have also been considered in detail for the final design of wearable. The design has been validated on the infantry soldiers. The design is not restricted to the present application; it can also be used for civil purposes. Like communication in social gatherings, by deaf and dumb people, by divers etc.

EEG Amplifier: Hypnotherapy is becoming an alternative therapy for many psychosomatic problems. EEG frequency analysis is absolutely essential to ascertain whether a person is properly hypnotized or not. In order to acquire the EEG signals, we designed a four channel biopotential amplifier with the following salient features: (1) To acquire very low amplitude (1-10 μ V) EEG brain signals, a high precision instrumentation amplifier is used. (2) To provide safety to the subject, the isolation circuit, surge protection circuit and the DRL circuit is used which produced good results against supply frequency noise like 50 Hz line interference noise. (3) To reduce the frequency noise and its harmonics the electrodes are shielded.

GSR Amplifier: The Galvanic Skin Response (GSR) measures the level of autonomic system activity by measuring the electrical resistance of the tissue path between two electrodes applied to the skin. Conductance of skin is considered to be a function of sweat gland activity and skin pore size, both of which are controlled by the sympathetic nervous system. Sweat glands are activated when the sympathetic nervous system is aroused in response to stress or anxiety. As sweat is produced, the skin's capacity to conduct current is enhanced and the measured conductance is increased. The amplifier has been used for conducting researches on pain.

Three-pulse Amplifier: Designed and implemented a system for acquiring the radial pulses from the wrist using the PVDF material. This instrument could be used as an important diagnostic tool for various clinical applications. Pulse diagnosis assumes an enormous significance in several alternative medical systems like ayurveda, siddha medicine, Chinese medicine etc., and the present work is a preliminary investigation to study the basis for the fundamental importance given to the pulse diagnosis in alternative medical systems.

Three-pulse Simulator: Ayurveda is an ancient form of Indian medicine. One of the techniques used for diagnosis of various diseases in this system is the '3-point pulse' technique. A training module is proposed which simulates these three pulse points on a dummy arm. An electro-mechanical setup is developed using DC motors. Frequency and Amplitude characteristics of the human pulse are accurately reproduced by the simulator. A calculated input to the motors is provided through a micro-controller based GUI front end. Application extensions for telemedicine and remote patient monitoring are also discussed.

4.2.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lacs)	Co-ordinators
1.	Investigation on Modern Technologies for Construction of Road/Rail Emb ankments on Soft clay Soils	April 2005 - March 2008	MHRD New Delhi	23 Lakhs	C. Lakshmana Rao
2.	Characterization of Vibration Characteristics of Piezoelectric Materials used in Hydrophones	April 2007 -March 2007	MHRD New Delhi	9 Lakhs	C. Lakshmana Rao Co-Investigator

3.	Buckling Control of Nozzle Shell using PZT	Sept. 2004 – Sept. 2007	IITM – ISRO Cell	19.53 Lakhs	C. Lakshmana Rao
4.	LES investigation of interference effect due to bluff body at Moderate Reynolds number	2006	CSIR	6.87 Lakhs	S. Vengadesan

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1.	C. Lakshmana Rao	Development of Algorithms & Codes for Analysis and Modelling of SMA Components	G.M. Tech India, Bangalore	2005 - 2006

Research Publications:

Total No. of papers published in Refereed National Journals --- 07
 Total No. of papers published in Refereed International Journals --- 06
 Total No. of papers presented in International conferences --- 12

In Refereed National Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1.	Dr. S. Vengadesan S. Yokojima A. Nakayama	Collocated finite difference method in general curvilinear coordinates for simulation of flows over arbitrary geometry	National Journal of Aerospace Sciences & Technologies, Vol.57, May 2005, pp 250-258
2.	Dr. S. Radhakrishnan Mallikarjun S. Holi	Quantitative ultra sound technique in assessment of Osteoporosis & prediction of fracture risk in Journal of Pure & Applied Ultrasonics.	Vol.27, No.2, 2005
3.	Dr. S. Radhakrishnan Mallikarjun S. Holi	Assessment of bone fracture healing by stress wave propagation technique	Medical & life sciences Engg Journal, Vol. 15, pp 39-43, 2006.
4.	Dr. S. Radhakrishnan Mallikarjun S. Holi	Determinant factors of bone stiffness India in men & women for the assessment of osteoporosis	Medical & life sciences Engg Journal, Vol. 15, pp 44-48, 2006
5.	Dr. J. Lakshminarasimhan B.H.L. Gowda C.H. Sivanarayana	A paper entitled "Interference effects on wind pressures on low-rise and high-rise square structures in side-by-side arrangement"	Indian Journal of Engg & Materials Sciences (NISCAIR), Vol.12, pp. 398-410, Oct. 2005
6.	S. Radhakrishnan, J. Krishnan, C. Sashikiran V.S. Chakravarthy	Adaptive gap junctions as a basis of cardiac memory	Mathematical Biology Recent Trends, pp 140-146, Oct. 2005
7.	M.S. Sivakumar C. Lakshmana Rao S. Sathiyarayanan	Nonlinear and time-dependent electromechanical behaviour of PVDF	Smart Materials & Structures, 15, 767-781, 2006

In Refereed International Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1.	J. Manivannan M. Ramasubba Reddy S. Thanikachalam R. Ajay Kumar	Evaluation of left ventricle performance from 2D electro images	International Journal of Echocardiography
2.	S. Vengadesan B.H.L. Gowda	Influence due to arrangement of splitter plate on flow past a circular cylinder	Journal of flow visualization & image processing, Vol.12, No.2, pp 137-150
3.	M.S. Sivakumar S. Gopalakrishnan A. Chakraborty	Spectral element based model for wave propagation analysis in multi-wall carbon nanotubes	International Journal of Solids and Structures, 43 (2), pp. 279-294, 2006.

4.	R.Palaninathan S. Bindu	Modeling of Mechanical Ablation in Thermal Protection Systems	Americal Institute of Aeronautics & Astronautics – Journal of Spacecraft and Rockets, 2005. Vol.42, No.6, pp 971-979
5.	Dr. K. Ramesh M. Ravichandran	Evaluation of stress field parameters for an interface crack in a bi-material by digital photo elasticity	J. Strain Analysis Vol.40 [4] 327-343, 2005.
6.	R.Palaninathan V. Sampath Ramanan	Modeling of liquid metal infiltration of porous fiber perform during squeeze casting	Journal of Materials and Manufacturing Process, Vol.21, pp 490-500, 2006.

In Proceedings of International Conferences / Symposium:

Sl.No.	Name of faculty	Title	Institution	Period
1.	C.Lakshmana Rao G.Baskaran K. Balasubramaniam	Simulation of wave propagation in cracked beams using spectral element method	ASME Pressure Vessels and Piping conference 2005	Accepted for student paper competition 2005
2.	C.Lakshmana Rao B. Nandulal B.N. Rao	Mesh free Analysis of Bimaterial Interface Crack	Intl. conf. on Computational & Experimental Engg & Sci. ICCES 2005	December 2005
3.	Lakshmana Rao, C Mini, R Indira, R.P Sivakumar, S.M.,	Buckling control of rectangular columns with PZT actuators," Proceedings pp.SA-21-26	International conference on Smart materials structures and systems India	July 28-30, 2005
4.	S. Vengadesan	Calculation of perforate muffler element impedance using computational fluid dynamics	12 th Intl. Conf. on Sound & Vibration, Portugal, Lisbon	July 2005
5.	J. Lakshmi narasimhan	Numerical investigations of Interference effects on wind forces on square prismatic cylinders in side-by-side arrangement	8 th Annual AeSI CFD Symposium, Bangalore	11-13 August 2005
6.	N.R. Panchapakesan S. Chakaborty J. Lakshminarasimhan	Numerical simulation of a local forced shear layer from a blunt leading edge	8 th Annual AeSI CFD Symposium, Bangalore	11-13 August 2005
7.	S. Vengadesan	Invludence of wall on vertex shedding from a square cylinder	8 th Annual AeSI CFD Symposium, Bangalore	11-13 August 2005
8.	S. Vengadesan	Prediction of flow pattern in cardiopulmonary vascular system by CBS scheme	8 th Annual AeSI CFD Symposium, Bangalore	11-13 August 2005
9.	S. Vengadesan	Numerical and Experimental flow visualization studies on flow past trapezoidal cylinder of various aspect ratio	8 th Intl. Symp. On Fluid control, measurement & visualization, China	22-25, August 2005
10.	S. Radhakrishnan M. Ramasubba Reddy	Frequency domain analysis of visual evoked potentials	52 nd Annual AANEM meeting, Monterey, California	September 21-24, 2005.
11.	S.Radhakrishnan	Biomedical Systems	International Conference "INDCON 2005 of IEEE	12 th December IC & SR, IIT Madras
12.	R.Palaninathan	Solid Rocket Booster Segment joints with external Composite bands	ICCES 2005, IIT Madras	December 2005

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Sayan Gupta, Technische Universiteit Delft	22.2.2006	Delivered lecture on Probablistic Safety Assessment of ageing structures subjected to randomly vibrating loads
2.	Dr. S. Kumerasan, Director, Biomechanics Institute Ltd, California, USA	27.6.2005	Delivered an Invited talk on Forensic Biomechanics

3.	Dr. R.K. Ramanathan, Director, National Project for Smart Materials (NPSM)	July 2005	Visit to Smart Structures Lab
4.	Dr. Vidyashankar, General Motor Technology, Bangalore	July 2005	Visit to Smart Structures Lab
5.	Dr. S. Joseph Anthony, Univ. of Leeds, UK	January 6, 2006	Delivered lecture on " Applied Mechanics of powders and grains : from particles to process and product intensification".
6.	Dr. Sujatha Narayanan, Unni, National Technological Univ, Singapore	January 9, 2006	Delivered lecture on "Multi-Modality Endoscopic Optical Imaging for the Early Diagnosis of Cancer in Body Cavities.
7.	Prof. Peter Fernandez, Director, Dr. Fernandez Home	March 1, 2006	Demonstration lecture on clinical and applied hypnosis
8.	Dr. B.S.V. Prasad Patnaik, National Univ, Singapore	March 6, 2006	Flow control of bluff body wakes and some bench mark simulations

4.2.6 Other Activities:

- M.Tech student Miss Liza Mahey of Biomedical Engg was selected for DAAD under Indo-German Exchange Programme.
- A open circuit wind tunnel undergraduate laboratory facility ensuring high glow quality required for experiments has been set up.
- New Faculty joined the Department – Dr. Anuradha Banerjee, Dr. Manivannan Muniyandi in the month of June 2005.
- New Faculty joined the Department – Dr. A.P. Baburaj in the month of August 2005.
- Expert Review Committee visited the Department on 27.8.2005.
- Dr. V.B. Narayanamurthy, Consultant, Plastic Surgeon, Sundaram Medical Foundation has joined as Adjunct Professor – October 2005.
- Research work by Prof. K. Ramesh and his group has adorned the cover page of the International Journal Strain.

4.3 DEPARTMENT OF BIOTECHNOLOGY

4.3.1 Introduction:

The Biotechnology Department is a relatively new Department in the Institute, which came into formal existence in 2004. The first batch of B.Tech. students will graduate in July 2006; during the first two years of the same batch, the Biotechnology Programme was under the foster care of the Department of Chemical Engineering.

The vision of the Biotechnology Department is to make an international impact through research, teaching, technology innovation, and service to society. In research, the thrust areas are Cardiovascular Biotechnology and Bioprocesses. The Department has 18 faculty members, and more are expected to join in the next academic year.

We offer B.Tech., Dual Degree, M.S., and Ph.D. programmes as well as a user oriented programme leading to a M.Tech. in Medical Biotechnology that is sponsored by Frontier Lifeline, a cardiac care hospital in Chennai. The undergraduate curriculum is aimed to produce students who will be well-grounded in the fundamental principles of Bioprocess Engineering and Biological Sciences, and will gain sufficient valuable experience in hands-on understanding of the various engineering units as well as state-of-the-art experiments in Biotechnology. The M.S. and Ph.D. programmes emphasize research excellence.

4.3.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	BT 518	Biological Vision
2.	BT 651	Engineering Aspects of physiology
3.	BT 652	Clinical Biochemistry
4.	BT 653	Biostatistics
5.	BT 654	Cellular, Molecular Biology & Genetic Engineering
6.	BT 655	Medical Informatics & Bioinformatics
7.	BT 656	Introduction to Clinical Instrumentation
8.	BT 661	Medical Biotechnology Laboratory I
9.	BT 662	Medical Biotechnology Laboratory II
10.	BT 671	Protein structure and function
11.	BT 672	Biomaterials
12.	BT 673	Biomechanics & Ergonomics
13.	BT 674	Computer Applications in Biology and Medicine
14.	BT 675	Ethical Issues and Design of Clinical Trials
15.	BT 676	Drug Design and Medicinal Chemistry
16.	BT 677	Bioprocess Engineering
17.	BT 678	Human Genetics
18.	BT 679	Clinical Immunology
19.	BT 680	Medical microbiology
20.	BT 682	Regenerative Medicine
21.	BT 683	Cancer Biology
22.	BT 684	Perfusion, Anaesthesia and Renal Dialysis
23.	BT 685	Medical Imaging

Students on roll:

Sl.No	Programme	I year	II Year	III Year	IV Year	V Year & others	Total
1.	B.Tech.	28	33	38	33	01	133
2.	Dual Degree	15	15	09	07	-	46
3.	M.Tech.	14	-	-	-	-	14
4.	M.S.	2	5	3	2	-	12
5.	Ph.D.	5	25	10	3	5	48
Total		64	78	60	45	6	253

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.	M.Velu	Ph.D.	Biochemical Engineering XIV	July 10 -14, 2005; Harrison Hot Springs, BC, Canada
2.	B. Balaji	Ph.D.	6 th International Conference on Systems Biology	October 19-24, 2005; Boston, Massachusetts, USA
3.	B. Balaji	Ph.D.	AIChE Annual Meeting 2005	October 30 - Nov. 4, Cincinnati, Ohio, USA
4.	M. Velu	Ph.D.	CHEMCON 2005	Dec. 14 -17, 2005; New Delhi, India
Symposia:				
1.	S.K. Subramanian S. Krishna Kumar	B. Tech	National Seminar on "Molecular Basis of Diseases-Current Perspectives and New Frontiers"	13 th -14 th , Mar, 2006
2.	T.Vaijayanthi	Ph.D.	National Symposium on Bioorganic and Medicinal Chemistry,	-
3.	Arun Mathew	M.S	IWPSD-13	-
4.	P. Vidya	Ph.D.	Organic Chemistry and Chemical Biology, ACS-CSIR International Conference	-
5.	S. Rajasekhar Reddy	Ph D.	International Symposium on Advances in Organic Chemistry	-
6.	A Trishul	Ph.D.	CHEMCON 2005	Delhi,
7.	Apurva Pandey,	B.Tech	SCHEMCON 2005	IIT Guwahati
8.	Nitin Pahwa	B.Tech	SCHEMCON 2005	IIT Guwahati
9.	Pratyush Rai	B.Tech	Science, Technology and Medicine against heart disease, Joint Annual Meeting of ISHR	Jan 12-14, 2006, MMM, Chennai
10.	P M Sivakumar	Ph.D.	International Conference on Drug Discovery: Perspectives and Challenges,	Feb 24-25, 2006, CDRI, Lucknow
11.	Shanmugam Hema Iswarya	Ph.D.	International Conference on Drug Discovery: Perspectives and Challenges,	Feb 24-25, 2006, CDRI, Lucknow
12.	K.P.Pooja	Ph.D.	MICROBIAL DIVERSITY 2005 –an International Conference on Microbial Diversity :	April 16-18 th , 2005 Univ of Delhi South Campus .
13.	Biswarup Sen	Ph.D.	MICROBIAL DIVERSITY 2005 –an International Conference on Microbial Diversity :	April 16-18 th , 2005 Univ of Delhi South Campus .
14.	Kalyani Mahopatra	Ph.D	MICROBIAL DIVERSITY 2005 –an International Conference on Microbial Diversity	April 16-18 th , 2005 Univ of Delhi South Campus .
15.	S.Kavitha	Ph.D	National Conference 'Path to Health - Biotechnology Revolutions in India' and Second Convention BIOTECH Research Society of India	24-26 th November ,2005,Anna University Chennai
16.	P.Koteswaraiah	Ph.D	National Conference 'Path to ealth - Biotechnology Revolutions in India' and Second Convention BIOTECH Research Society of India	24-26 th November ,2005,Anna University Chennai
17.	Bindu Ajithkumar	DBT PDF	National Conference FOOD PLUS 2005. Association of Food Scientists and Technologists (INDIA)	December 9-10 th 2005 Bangalore
18.	P.Koteswaraiah	Ph.D	National Conference FOOD PLUS 2005 Association of Food Scientists and Technologists (INDIA)	December 9-10 th 2005 Bangalore
19.	K.Kanthi Kiran	Ph.D	Micro-Biotech 2005, 46 th Annual Conference of the Association of Microbiologists of India	Dec 8-10 th 2005, Hyderabad

20.	M.Pavan Kumar	JRF project	International Conference on GLOBALIZATION OF TRADITIONAL, COMPLIMENTARY AND ALTERNATIVE SYSTEMS OF MEDICINE	Tamilnadu Agricultural University , Coimbatore during 16-18 th March 2006
21.	M.Pavan Kumar	JRF project	International Conference on GLOBALIZATION OF TRADITIONAL, COMPLIMENTARY AND ALTERNATIVE SYSTEMS OF MEDICINE held at	Tamilnadu Agricultural University , Coimbatore during 16-18 th March 2006
22.	P.Koteswaraiah	Ph.D	National Conference on Free radical Research IF :2.5	Calcutta January 2006
23.	K.P.Pooja	Ph.D	National Seminar on fungal biodiversity , biotechnology and bioinformatics (NSFBBB) 32 nd Mycological Society of India	2-3 rd Feb 2006 Sri Bhagawan Mahaveer Jain College, Bangalore
24.	Kanathi Kiran	Ph.D	Workshop on electrophoresis Biotech	Yercaud May 2005
25.	Kanathi Kiran	Ph.D	Workshop on electrophoresis Biotech	Yercaud May 2005
26.	S Gokulakrishnan	M.S.	International Symposium on Biocatalysis and Bioengineering	October 16 – 18, China

4.3.3 Faculty and their activities:

Faculty:

Name	Major Area of Specialisation (only 3 areas)
Professors:	
G. K . Suraishkumar (Head)	Upstream Bioprocess, Reactive Oxygen Species
T.S.Chandra	Microbial genomics, Foods and Nutraceuticals, Environmental Biotechnology
Associate Professors:	
Anju Chadha	Bioorganic Chemistry: Biocatalysis and Enzyme Mechanisms, Biosensors and Chirotechnology
Doble Mukesh	Biochemical engineering and processes
Guhan Jayaraman	Biochemical Engineering, Recombinant Microbial Processes, Downstream Processing
Rama Shanker Verma	Biochemistry, Molecular Biology, Stem Cell Biology
Assistant Professors:	
Amal Kanti Bera	Electrophysiology, Neuroscience, Membrane Biology
R. Baskar	Developmental Genetics, Plant Genetics
K Chandraraj	Genetic engineering and Enzymology
A Gopala Krishna	Mechanism of signal transduction, Membrane proteins, protein folding
Kesavan. V	Medicinal Chemistry
Manoj Narayanan	Protein crystallography
Sanjib Senapati	Computational Biophysics
Sathyanarayana N Gummadi	Bioprocesses, Flippases
V Srinivas Chakravarthy	Computational neuroscience
Venkatesh Balasubramanian	Biomechanics, Ergonomics
Visiting Faculty:	
K B Ramachandran	Bioprocess Optimization

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Doble Mukesh - Joint organizing secretary	Science, Technology and Medicine against heart disease, Joint Annual Meeting of ISHR and IACS, India at MMM	Jan 12-14, 2006
Workshop:			
2.	Doble Mukesh	CEP program for industries on "Current Trends in Bioprocess technology" at IITM	4-6 July 2005
Short term Course:			
3.	Guhan Jayaraman	Mammalian Cell Culture, IIT-Madras	19-20 September 2005
4.	Guhan Jayaraman	Technology Appreciation Programme on "Bioprocess Development for New Generation Biopharmaceuticals"	May 6, 2005

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.	Anju Chadha: Invited Talk	Biomedical Sensors	DST-NPL, N Delhi	April 27-28, 2005
2.	Anju Chadha: Invited Talk	DST sponsored Work shop on Catalysis	IITM: Department. of Chemistry	May 26, 2005
3.	Anju Chadha	IPR issues for Herbs and Herbal Products	Fragrance and Flavor Institute of India, Kanauj, India	14 Dec., 2005
4.	Anju Chadha	IPR in the Biotech Industry	Brain League Consultants and IIM, Bangalore	May 21-22, 2005
5.	Anju Chadha	IPR Issues	RK Dewan & Co.	Sept. 9 and 10, 2005
6.	Doble Mukesh	International Conf. on Drug Discovery: Perspectives and Challenges	CDRI, Lucknow	Feb 24-25, 2006,
7.	Doble Mukesh	Joint Annual Meeting of the Intl. Society of Heart Research (Indian Section) & Intl Academy of Cardio vascular Sciences (Indian Chapter)	Madras Medical Mission, Chennai	12th-14th January 2006,
8.	Guhan Jayaraman	National Programme on Biosciences, Bio engineering and Bio technology in IITs	IIT-Kanpur	15 July 2005
9.	Rama S. Verma	Intl. Symposium on STEM CELL RESEARCH	Life cell	Jan 6 th – Jan 8 2006
10.	Venkatesh Balasubramanian	National Workshop for Promotion of R&D in Biomedical Instrumn, Bio medical Devices and Implants	DBT and IIT Karaghpur	March, 2006
11.	Venkatesh Balasubramanian	Brain Storming Session on Occupant & Pedestrian Safety	General Motors R&D, India Sci. Lab, Bangalore	February, 2006
12.	Venkatesh Balasubramanian	Logistics – The Challenges Ahead	VIT, Vellore	January, 2006
Symposia:				
1.	Anju Chadha	Biotechnology, Metals and Catalysts- BMC-7	University of Heibei, China	17-23 August, 2005
2.	A. Gopala Krishna	National Seminar on "Molecular Basis of Diseases- Current Perspectives and New Frontiers"	Madras University	13 th -14 th , Mar, 2006
3.	Kesavan V	Organic Chemistry- Today and Tomorrow	Indian Institute of Sci, Bangalore	Jan 4-7
4.	Kesavan V	Indo-Australian conf. on Nanoscience and technology	IISc and Australian High Commission, New Delhi	Mar 31-April 1, 2006

5.	K B Ramachandran	Production of Medium-Chain-Length Poly (3-Hydroxyalkanoates) from Saponified Palm Kernel Oil by <i>Pseudomonas Putida</i> : Kinetics of Batch and Fed-Batch Fermentations	Malaysian Society for Microbiology, Penang, Malaysia	November 24-27, 2005
6.	K B Ramachandran	Biochemical Reaction Engineering	A C College of Tech, Anna Univ., Chennai	November 24-26, 2005
7.	K B Ramachandran	Bioprocesses-product and Process Development at the Second Convention of Biotech Research Society of India	Anna University, Chennai	November 24-26, 2005
8.	K B Ramachandran	Biomass Acclimatisation to sequentially Varying Substrates in an upflow Anaerobic Sludge Blanket UASB Reactor	Central Canadian Symposium on Water Quality Research, Canada Centre for Inland Waters Burlington, Ontario, Canada	February 13-14, 2006
Conference:				
1.	T.S.Chandra	International Conf. on Bioterrorism and Public Safety	organized by the Dept of Microbiology Dr. A. L. M. Post graduate Institute of Basic Medical Sciences, Univ. of Madras	17-18 th February 2006
2.	Rama S. Verma	23 rd small meeting on yeast & energetic	Jawaharlal Nehru University New Delhi	23-26 September 2006
3.	G. K. Suraishkumar	Human Centred Sustainable Development Paradigm	M.S.Swaminathan Research Foundation	7 Aug 2005
4.	Venkatesh Balasubramanian	National Conference on Intelligent Computing in Communication and Automation	Arulmigu Kalasalingam College of Engineering, Krishnankoil	April 2nd, 2005
5.	Venkatesh Balasubramanian	Intl. conference on Ergonomics, HWWWE 2005	IIT Guwahati	December, 2005
6.	Venkatesh Balasubramanian	National Conf. on Emerging Trends in Instrumentation and Communication Technologies	Sethu Institute of Technology, Virudhunagar	March 17th, 2006
Training:				
1.	Venkatesh Balasubramanian	Executive Training and Continuing Education	HAL Management Academy, Bangalore	February, 2006
Short term Course:				
1.	Guhan Jayaraman	Synthetic Systems Biology	National Centre for Biological Sciences, Bangalore	28 January – April 15, 2005 (course on Saturdays only)
2.	Guhan Jayaraman	CEP on Recent Trends in Bioprocess Technology	IIT-Madras	4 – 6 July, 2005
3.	Guhan Jayaraman	Gave a talk on "Bioprocess Technologies for Mammalian Cell Products"	Short-term course on Mammalian Cell Culture, IIT-Madras	Sept. 19-20, 2005
4.	G. K. Suraishkumar	Mammalian Cell Culture: Gave the lecture, 'Apoptosis in Mammalian Cell Culture'	I.I.T. Madras	19 th Sept. 2005

Special Lectures delivered by the faculty:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Anju Chadha: Invited Talk	DST sponsored Workshop on Catalysis Talk title: Biocatalysis: Fundamentals and Applications	IITM: Dept. of Chemistry, May 26, 2005
2.	Anju Chadha: Invited Talk	Biomedical Sensors Talk title: Triglyceride and Urea Sensor using Porous silicon	DST-NPL, N Delhi April 27-28, 2005
3.	Anju Chadha: Invited Speaker	Industrial Biotransformations, CEP Workshop on Current Trends in Bioprocess Technology,	IITM, 4-6 July, 2005

4.	Anju Chadha: Invited Talks	Biocatalysis: A series of 8 lectures at the DST Sponsored Winter School on Catalysis	Department of Chemical Sciences, Tezpur University, Asom (Assam); Feb. 6-8, 2006
5.	T.S.Chandra	On " Bioremediation" at Continuing Education Programme on "Current Trends in Bioprocess Technology	IIT Madras 6 th July 2005
6.	T.S.Chandra	" Physics in Environmental pollutants and solid wastes management" Invited talk at Unesco Workshop on Environmental Physics	IIT Madras ,May 2005
7.	T.S.Chandra	DNA Computing DST Workshop on Natural Computing	IIT Madras Oct. 2005
8.	T.S.Chandra	'Living on the edge – extremophiles" Invited Talk in Plenary session on Environmental Microbiology , Micro-Biotech 2005, 46 th Annual Conference of the Association of Microbiologists of India	Osmania University Hyderabad , Dec 8-10 th 2005
9.	T.S.Chandra	"Extremophiles and their Biotechnological Potential" Invited talk for UGC Refresher Course ."Techniques in Molecular Biology and Genomics", School of Biotechnology ,SRM Institute of Science and Technology	,Kattankulathur , Dec 15 th 2005
10.	T.S.Chandra	" Extremophiles " Invited talk at the 'SANMICROFEST 2005' DST sponsored National Symposium on "Recent Trends in Microbial Biotechnology" at Sri Sankara College of Arts and Science at	Kanchipuram, Dec 30 th 2005
11.	T.S.Chandra	"Extremophiles and their proteins" Invited talk at The National Symposium and Workshop on Genomics, Proteomics and Computational Biology 'Today and Tomorrow' , at School of Life Sciences , Vel's College of Science	Chennai February 15-17 th , 2006
12.	Doble Mukesh	"Drug design from QSAR to Natural products", at Biosciences Symposium	GE India Tech center, Bangalore, 12 April 2005
13.	Doble Mukesh	at the Technology appreciation programme organised by IC&SR titled "Environmental bioreactors	IC&SR, IITM, 2 nd May, 2005
14.	Doble Mukesh	at the QIP program organised by Chemical Engineering department, IIT Madras on Semi conductor processing titled " Biotreatment of Semi conductor waste effluent".	IITM, 27 May, 2005
15.	Doble Mukesh	at the DST- Orientation program on catalysis organised by Chemistry department, IIT Madras titled " Biocatalytic treatment of organic effluent".	IITM, 30 May 2005
16.	Doble Mukesh	Drug design using QSAR techniques and Natural products	at Chemical Engineering dept, National University of Singapore, 19 May 2005
17.	Doble Mukesh	Drug design in Bioinformatics, Bioinformatics course	Anna University-KBC, (June, 2005)
18.	Doble Mukesh	Treatment of gaseous pollutants" at QIP organized at SRM college	Chennai, 22 nd Oct 2005
19.	Doble Mukesh	"Chemical Process scale-up: Lab to reality", at Conference titled Chemistry for Society – From Reactions to Reality, at SSS Institute of Higher Learning	AP, 24-26 th September 2005
20.	Doble Mukesh	"Treatment of gaseous pollutants" at QIP organized at SRM College	Chennai, 22 nd Oct 2005
21.	Doble Mukesh	"Bioreactor design and modeling" at UGC refresher course on Biochemical Engg. fundamentals,	Anna University, 16 th Nov 2005

22.	Doble Mukesh	"Molecular modeling and drug design", UGC refresher course, SRM Institute of Science and technology	Chennai, 3 Dec, 2005
23.	Doble Mukesh	Scale up of chemical processes	Sanmar chemicals ltd, Chennai, Feb 6, 2006
24.	Guhan Jayaraman	Study of Bacterial Stress Response during Recombinant Protein Production	Nagarjuna Fertilizers and Chemicals Ltd., Genome Valley, Hyderabad, April 11, 2005
25.	Guhan Jayaraman	Recombinant Protein Production in Bacterial Systems: Problems and Prospects	Technology Appreciation Programme, ICSR, IIT-Madras; May 6, 2005
26.	Guhan Jayaraman	Theoretical and Experimental Investigations into the Role of Cellular Stress Response Elements to Recombinant Protein Over-expression	Korea Research Institute of Bioscience and Biotechnology, Daejeon, South Korea, May 19, 2005
27.	Guhan Jayaraman	Role of Cellular Stress Response Elements to Recombinant Protein Over-expression	Dept. of Chemical and Bio molecular Engineering, National University of Singapore, May 20, 2005
28.	Guhan Jayaraman	Recent Developments in Downstream Processing of Therapeutic Proteins	CEP on Current Trends in Bioprocess Technology, ICSR, IIT-Madras, 4-6 July 2005
29.	Guhan Jayaraman	Role of Cellular Stress Response during to Recombinant Protein Production	Centre for Advanced Studies in Botany, Madras University, August 31, 2005
30.	Guhan Jayaraman	Downstream Processing in Biotechnology	Sri Ramachandra Medical College and Research Institute, Chennai, Nov. 11, 2005
31.	Guhan Jayaraman	Bioprocess Development: A Systems Biology Approach	UGC Refresher Course, Anna University, Nov. 16, 2005
32.	Guhan Jayaraman	Downstream Processing in Biotechnology	UGC Refresher Course, Anna University, Nov. 30, 2005
33.	Guhan Jayaraman	Bioprocess Technology in the Post-Genomics Era: Enhancing Productivity through Cellular Engineering	UGC Refresher Course, SRM College, Kattankulathur, Dec. 6, 2005
34.	Guhan Jayaraman	Biology in the Post-Genomic Era: From Decoding to Re-Engineering	Decode 2006 : Stella Maris College, Chennai , Jan. 20, 2006
35.	N Manoj	Quaternary Structures in legume lectins – a case study in structural Bioinformatics	Anna University, November 29, 2005
36.	N Manoj	Structures of enzymes in cofactor biosynthetic pathways	Anna University, November 29, 2005
37.	Sathyanarayana N Gummadi	Microbial degradation of Caffeine	Anna University, November 29, 2005
38.	Sathyanarayana N Gummadi	Fermentation technology : a case study in biopolymer production	Anna University, November 29, 2005
39.	V Srinivas Chakravarty	"A model Parkinsonian handwriting" & "Cardiac Memory"	Computational Neuroscience Work shop, IIT, Bombay, 8-16 Oct, 2005
40.	G. K. Suraishkumar	Careers in Biotechnology: Opportunities and Requirements	St. Joseph's College of Engineering, 31 st Jan 2006
41.	G. K. Suraishkumar	Free Radicals and Bioreactor Cultures	JNTU, Anantapur, 18 th Feb 2006
42.	G. K. Suraishkumar	New Aspects in Biochemical Eng	A. C. College of Technology, Anna Univ. 2 nd Mar 2006
43.	Venkaatesh Balasubramanian	Introduction to Cognitive Ergonomics	Sethu Institute of Technology, Virudhunagar, India, March 17th, 2006

44.	Venkatesh Balasubramanian	Helicopter Ergonomics – Study of LBP and Neck Pain in Chetak Helicopters	HAL Management Academy, Bangalore, February, 2006
45.	Venkatesh Balasubramanian	Understanding Human Brain	Thiagarajar College of engineering, Madurai, September 30th, 2005.
46.	Venkatesh Balasubramanian	Human System Interface – Biofeedback in Automation	Arulmigu Kalasalingam College of Engineering, Krishnankoil, India, April 2nd, 2005.
47.	Venkatesh Balasubramanian	Occupant Biomechanics – Research at RBG, IIT Madras	India Science Lab, General Motors R&D, Bangalore, February, 2006
48.	Venkatesh Balasubramanian	DSS in Defense – A Model of Armored Combat	Vellore Institute of Technology, January, 2006
49.	Venkatesh Balasubramanian	Role of Information Technology in Logistics Management	Vellore Institute of Technology, January, 2006
50.	Venkatesh Balasubramanian	Who's to be Blamed? A Case Study in Supply Chain Mgmt.	Vellore Institute of Technology, January, 2006

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Anju Chadha	China	17-23 August, 2005	Invited to give a talk at the BMC-7 [Biotechnology, Metal Complexes and Catalysis] meeting in Beijing
2.	Anju Chadha	Singapore	25-26 August, 2006	Invited to give a talk at the Department of Chemistry, NUS
3.	Doble Mukesh	S.Korea and Singapore	14-21 May, 2005	To Attend Asia Pacific conference at S. Korea and visit and give a talk at NUS, Singapore
4.	Guhan Jayaraman	South Korea and Singapore	14-21 May, 2005	Asia-Pacific Conference in Biochemical Engineering; Visits to KRIBB (Daejeon) and NUS (Singapore)

Honours and Awards obtained:

Sl.No	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
1.	V. S. Chakravarty	Finalist (4/285) for Rosanna Degani Young Investigator Award	32 nd Annual Intl Conf. on Computers in Cardiology, Lyon, France, 25 –28, September, 2005.	-	-
2.	Venkatesh Balasubramanian	Outstanding Paper Award	12 th International Conference on Biomedical Engg. (ICBME 2005), Singapore	Paper titled "Muscle Fatigue Analysis for Bicyclist Using sEMG", Presented in the conference	Dec 10, 2005

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Doble Mukesh	Biotreatment of industrial effluents	Elsevier, New York (April 2005)	Anil 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.	Anju Chadha	AvH foundation	AvH fellow	1991
ISTE/CSI & others:				
1.	Anju Chadha	Madras Science Foundation	Fellow	2005
2.	Rama Shanker Verma	1. American society of Biochemistry and Molecular Biology USA	Regular and professor	1988
		2. Society Of Biological Chemists (India)	Regular	2001
		3. All India Biotech Association (India)	Regular	2002
		4. Indian Microbiological society	Regular	2006
3.	G. K. Suraishkumar	Madras Science Foundation	Fellow	2005

4.3.4 Design and Development Activities:

New facilities added or major equipment procured through project funds:

Sl. No.	Name of Equipment	Value (Rs. in lacs)
1.	Thermocycler	3.3
2.	HPLC Column oven- Jasco	~0.9
3.	DGGE/ TTGE Gel electrophoretic systems	MNES project
4.	Preparative gels and prep isoelectric focusing	IDRP CPMB project
5.	Analytical HPLC with PDA detector	IDRPCPMB project
6.	Gene pulser	DBT project
7.	Inverted microscope	2,46,000.00
8.	Micro centrifuge	1,62,000.00
9.	Fraction collector	1,57,784.00
10.	Weigh balance	17,500.00
11.	Deep freezer(-20)	57,750.00
12.	Bench top incubator shaker	3,82,800.00
13.	Biological incubator	78,300.00
14.	Non-Refrigerated Centrifuge	79,469.00
15.	Micro Centrifuge	81,200.00
16.	Milliq Water Purification System	4,48,000.00
17.	PCR -Machine	2,77,068.00
18.	Ultra Deep Freezers	3,96,000.00

Patents filed:

A Bioreactor for Plant Shoot Culture, G. K. Suraishkumar and I.I.T. Madras, May 2005.

4.3.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lacs)	Co-ordinators
1.	Chromium removal from tannery effluent through microbial bioremediation	Apr 2004 - Mar 2007	DBT	13.71	Ligy Philip, Dept. Civil Engg., T. Swaminathan, Dept. Chem. Engg.
2.	Ocular Abinism 1: Overexpression, Characterisation and Mechanism of Activation of a Novel G-Proteins Coupled Receptor (GPCR)	3 years	CSIR	15.00	A. Gopala Krishna

3.	Biocatalytic Deracemisation of Alpha-Hydroxy Carbonyl Compounds: Mechanism, Scope and Limitations	3-2-2004 to 2-2-2007	DST, GOI	20.34	Dr. Anju Chadha
4.	Rapid Monitoring of Trans esterification and Assessing Biodiesel Fuel Quality by Estimation of Glycerol	20-4-2004 to 19-4-07	DST, GOI	20.55	Dr. Anju Chadha
5.	Chemical modification of silicon surface for BioMEMS applications	July 04-July 07	Interdisciplinary Research Programme (IDRP) on MEMS, IITM	100.00	Dr. Anju Chadha [Co-PI] Prof K.N. Bhat. Dr. E. Bhattacharya, Electrical Engr. Dept., IITM
6.	MEMS Composite Porous Silicon/Silicon Cantilevers for Ultrasensitive Biosensing Applications	12-01-06 to 11-01-08	Indo-Israel; DST, GOI	6.79	Dr. Anju Chadha, [Co-PI], Dr. E. Bhattacharya, Electrical Engr. Dept., IITM
7.	Biocatalytic Production of a precursor of L-Carnitine: Process Development and Optimisation Studies	March 2006 -March 2009	DBT, GOI	25.70	Dr. Anju Chadha, {PI}, Dr. GS Naidu, BT, IITM
8.	Marine Organism mediated biodegradation of polymers	Sept 2005 - Sept 06	Naval research Board	8.00	Doble Mukesh
9.	Microbial and Biochemical studies to Enhance biogas Production and Integrated Approach for Value addition to spent Slurry	Nov 2003 to Nov 2006	MNES	17.76	Dr. T. S. Chandra
10.	Chemical Physics & Molecular Biology- Biomolecular interactions low MW proteins ,etc	Oct2003-2006 to Nov 2006	IIT Madras IDRP-CPMB project	11.50	Dr. T. S. Chandra (Group project)
11.	Fluorescent imaging of the Regulation of gene expression, Membrane Fluidity and Cell-Cell Interactions in the Riboflavinogenic Hemiascomycete Fungi	Feb 2004 – Feb 2007	Dept of Biotech, Govt of India	24.28	Dr. T. S. Chandra and Dr. A.K.Mishra, Dept of Chemistry, IIT Madras
12.	"Development of physical and biochemical parameters for the quality standards in selected Ayurvedic preparations"	Feb to Oct 2005 and second phase continued	Jointly with Laksmi Seva Sangam, Gandhigram ,Dindigul. It was Sponsored by RUTAG Cell of IIT	3.10	Dr. T. S. Chandra and Dr V.S.Murty, Dept of Physics
13.	Production, Purification and Characterisation of Microbial Pectic trans eliminases	3 years	DST	5.16	S N Gummadi
14.	Biocatalytic production of a precursor of L – Carnitine: Process Development and Optimisation studies	3 years	DBT	25.70	A Chadha S N Gummadi
15.	Study on learning and memory mechanisms in cardiac activity	2004-2006	DST	8.49	V S Chakravarthy & S. Radhakrishnan
16.	Communication Technology		(IDRG Project)	60.00	V S Chakravarthy (coordinator)
17.	A multimodal interface enabled office suite	-	DST	49.01	V S Chakravarthy (coordinator)
18.	Cloning and characterization fo Novel Osteoblast Derived Factors that Support Hematopoietic stem cell proliferation"	2005-2008	Department of Biotechnology- Govt. of India	42	R.S. Verma

19.	Development of a Novel Cloning and Expression System for Human Therapeutic Proteins	2004-2007	Indian Institute of Technology	5	R.S. Verma
20.	"Molecular characterization and cloning of Folate binding Protein in yeast"	2005-2008	MHRD	22	R.S. Verma
21.	Bioprocess Optimization of Recombinant Streptokinase Production in E.coli	2002-2005	MHRD	12	Guhan Jayaraman
22.	Bioprocess Development for Recombinant Proteins	2005-2006	Shantha Biotechnics (Technology Transfer funds)	3.4	Guhan Jayaraman
23.	Systems Level Investigation of Complex Diseases: Focus on Parkinson's Disease and Cardiac Arrhythmias	Jan. 2006 – Aug. 2007	IDRP-Biotech (IIT-Madras)	36 l	Guhan Jayaraman (Coordinator)
24.	Fabrication of Microfluidic devices for biological analysis	2004 – 2007	IDRP-MEMS (IIT-Madras)	100	Guhan Jayaraman, Prof. KN. Bhat (Coordinator), Prof. S. Karmalkar (Co-coordinator, Microfluidics)
25.	Biotechnological approaches for Patchouli oil Bioreactor development	May 03 - April 06	DBT	27	G K Suraishkumar
26.	Improvement of recombinant Production using the liquid phase oxygen supply theory	Sep 2003	MHRD	12	G K Suraishkumar
27.	Development of Ergonomics and Sports Biomechanics Laboratory	18 months	MHRD	14	Venkatesh Balasubramanian

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Mukesh Doble	Estimation of fatty acid content	V.P.N. Gelatine pvt ltd	0.08
2.	Guhan Jayaraman	Conversion of Biomass to Hydrogen	Nagarjuna Chemicals and Fertilizers Ltd.	3.5

4.3 RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1.	Anju Chadha	Biocatalytic Biodiesel Preparation	Tata Chemicals Ltd.	20.00
2.	Doble Mukesh	Biodegradation Polypropylene	RIL Mumbai	10.00
3.	Doble Mukesh	Modelling Studies on Fatty Acid Based Alkyds	Asian Paints ltd, Mumbai	1.50
4.	Guhan Jayaraman	Downstream Processing of Recombinant Streptokinase from <i>E.coli</i>	Shantha Biotechnics Pvt. Ltd., Hyderabad	2.25
5.	Venkatesh Balasubramanian	Ergonomics Based Productivity Improvement and Product Development Cycle Time Reduction	M/s Rabia Leather Industries, Chennai.	1.80
6.	Venkatesh Balasubramanian	Productivity Improvement and Resource Planning	M/s Leather Crafts India, Ltd	2.00
7.	Venkatesh Balasubramanian	Ergonomic Study of CV Shop Floor	M/s Wheels India Ltd. Chennai.	4.70

Journal Editorial Boards:

Sl. No.	Name of faculty	Level	Journal
1.	Doble Mukesh	Editorial Board of	CHEMICAL ENGINEERING, McGraw Hill, USA

Research Publications:

Total No. of papers published in Refereed National Journals	----- 02
Total No. of papers published in Refereed International Journals	----- 34
Total No. of papers presented in National Conferences	----- 11
Total No. of papers presented in International conferences	----- 39

In Refereed National Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1	T.S.Chandra	In vivo effect of whole grain flour of finger millet (<i>Eleusine coracana</i>) and kodo millet (<i>Paspalum scrobiculatum</i>) on rat dermal wound healing	Indian Journal of Experimental Biology, 43, 254-258 (2005)
2.	Doble Mukesh	Biodegradation of Polymers,	Indian J of Biotechnology Vol 4 (2005) 186-193

In Refereed International Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1.	Amal Kanti Bera	Spontaneous thermal motion of the GABA(A) receptor M2 channel-lining segments.	J Biol Chem. 2005 Oct 21;280(42):35506-12.
2.	Anju Chadha	Deracemisation of β -Hydroxy Esters Using Immobilised Whole Cells of <i>Candida parapsilosis</i> ATCC 7330: Substrate Specificity and Mechanistic Investigation	<i>Tetrahedron</i> , 2006, Vol 62, Issue 21, 5133-5140.
3.	Anju Chadha	Deracemisation of Aryl Substituted α -Hydroxy Esters using <i>Candida parapsilosis</i> ATCC 7330: Effect of substrate Structure and Mechanism	<i>Tetrahedron</i> , 2005, Volume 61, Issue 52, 12296-12306
4.	Anju Chadha	A Rapid and Simple Method of Monoacylation of Polyols by β -ketoesters Using Microwave Irradiation	<i>Synthetic Communications</i> , 2005, 35, 1151-1160
5.	Anju Chadha	Solid State Potentiometric Sensor for the Estimation of Tributyrin and Urea	<i>Sensors and Actuators, B: Chemical</i> , 2005, 107(1), 418-423
6.	Anju Chadha	Deracemisation of Aromatic beta-Hydroxy Esters Using Immobilized Whole Cells of <i>Candida parapsilosis</i> ATCC 7330 And Determination of Absolute Configuration By 1H-NMR	<i>Tetrahedron Asymmetry</i> , 2005, 16, 2790-98.
7.	Anju Chadha	Biocatalytic Deracemisation: An Efficient and Simple Strategy for the Preparation of Chiral α - and β -Hydroxy Esters	<i>Chem. Res. Chinese U.</i> , 2005, 21(Supplement), 46
8.	Anju Chadha	Estimation of Triglycerides: Optimisation studies on Silicon and Porous Silicon based Biosensors,	<i>Analytica Chimica Acta</i> , 2005, invited contribution
9.	Anju Chadha	Preparation of Biodiesel from Crude Oil of <i>Pongamia pinnata</i>	<i>Bioresource Technology</i> , 2005, 96(13), 1425-1429.
10.	T.S.Chandra	ESR Spectroscopic study reveals higher free radical quenching potential in kodo millet (<i>Paspalum scrobiculatum</i>) compared to other millets	Food Chemistry (USA) 92, 177-182 (2005)
11.	T.S.Chandra	Effects of the antioxidant properties of millet species on oxidative stress and glycemic status in aloxan-induced rats.	Nutritional Research (Elsevier) 25;1109-1120 (2005)
12.	K. Chandraraj	Microbial and enzymatic methods for the removal of caffeine	<i>Enz Microb Technol</i> , 37:225-232
13.	K. Chandraraj	Optimization of medium composition for alkali-stable xylanase production by <i>Aspergillus fischeri</i> Fxn 1 in solid-state fermentation using central composite rotary design,	Bioresource Technol., 96, 1380-1386
14.	Doble Mukesh	Transesterification of substituted ethanols with ethyl acetate-modelling studies,	<i>J Biochem Engg</i> (2005), 22 (3), 253-260

15.	Doble Mukesh	QSAR studies of paenol analogues for inhibition of platelet aggregation,	Biorganic & Medicinal Chemistry Vol 13/21 pp 5996-6001
16.	Doble Mukesh	MCM-41-supported platinum carbonyl cluster-derived catalysts for asymmetric and nonasymmetric hydrogenation reactions,	Journal of Catalysis 239 (2006) 154–161
17.	Guhan Jayaraman	Enhancement of Recombinant Streptokinase Production in <i>Lactococcus lactis</i> by suppression of acid-tolerance response	Applied Microbiology and Biotechnology, 2006 (<i>in press, available online</i>)
18.	K B Ramachandran	The study of Neural Network based Controller for Controlling Dissolved Oxygen Concentration in a Sequencing Batch Reactor	Bioprocess and Biosystems Engineering Vol.28, No.4, pp.251-265
19.	K B Ramachandran	Sensitivity of Hydrogen Peroxide to Growth and Hyaluronic Acid Production by <i>Streptococcus zooepidemicus</i> ATCC 39920.	Development in Chemical Engineering and Mineral Processing (2005) 13(5/6), 531-540
20.	K B Ramachandran	Operational stability of Lipase Enzyme: Effect of Temperature and Shear.	Development in Chemical Engg and Mineral Processing (2005) 13(5/6), 675-686
21.	K B Ramachandran	Modelling and Dynamic Simulation of Activated Sludge process in Sequencing Batch Reactor .	Development in Chemical Engg and Mineral Processing (2005)
22.	Sanjib Senapati	Induced Fit in Mouse Acetylcholinesterase upon Binding a Femtomolar Inhibitor: A Molecular Dynamic Study	Journal of Medicinal Chemistry 48, 8155 (2005)
23.	Sathyanarayana N Gummadi	Pectin lyase and pectate lyase from <i>Debaryomyces nepalensis</i> from apple	Research Journal of Microbiology 1:152-159 (2006)
24.	Sathyanarayana N Gummadi	Enhanced production of pectin lyase and pectate lyase by <i>Debaryomyces nepalensis</i> in submerged fermentation by statistical methods	American Journal of Food Technology 1:19-33 (2006)
25.	Sathyanarayana N Gummadi	Biodegradation of Caffeine by <i>Pseudomonas</i> sp. NCIM5235	Research Journal of Microbiology 1:115-123
26.	Sathyanarayana N Gummadi	Production of extracellular water insoluble β -1, 3-glucan (curdlan) from <i>Bacillus</i> sp. SNC07	Biotechnology & Bioprocess Engineering, 10, 546-551 (2005)
27.	Sathyanarayana N Gummadi	Microbial pectic transeliminases	Biotechnology Letters, 27, 451-458 (2005)
28.	Sathyanarayana N Gummadi	Microbial and enzymatic methods for the removal of caffeine	Enzyme and Microbial Technology, 37, 225-232
29.	V Srinivas Chakravarty	On the Role of Gap junctions in cardiac Memory Effect	<i>Computers in Cardiology</i> , December, 2005
30.	G. K. Suraishkumar	Bacterial Transport in Porous Media: New Aspects of the Mathematical Model	Colloids and Surfaces: A. Physicochem. Eng. Aspects, 260, 53-62, 2005
31.	G. K. Suraishkumar	Multi-objective Optimization in <i>Aspergillus niger</i> Fermentation for Selective Product Enhancement	Biosystems & Bioprocess Engineering, 28, 149-164, 2005
32.	Venkatesh Balasubramanian	Texture Analysis of Foot Sole Soft Tissue Images in Diabetic Neuropathy Using Wavelet Transform	Medical & Biological Engg & Computing, vol. 43 (6), 756–763, 2005
33.	Venkatesh Balasubramanian	Independent Component Analysis of Generalized Tonic Clonic Seizure	Innovation and Technology in Biology and Medicine (ITBM-RBM), vol. 27, 19–24, 2006
34.	Venkatesh Balasubramanian	Quantitative Evaluation of Low Back Pain in Bar Benders	NICMAR Journal of Construction Management, vol. 20 (4), 31–36, 2005

In Proceedings of National Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1.	T.S.Chandra	Stress response on riboflavin production in filamentous fungus <i>Ashbya gossypii</i>	Oral paper presentation at the National Conf 'Path to Health - Biotech Revolutions in India' and Second Convention BIO TECH Research Society of India	24-26 th November, 2005, Anna University Chennai
2.	T.S.Chandra	Screening of Antioxidant Property of Phenolics from different Sorghum and Millet varieties	National Conference 'Path to Health – Bio technology Revolutions in India' and Second Convention BIOTECH Research Society of India	24-26 th November 2005, Anna University Chennai
3.	T.S.Chandra	"Enzyme mediated regio-selective hydroxylation of a carotenoid to a xanthophyll using <i>Flavobacterium</i> strain" Poster presented in the) held in # Won the Best Poster Award	National Conference FOOD PLUS 2005 organised by Association of Food Scientists and Technologists (INDIA	Bangalore during December 9-10 th 2005.
4.	T.S.Chandra	Antioxidant activity of Kodo millet (<i>Paspalumscrobiculatum</i>) flour extracts on in vito Peroxidation models	National Conference FOOD PLUS 2005 organised by Association of Food Scientists and Technologists (INDIA)	Bangalore during December 9-10 th 2005.
5.	T.S.Chandra	"Isolation of polysaccharide degrading moderately halophilic bacteria from a saltern".	Micro-Biotech 2005, 46 th Annual Conference of the Asscn. of Microbiologists	Osmania University Hyderabad , Dec 8-10 th 2005
6.	Doble Mukesh	Biodegradation of poly carbonate by marine bacteria in organic solvent	SCHEMCON, IIT, Guwahati	Dec 7 to 9, 2005,
7.	Doble Mukesh	BIODEGRADATION OF NYLON-6,6 BY NOVEL MARINE MICRORGANISMS,	BIOTECH 2005, Gurgoan	21-25 Dec, 2005
8.	Doble Mukesh	Chemical and Surface analysis of explanted cardiac prosthesis,	Joint Annual Meeting of the International Society of Heart Research (Indian Section) & International Academy of Cardiovascular Sciences (Indian Chapter), Chennai	12th-14th January 2006.
9.	Doble Mukesh	Modelling of blood flow through arteries	Joint Annual Meeting of the International Society of Heart Research (Indian Section) & International Academy of Cardiovascular Sciences (Indian Chapter), 12th-14th January 2006, Chennai	
10.	Guhan Jayaraman	Cellular Engineering for Industrial Bioprocesses: Enhancing Productivity through a 'Systems-Biology' Approach	Biotech 2005 (Biotech Society of India)	December 22-24, New Delhi
11.	Venkatesh Balasubramanian	Effect of Yoga and Pranayama on Lung Compliance after Fontan Operations	Scientific Validation, Testing and Evaluation of Alternative Medicine, IIT Delhi	February 9, 2006.

In Proceedings of International Conferences (all papers have more than one author):

Sl.No	Name of faculty	Title	Institution	Period
1.	Anju Chadha	Deracemisation: An efficient method to prepare optically pure alpha- and beta-hydroxy esters	BMC-7, Beijing China	17-23 August 2005
2.	T.S.Chandra	"Studies on anaerobic nitrogen fixing Micro organisms from vermicompost"	MICROBIAL DIVERSITY 2005 –an International Conference on Microbial Diversity: Current Perspectives and Potential Applications Dept of Microbiology ,Univ of Delhi South Campus	April 16-18 th 2005 held at Delhi
3.	T.S.Chandra	Spectroscopic and biochemical changes during vermicomposting of sugar industry residues indicative of dynamics microbial community	MICROBIAL DIVERSITY 2005 –an International Conference on Microbial Diversity :Current Perspectives and Potential Applications Dept of Microbiology ,Univ of Delhi South Campus	April 16-18 th 2005 held at Delhi
4.	T.S.Chandra	'Biochemical changes during psychrophilic and mesophilic digestion of cow dung in batch reactor -a link to microbial diversity	MICROBIAL DIVERSITY 2005 –an International Conference on Microbial Diversity : Current Perspectives and Potential Applications Dept of Microbiology ,Univ of Delhi South Campus .	April 16-18 th ,2005 held at Delhi
5.	T.S.Chandra	"SPECTROSCOPIC AND CHROMATOGRAPHIC APPLICATIONS IN STANDARDISATION OF SELECTED AYURVEDIC PREPARATIONS"	The International Conf. on GLOBALIZATION OF TRADITIONAL, COMPLIMENTARY & ALTERNATIVE SYSTEMS OF MEDICINE	Tamilnadu Agricultural Univ, Coimbatore 16-18 th March 2006
6.	T.S.Chandra	"Nutraceutical Properties of Little Millet" (SAMAI or <i>Panicum sumatrense</i>)"	The Intl. Conference on Globalization of Traditional, Complimentary Alternative systems of Medicine	Tamilnadu Agricultural Univ Coimbatore, 16-18 th March 2006
7.	Doble Mukesh	"Mathematical Modelling of Prodn of Hydantoinase"	Asia-Pacific Biochemical Engg Conference, Korea	16 May, 2005
8.	Doble Mukesh	Mathematical simulation of batch production of D-hydantoinase using Agrobacterium radiobacter.	19 th Symposium of Malaysian Chemical Engineering (SOMChE 2005) and 2 nd Intl. Conference on Chemical and Bioprocess Engg.	
9.	Doble Mukesh	Experimental and QSAR studies on antifungal compounds	Intl. Conference on Drug Discovery: Perspectives and Challenges CDRI, Lucknow	Feb 24-25, 2006
10.	Doble Mukesh	QSAR studies of COX-2 inhibitors of commercial interest	International Conference on Drug Discovery: Perspectives and Challenges, CDRI, Lucknow	Feb 24-25, 2006
11.	Doble Mukesh	Synergism of Eugenol with Antibiotics against Selected Bacterial Species	Intl. Conference on Drug Discovery: Perspectives and Challenges, CDRI, Lucknow	Feb 24-25, 2006
12.	Doble Mukesh	QSAR studies of microtubule stabilizing agents	Intl. Conference on Drug Discovery: Perspectives and Challenges, CDRI, Lucknow	Feb 24-25, 2006
13.	Doble Mukesh	Biodegradation of polyethylene and nylon	CHEMCON, N. Delhi	2005 17 th Dec

14.	Doble Mukesh	Mathematical simulation of D-hydantoinase production,	CHEMCON, N. Delhi	2005 17 th Dec
15.	Guhan Jayaraman	Modeling of the regulation of alternative sigma factors σ_{32} and σ_E during temperature induced recombinant protein production in <i>Escherichia coli</i>	Asia-Pacific Biochemical Engineering Conference, Jeju Island, South Korea	May15 -19, 2005
16.	Guhan Jayaraman	Improvement of Productivity of Recombinant Streptokinase in <i>Escherichia coli</i> by Coexpression of Molecular Chaperones	Asia-Pacific Biochemical Engineering Conference, Jeju Island, South Korea	May 15 -19, 2005
17.	Guhan Jayaraman	Expression Studies of Recombinant Streptokinase in <i>Lactococcus lactis</i>	Asia-Pacific Biochemical Engineering Conference, Jeju Island, South Korea	May 15-19, 2005
18.	Guhan Jayaraman	Model Based Development of Fed-Batch Process for Recombinant Streptokinase Production	Asia-Pacific Biochemical Engineering Conference, Jeju Island, South Korea	May 15-19, 2005
19.	Guhan Jayaraman	Modelling and Control of Fed-batch processes for proteolytically-sensitive proteins	Biochemical Engineering XIV: Frontiers and Advances in Biotechnology, Biological and Biomolecular Engineering, Harrison Hot Springs, BC, Canada	July 10-14, 2005
20.	Guhan Jayaraman	Modeling the cellular stress response to temperature induced recombinant protein over expression in <i>Escherichia coli</i>	6 th Intl. Conference on Systems Biology	Oct.19-24, 2005
21.	Guhan Jayaraman	Kinetic analysis of the envelope stress response during the temperature induced periplasmic expression of recombinant streptokinase in <i>E. coli</i>	AIChE Annual Meeting 2005, Cincinnati, Ohio (USA)	Oct 30- Nov.4, 2005
22.	Guhan Jayaraman	Online performance monitoring of recombinant protein production in a fed-batch reactor	AIChE Annual Meeting 2005, Cincinnati, Ohio (USA)	Oct 30-Nov. 4, 2005
23.	Guhan Jayaraman	Extended Kalman Filter based monitoring of Recombinant Streptokinase Production	CHEMCON 2005, New Delhi	December 14- 17, 2005
24.	G K. Suraishkumar	Liquid Phase Oxygen Supply Strategy for Improving Recombinant Streptokinase Production	CHEMCON 05	December 2005
25.	G K Suraishkumar	Low Velocity Impact Study to Elucidate Natural Optima in Human Skull	ICCES 05	December 2005
26.	Venkatesh Balasubramanian	EEG Based Statistical Analysis of the Effect of Microtonal Music on Human CNS	International Conference on Biomedical Engineering (ICBME 2005), Singapore	Dec 7-10, 2005
27.	Venkatesh Balasubramanian	Muscle Fatigue Analysis for Bicyclist Using sEMG	International Conference on Biomedical Engineering (ICBME 2005), Singapore	Dec 7-10, 2005

28.	Venkatesh Balasubramanian	Identification of Inter Ictal Abnormality of Complex Partial Seizure Using Independent Component Analysis and Fast Fourier Transforms	International Conference on Biomedical Engg. (ICBME 2005), Singapore	Dec 7–10, 2005
29.	Venkatesh Balasubramanian	EMG Study of Neck Muscles While using Standard Issue Helicopter Air Crew Headgear	International conference on Ergonomics, HWWE 2005	Dec 10–12, 2005
30.	Venkatesh Balasubramanian	Ergonomic Assessment of Bar Cutting Process in Construction	International conference on Ergonomics, HWWE 2005	Dec 10–12, 2005
31.	Venkatesh Balasubramanian	EMG Study of Flight Induced Fatigue of Chetak Helicopter Pilots	International conference on Ergonomics, HWWE 2005	Dec 10–12, 2005
32.	Venkatesh Balasubramanian	Ergonomic Assessment of Computer Workplace in ITES Establishment and Educational Institution	International conference on Ergonomics, HWWE 2005	Dec 10–12, 2005
33.	Venkatesh Balasubramanian	An EMG Based Muscle Fatigue Analysis of Computer Game Players	International conference on Ergonomics, HWWE 2005	Dec 10–12, 2005
34.	Venkatesh Balasubramanian	An EMG Based Ergonomic Evaluation of Chairs for Computer Related Works	International conference on Ergonomics, HWWE 2005	Dec 10–12, 2005
35.	Venkatesh Balasubramanian	Analysis of postural stability in diabetes/peripheral neuropathy during threshold level acceleration perturbation	XVIIth Conference of International Society for Posture and Gait Research, Marseille, France	May 29 – June 2nd, 2005
36.	Venkatesh Balasubramanian	Decellularisation of Xenograft Tissue for Clinical Use	TESI Annual Meeting, Shanghai, China	Oct 22–25, 2005
37.	Venkatesh Balasubramanian	Response of Spine to Vehicular Vibration	Twelfth International Congress of Sound and Vibration, Lisbon, Portugal,	July, 2005
38.	Venkatesh Balasubramanian	Foot Sole Soft Tissue Characterization in Diabetic Neuropathy Using Wavelet Transform	International Conference on Biomedical Engineering, Austria	2005
39.	Venkatesh Balasubramanian	Analysis of Postural Stability in Diabetes/Peripheral Neuropathy During Threshold Level Acceleration Perturbation	International Conference on Biological and Medical Physics, UAE,	2005

Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Prof. Vladkova and Prof. Dineff, University of Sofia, Bulgaria.	July 2005	Discussion with Polymer Bio degradation group.
2.	Dr Bipin Nair, Chairperson – Biotechnology Dept., Amrita Institute	22 nd August 2005	Interaction with Faculty Members
3.	Dr Mukund Thattai, National Centre for Biological Sciences, Bangalore	1 st September.2005	Seminar Talk titled "The Persistence of Cellular Memory"
4.	Dr Jaya Bhattacharyya, Washington University School of Medicine	8 th September 2005	Seminar Talk titled "Functional Elements in Small Heat Shock Protein aB Crystallin".

5.	Dr Partha Pratim Manna, Washington University School of Medicine	8 th September 2005	Seminar Talk titled "Immunobiology Of CD47 – Role in Cell Signaling"
6.	Prof Raj Mutharasan, Drexel University, Philadelphia	15 th September 2005	Seminar Talk titled "Detection of Ultra low Concentration of Pathogens and Proteins".
7.	Sri S Raman, Operations Manager, Biocon India Ltd., Bangalore	16 th September 2005	Seminar Talk titled "Biologics – A Regulatory Review".
8.	Dr Bapat, Vice President, R& D – Sanmar Speciality Chemicals, Chennai	19 th September 2005	Seminar Talk titled " IPR – Overview"
9.	Dr Amit Asthana, Dept. of Fine Chem. Engg. & Chemistry, Chungnam National University, Republic of Korea	22 nd September 2005	Seminar Talk titled "Microfabrication of Microfluidic Devices and Macroporous Channel using Transparent Polysilazane Glasses and Application of these glasses in Micro Protein Patterning
10.	Dr Srinivasan Kanumilli Lectus Therapeutics Ltd., University of Bristol, UK	28 th September 2005	Seminar Talk titled "Diversity of Voltage-Dependent Calcium Channel Transcripts in Rat Cerebellar Punctate"
11.	Professor Gabriele Peltre, Professor in the Laboratoire Environnement et Chimie Analytique, Allergie et Environnement, Paris, France	7 th October 2005	Seminars in the Dept. of Chemistry, meeting and discussions with other scientists in the department of BT and Chemistry.
12.	Dr Malini Raghavan, Dept. of Microbiology & Immunology, University of Michigan Medical School	22 nd December 2005	Seminar Talk titled " Molecular interactions in the Major Histocompatibility Complex Class I Antigen Presentation Pathway"
13.	Dr Nalini Raghavachari, Ph.D, Critical Care Medicine Dept., National Heart Lung and Blood Institute, NIH, USA	23 rd December 2005	Seminar Talk titled "Transcript Profiling of Circulating Peripheral Blood Cell by High Sensitive mRNA Amplification Process to unravel Disease Mechanism".
14.	Dr D Sivanesan, NCI Comprehensive Cancer Centre, Georgetown University	19 th January 2006	Seminar Talk titled "Hit-to-Lead Identification Using Molecular Modeling Approaches".
15.	Dr Thirumananeri Kumaravel, Structural & Molecular Biology Laboratory, RAIKEN Harima Institute at Spring-8, Hyogo, Japan	16 th February 2006	Seminar Talk titled "Structural basis of HutP-mediated transcription anti-termination".
16.	Dr Sanjay Swarup, Ph.D., Associate Professor, Dept. of Biological Sciences, National University of Singapore	23 rd February 2006	Seminar Talk titled "Multidisciplinary Approaches to Understand Biological Roles of Small Molecules:Two Case Studies".
17.	Dr C K Prakash, Research Associate, Washington University Medical School, Saint Louis	2 nd March 2006	Seminar Talk titled " Analysis of the Spindle Positioning Checkpoint in Budding Yeast".

4.3.6 Other Activities:

1. Dr. A. Gopala Krishna : Reviewed article for the journal "Langmuir."

2. Dr. Anju Chadha:

- **National level:**

Member of the Subject Expert Committee for the Women Scientists Scheme, DST, GOI [2005-onwards]
Ph.D. examiner for the Universities of Gujarat, Madras and MG Univeristy at Kottayam

- **Institute:**

Member of the Sub-committee of the ICSR board to formulate policy on incubation of Companies for IITM faculty and students
Accepted to be Member Secretary of the Institute Ethics Committee

- **Department:**
 - Faculty Advisor for the batch of 2005
 - Summer training in-charge for the IIIrd year UG batch in Biotechnology since 2005
 - Placement coordinator for the first batch due to pass out in 2006.
 - Dept. representative on the IC & SR board.
 - Dept. representative on the Board of Academic Research
- **Reviewer for Journals :**

Tetrahedron Asymmetry; Tetrahedron, Sensors and Actuators, Enzyme and Microbial Technology, Bioresource Technology, Journal of the Oil Chemists Society of America, journal of Molecular Catalysis-Enzymatic and Analytical Chemistry
- **Projects**

for DST and DBT, GOI

3. Dr. Mukesh Doble

Signed NDA with

1. Lupin research center, Pune
2. Asian Paints Ltd, Mumbai
3. Madras Medical Mission, Chennai

- **Collaborative project with**

1. Department of Pharmaceutical, UDCT, Mumbai on 'Drug delivery systems'
2. Madras Medical Mission, Chennai on ' Analysis of explanted BT shunt polymers'
3. NIOT Chennai on ' Marine organisms mediated biodegradation of polymers'
4. JIPMER, Pondicherry on ' Analysis of EEG signals'

- **Students who won best poster/paper awards at various conferences:**

1. Apurva Pandey and Nitin Pahwa (B.Tech) at SCHEMCON 2005, IIT Gowhati
2. Pratyush Rai (B.Tech) at Science, Technology and Medicine against heart disease, Joint Annual Meeting of ISHR, Jan 12-14, 2006, MMM, Chennai
3. P M Sivakumar (PhD) at International Conference on Drug Discovery: Perspectives and Challenges, Feb 24-25, 2006, CDRI, Lucknow

4. Professor T. S. Chandra

Has been elected as President -Elect 2006 of the Assocn. of Microbiologists of India and will take over as President during Dec 2006 .

5. Dr. S. N. Gummadi

Reviewed articles in the following International Journals

1. Journal of Agricultural and Food Chemistry - ACP Publications
2. Process Biochemistry)
3. Enzyme Microbial Technology) Elsevier
4. Journal of Chemical Technology & Biotechnology – Wiley
5. Iranian Journal of Biotechnology

6. Dr. N. Manoj

Reviewed article for the journal Acta.Crystallographica. Section D

7. Dr. Rama Shanker Verma

1. Selected treasurer – Indian Microbiology society (Chennai Chapter) 2006-2007
2. Reviewed International Grants submitted to Department of Biotechnology New Delhi India
3. Member Hindi cell IITM Chennai 2006 onwards
4. Involve in Taking permission and approval form BARC for the departmental Radioactive facility
5. Invited lectures given at

National seminar on "Gene to Genomics" held at Department of Industrial Biotechnology, Bharath Institute of Higher Education and Research, Selaiyur, Chennai On 22 September 2005
Lead lecture topic "Stem cell and its Potential"

8. Dr. Guhan Jayaraman

- 1 Head, Dept. of Biotechnology, Feb. 2004 – July 2005
- 2 Coordinator, Inter-disciplinary Research Programme in Biotechnology, Dec. 2005 –
- 3 Member, Institutional Bio-safety Committee, July 2004 -
- 4 Member, Institutional Ad-hoc Committee, March 2004 –
- 5 Member, Institute Central Workshop Users Committee
- 6 Faculty Advisor, B.Tech. Batch 2002-2006 and DD 2002-2007.
- 7 Consultant, Nagarjuna Fertilizers and Chemicals Ltd., June 2005 –
- 8 Reviewed manuscripts for Biochemical Engineering Journal

9. Professor K B Ramachandran

Served as a Guest Editor to the special issue of the Journal

Developments in Chemical Engineering and Mineral Processing Vol.13, Nos.5/6, 2005

4.4 DEPARTMENT OF CHEMICAL ENGINEERING

4.4.1 Introduction:

The Department of Chemical Engineering was established in 1959. The department is organized into seven research groups with supporting laboratory. The transfer operations laboratory, Research Engineering Laboratory, process Dynamics and control Laboratory, Mechanical operation Laboratory, High Engineering Laboratory, Bio Chemical Engineering Laboratory and Environmental Engineering Laboratory.

4.4.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1	CHE523	System Identification

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	49	49	40	46	01	185
Dual Degree	10	11	10	10	10	51
M.Tech.	19	34	0	0	0	53
M.S.	2	6	4	1	0	13
Ph.D.	3	12	12	6	13	46
Total	83	112	66	63	24	348

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

Sl. No.	Name of the Student	Programme	Name of the Conference/ Workshops Seminar/Symposia	Date and Venue
Conference:				
1	S.Sivaramakrishnan	M.Tech	National Conference on Emerging trends in instrumentation and Communication technologies (ETICT- 2006)	16-17 th March.2006 Kaariapatti.
2.	S.Sivaramakrishnan	M.Tech	National Conference on Process Identification control and Diagnosis 2005	16-17 th December 2005 MIT, Chromepet.
3.	R.Srinivasan	Ph.D	International conference on Fluid mechanics and Aerodynamics (Fluids-'05)	16-26 th Aug..2005 Corfu- Island- Greece.
4	A.Seshagiri Rao	Ph.D	Process Control and Automation PROCAT -2005	16 th Sep 2005 Crescent Engg. College
5	Swapan Maji	M.Tech	Process Control and Automation PROCAT -2005	16 th Sep 2005 Crescent Engg. College
6	Swapan Maji	M.Tech	National Conference on Process Identification control and Diagnosis 2005	16-17 th December 2005 MIT, Chromepet.
7	P.CH Gouri Sankar Sandaka	M.Tech	2005 Ansys India Conference	29-30 th November IISc. Bangalore.
8	P.Ch.Gowri Sankar Sanadaka	M.Tech	NSMMA -2005	IIT Madras.
9	Anil Ballede	Ph.D	32 nd National conference on Fluid mechanics and Fluid Power.	13-18 th December 2005 College of Engineering Osmanabad.
10	Y.Nagendra Prasad	Ph.D	Chemcon - 2005	11-20 th Decemebr2005 IIT New Delhi

11	K.Aparna	Ph.D.,	Chemcon - 2005	12-19 th December 2005, IIT Delhi
12	Sujoy Kumar Samantha	Ph.D	Chemcon -2005	14 th 17 th December 2005, IIT New Delhi
13.	K.Ganesh Palappan	Ph.D	Chemcon -2005	14-17 th December 2005, IIT New Delhi.
14.	Vidaya Sagar Silapuram	Ph.D	International Congress of Chemistry and Environment2005	21 st to 27 th December 2005 , Indore.
15.	Y.Nagendra Prasad	Ph.D	International Congress of Chemistry and Environment	21 st to 27 th December 2005 , Indore.
16	K.B.Shyam Prasad	Ph.D/QIP	Ansys India Advanced Workshop	1 st and 2 nd December 2005. Bangalore.
17	N.Kapil	M.S	Bio Technology, Anaerobic Bacteria and Archeaea	1 st to 6 th 2006 March Pune.
18.	Subramanian.N	Ph.D	ANSYS Convergence 2005 conference	22 nd December 2005 Bangalore, India
19	M.Suryasehar	M.S	CHEMCON -2005	13-17 th New Delhi

4.4.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization
Professor:	
A.R.Balakrishnan,Ph.D (Waterloo) [Head]	Transport Processes, Energy Conservation
M.Chidambaram,Ph.D (IISc)	Process Control
K.Krishnaiah ,Ph.D (IIT M)	Chemical reactor analysis and design fluidization
DVS Murthy Ph.D (IITM)	Environmental Engineering, particle technology
R.Nagarajan Ph.D (Yale university)	Particle Science & Technology, Ultrasonic Processing, Statistical Quality Control
T.Panda Ph.D(IIT Delhi)	Bioprocess Optimization, bioprocess technology and enzyme design
S.Pushavanam Ph.D (Florida)	Modeling and simulation, non linear dynamics, flow visualization
V.S.Ramachandra Rao Ph.D (IITM)	Advanced Control strategies, neuro fuzzy control
Shankar Narasimhan Ph.D(North Western)	Process design, data mining, fault diagnosis
T.Swaminathan Ph.D (IIT Kanpur)	Environmental Management, Biotechnology, Membrane technology, Environmental risk assessment
PST Sai Ph.D (IIT M)	Chemical reactor analysis and design
R.Ravi	Applied statistical mechanics, foundations of thermodynamics and mechanics, process dynamics and control
Sreenivas Jayanti	Computational fluid dynamics
Associate Professor:	
Abhijit Deshpande	Rheology of complex fluids, polymers and polymeric composites Processing flow visualization
A.Kannan	Rate enhancement of mass transfer processes
Assistant Professor	
Susy Varughese	Physics & mechanics of polymeric materials, polymeric nano composites
S.Ramanathan	Semiconductor processing, Electrochemistry, Chemical Reaction Engineering
Tanmay Basak	Microware application, mathematical modeling and simulation
Arun K Tangirala	Process Control, System identification and parameter estimation And multivariate Data Analysis
Scientific Officers / Engineers:	
Dr. K. Krishnamurthy	

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Dr. R.Ravi	National conference on India's competitiveness and preparedness in Science and technology for the coming decades.	26th and 27 th October 2005 National Institute of Advanced Studies, Bangalore.
2.	Dr.A.Kannan	Paper Presentation at the 18 th National and 7 th ISHMT-ASME Heat and Mass transfer conference.	4 to 6 th January 2006 IIT Guwahati.
3.	Dr.A.R.Balakrishnan	Key note lecture at the Inauguration of the conference on "Computational Techniques in continuum Mechanics"	24 th January 2006 Anna University.
4.	Dr.D V S Murthy	Lecture on receptor and Dispersion Models on air quality in the workshop on "Air quality Modeling".	24 th January 2006 IIT madras.
5.	Dr.PST Sai	Key note address at the National level students Paper contest	24 th January 2006 Bapatla Engineering College,
Seminar:			
1.	DVS Murthy	Bio Medical waste Management in the Seminar of "City of Tomorrow"	18 th November 2005 Max Muller Bhavan
Symposia:			
	Dr.A.Kannan	Chaired a technical session of a National symposium CHEMRHEOH-2005	21 st September 2005 Sathyabama Institute of Science and Technology
Workshop:			
1.	Dr.Shankar Narasimhan & Dr.Arun K.Tangirala	Multivariate Data Analysis Techniques & Application.	July 18-22,2005
Short term Course:			
1.	Prof.D.V.S.Murthy	Analytical Procedures in water and Waste water Quality, Sponsored by Central Pollution Board December 2005. New Delhi Participants 18.	28 th Nov. to 2nd
2.	Dr.Arun Tangirala Dr.Kannan Moudgalya	Short-term course on Digital Control	June 20-24,2005

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.A.Kannan	Adsorption and Absorption in Training Program.	National Productivity Council, Chennai.	31 st August 2005
2.	Dr.Srinivas Jaynathi	Computational Fluid Dynamics, CFD	Indian National Science Academy, New Delhi.	24 th September 2005
3.	Dr.D V S Murthy	Receptor and Dispersion Models for Air Quality	IIT Madras Civil Engg.	24 th January
4.	Dr.A.R.Balakrishnan	Key note lecture at the Inauguration of the conference on Computational techniques in Continuum Mechanics	Anna University	11 th January 2006
5.	Dr.T.Swaminathan	International Conference on waste water reclamation and reuse – Toxic Chromium (VI) removal from wastewaters by biosorption using Algae-	Jeju ,Korea	November 2005
6.		2 nd International conference on artificial intelligence	Pune, India	December 2005

Sl. No.	Name of faculty	Title	Institution	Period
Symposia:				
1.	Dr.DVS Murthy	Issues in Industrial Air Pollution in the National Symposium on Environmental Engg.	NIT Trichy	12 th November 2005
2.	Dr.R.Nagarajan	Indo-US Conference CHEMCON 2004	Mumbai	28-30 th Dec.2004
Conference:				
1	Dr.Susy Varughese	Intl. Seminar on Mineral Processing Technology	MPT-2005 Pp113-122 Dhanbad	January 2005
Training:				
1.	Dr.A.Kannan	Interpersonal skills & Communication, HRD Training Programme	IIT Madras	21-22 nd Jan.2005

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Dr. Tanmay Basak	International workshop on Microwave Technology for Materials Processing.	1 st – 3 rd February 2006
2.	Dr.Susy Varughese	Lecture on National Science Day-Polymers	DRDO Chandipur 27 th February to 1 st March 2006
3	DVS Murthy	Biological Secondary Waste Water Treatment	Satyabhama Institute of Technology
4	DVS Murthy	Issues in Industrial air pollution	National workshop on Incineration & Solid waste management, IIT Madras, April 05
5	Dr. A.Kannan	"Advanced Separation Process"	21-22 October 2005 at Vigyan College of Engineering, Guntur.
6	Dr. A.Kannan	"Reverse Osmosis Fundamentals"	23 rd 2005 SERC School on waste water Management: IIT Madras.
7	Dr. A.Kannan	"Control system for gaseous Pollutants: Adsorption and absorption & Latest Air pollution Control Technologies	1 st September 2005 at Dr.Ambedkar institute of Productivity
8	Dr. A.Kannan	Two Lectures work shop application of ASPEN Plus in process Simulation.	24 th and 25 th Febrary 2006 Venkateswara College of Engineering, Sriperumpudur.
9	Dr.PST Sai	Direct reduction Process : Is it an alternative to Blast Furnace	24 th January 2006 at Bapatla Engineering College.
10	Dr.PST Sai	Process Intensification-Case studies in reaction Engineering.	26 th September 2005 at J.C College of Engineering.
11	Dr.Swaminathan	Bhopal gas Tragedy	3 rd December 2005 Seoul University, Korea.
12	Dr.K.Arun K. Tangirala	Instrumentation for safe plant Operation	Regional Labour Institute Institute, Chennai.
13	Dr.K.Arun K. Tangirala	Control & Modelling of Fuel cells	BHEL, Trichy

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Dr.T.Swaminathan	Korea	30.6.2005 to 8.12.2005	National Seoul National University Visiting Professor.
2.	Dr.S. Pushpavanam	Germany	12.12.2005 to 23.12.2005	Max-Plank Institute, Magdeburg DST DAAD
3.	Dr.R.Nagarajan	U.S.A (Chicago)	21.05.2005 to 30.06.2006	51 st Annual Technical Meeting ESTECH- 2005/Visit Universities
4	Dr. D.V.S Murthy	Malaysia	10.12.2005 to 24.12.2005	Private Visit

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
1.	Dr.Sreenivas Jayanthi	Best paper award	CFD Centre IIT Madras	CFD based papers "Multidimensional Model for annular gas-liquid flow"	2004
2.		Best presentation award	Int. Cong.On Chemistry and Environment, Indore, India	Modeling requirements for tsunami hazard mapping of Indian costal Zone"	24-26 th December 2005
3.	Dr.Tanmay Basak	Young Engineer Award	Indian National academy of Engineering	Engineering Research	2005
4.		AMAR DY-CHEM award	Indian Institute of Chemical Engineers	Excellence in Research and Development	2005

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Name of the Academy/ Professional Society	Level	Year of admission
INAE:				
1.	A.R.Balakrishnan	-	Fellow	2003
ISTE/CSI & others:				
1.	A.R.Balakrishnan		Member	1996
2.	A.R.Balakrishnan	American Institute of Chemical Engineers	Senior Member	1978

4.4.4 Design and Development Activities:

New facilities added or major equipment procured through project funds:

Sl.No	Name of Equipment	Value (Rs. in lacs)
1	Methane Gas Analyzer with accessories	4.42
2	TEE type Air Shower	1.92
3	Ultrasonic/Megasonic meter	1.88
4	Thermo Reactor & Accessories	0.74
5	10KVA Numeric UPS	1.34
6	Electrochemical work station	4.41
7	Particle size Analyzer	12.5

4.4.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lacs)	Co-ordinators
1	Microscopic observation pf wetting dynamics over porous and particulate Solids.	April 2002 June 2006	MHRD	10.00	Abhijit Deshpande
2	Recycling of printed circuit Board	April 2005 to June 2009	MHRD	15.00	Abhijit p Deshpande
3	Flow Visualization Centre	April 2001 June 2006	IDST (FIST)	98.00	A.R.Balakrishnan Pushpavanam Abhijit P Deshpande
4	Separation of Marcarsite from Pulverized Lignite using Fluidized Bed .	2004- 2006	-	17.00	PST Sai

5	Effect of Additives on chemical Mechanical	Feb 2006 Feb 2009	DST	22.00	S.Ramanathan
6	Monitoring of fine particulates	2004 -2007	SIDA, Sweden	-	Dr.T.Swaminathan Dr. Ligy Philip
7	Cr(vi) removal from tannery effluents through microbial remediation	2004 -2007	Dept of Bio-Technology	-	-
8	Development of eco-friendly disposable cups based on white clay.	March - November 2005	IIT Madras	0.84	Dr.Susy varughese Co-Invetigator
9	Re-Cycling of printed Circuit boards	2005- 2008	MHRD	15.00	
10	Development of a Polymer Engineering Lab.	2002- 2005	MHRD	15.00	
11	Suitability Analysis of polymer for corrosive application.	2004- 2006	High Energy Batteries Ltd. Trichy	3.87	

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1	Dr.Kannan	for process Validation study for commercial butane production	CETEX Petro Chemicals Ltd.	0.56
2	Dr. PST Sai	Testing of Humic acid Solution for drying.	Neyveli Lignite Corporation Limited	0.551
3	Dr.T.Swaminathan	Evaluation and revamping of effluent treatment plant	Tamil Nadu textile mills,Erode.	1.5
4.		Evaluation of recovery and recycle scheme by RO	Tamil Nadu textile mills, Erode.	3.5.
5.	Dr.S.Pushpavanam	Kinetic parameter estimation in a three way catalytic converter	General Motors Bangalore	4.67
6.		Air quality estimation in the city of Chennai.	Central pollution Control Board. New Delhi.	1.83
7.	Dr.A.P.Deshpande	Suitability analysis of polymers for corrosive applications.	High Energy Batteries Pvt. Ltd.	2.76
8.	Dr.DVS Murthy	Comprehensive waste management study (Phase-1)	TITAN Industries Ltd, Hosur.	2.98
9.		Comprehensive waste management study (Phase -2)	TITAN Industries Ltd, Hosur	2.71
10.		Odor analysis study	Futura Polymers Ltd. Chennai -68	2.50
11.		Air Quality monitoring study	The Madras Cements Chennai	4.0
12.		TCLP studies on water And waste water	Rane breakings Chennai	0.35

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1.	Dr.Arun K.Tangirala	Development of an Intelligent Blending solution for Petroleum Product Blending	HTSL Bangalore India	7.0

Journal Editorial Boards:

Sl. No.	Name of faculty	Level	Journal
1.	Prof.A.R.Balakrishnan	Editor	International Journal of Heat and Mass Transfer
2.		Editor	International Communications in Heat and Mass Transfer
3.		Editor	Journal of Energy, Heat and Mass Transfer

4.	Dr.Srinivas Jayanthi	Associate Editor	International Journal of Heat and Mass Transfer
5.		Associate Editor	International Communications in Heat and Mass Transfer

Research Publications:

Total No. of papers published in Refereed National Journals	...	06
Total No. of papers published in Refereed International Journals	...	24
Total No. of papers presented in National Conferences	...	06
Total No. of papers presented in International conferences	..	08

In Refereed National Journals:

SI.No	Name of the faculty	Title of the paper	Name of the Journal
1.	Shankar Narasimhan	Heat Exchange Network Design for Multiple Base Cases	
2	Susy Varughese T.Swaminathan D.Murugan	Recycled polyolefin based plastic wastes for sound absorption.	Polymer-Plastics Technology & Engineering,2006
3.	T.Swaminathan DVS Murthy EldonR.Rane	Performance evaluation of a compost biofilter treating toluene vapors.	Process Bio Chemistry 40 2771 -2779 (2005)
4	T.Swaminathan K.Pakshirajan	Continuous Biosorption of pb,cu and cd by Phanerocheaete chryso sporium in a packed column reactor	Journals of soils and sediments 15 (2),187-188 (2006)
5	Dr.Arun Tangirala	A New toolfor plant-wide oscillation detection	Journals of process Control 2005
6		Identification of system Irregular output sampling	Control Engineering Practice.

In Refereed International Journals:

SI.No	Name of the faculty	Title of the paper	Name of the Journal
1.	A.R.Balakrishnan	Nucleate Pool Boiling Heat Transfer of Multi Components Mixtures	Chemical Engineering Research & Design
2.	A.R.Balakrishnan 2004-	Heat Transfer in Nucleate Pool Boiling of Multi Components Liquid of Mixtures	Experimental Thermal & Fluid Science
3	S.Pushpavanam V.Sreerama Raju Kienle and Zeyer Klaus Peter	Non Liner Behavior of coupled reactor separator system with azeotropic.	VEL,s effect of different Control structures" Industrial and Engineering Chemistry (45) p 1019-1028,2005
4	S.Pushpavanam Abhijit Deshpande s.Sriram	Analysis of Spatio temporal variations and flow structures in periodically driven cavity.	Journals of Fluid Engineering ASME (2005)
5	S.Pushpavanam P.Balasubramaniam A.Kienle	Effect of delay on the stability of a coupled reactor-flash system sustaining an elementary non-isothermal reaction	Industrial and Engineering Chemistry Research v(44),P 3619-3625,(2005)
6.	Susy Varughese T.Swaminathan D.Murugan	Recycled polyolefin based plastic wastes for sound absorption.	Polymer-Plastics Technology & Engineering,2006
7.	Srinivas Jayanthi & Valette	Calculation of dry out and post dry out heat transfer in rod boundless using a three - fluid model	Int.J Heat Mass Transfer, 48(9) 1825-1839,2005
8.	PST Sai A.E.R. Bruce K.Krishnaiah	Flow regime maps for flow of liquid through down comer in a turbulent bed contactor.	Can.J.Chem.Eng.,83,323-327,2005
9.	PST Sai K.Krishnaiah A E.R.Bruce R.Balasubramanian	Model ling on Hydrodynamics in a type I turbulent bed contactor.	Chem.Eng Sci.61,2089-2095,2005
10.	PST Sai A.E.R. Bruce K.Krishnaiah	Prediction of flow regimes through bed expansion in a turbulent bed contactor.	Ind.Sci.61,3403-3408 2006.

11.	A.P.Deshpande M.S.Kumar	Dynamics of drop spreading on fibrous porous media	Colloids and surfaces A Physicochemical and Engineering Aspects,277(1-3)pp 157-163 (2006)
12.	A.P.Deshpande D.Arora S.R.Chakaravarthy	Experimental investigation of fluid drop spreading on heterogeneous and anisotropic porous media,	Journal of Colloid and Interface Science, Short communication 293 (2),pp 496-499(2006)
13.	A.P.Deshpande A.Sriknath N.Praveen	Quantitative estimation of permeability with lattice Boltzmann Simulations	Canadian Journal of Chemical Engg83(5) pp 808-815, (2005)
14.	R.Ravi	A rigorous analysis of McCabe-Thiele assumptions: Critical role of parallel Enthalpy Lines	Chemical Engineering Communications 2005
15.	S.Maharudrayya,S.Jayanti & A.P.Deshpande	Pressure losses in laminar flow through serpentine channels in fuel cell stacks	Journal of Power Sources – 2005
16.	S.Maharudrayya, S.Jayanti & A.P.Deshpande	Flow distribution and pressure drop in parallel-channel configuration of planar fuel cells	Journal of power sources – 2005
17.	Arun Tangirala	DCCMAP : A New tool for plant – wide oscillation detection	Journal of Process Control-2005
18.		Identification of system with irregular out sampling,	Control Engineering Practice - 2005
19.	Dr.DVS Murthy	Particulate air pollution in six Asian Cities spatial and temporal Distributions and associated sources.	Atmospheric environment 40 (2006) 3367-3380
20.	Srinivas Jayanthi L.Karunakumari C.Eswaraiyah	Experimental and numerical study of a rotating wheel air classifier	AIChE Journal, 51 776-790,2005
21.	Srinivas Jayanthi Aphijit Deshpande S.Maharudrayya	Flow distribution and pressure drop in parallel channel configuration of planar fuel cells	J. Power Sources,114,94-106,2005.
22.	Srinivas.Jayanthi A.R.Balakrishnan M.Vijayan	On axial Coherence of interfacial waves in countercurrent flow	AIChE J.,51 2098-2102,2005
23.	Srinivas.Jayanthi A.Kannan R.Srinivasan	Power number for flow in a concentric annulus with rotating inner cylinder	IASME Transactions, 2(7),1171-1179,2005
24.	Srinivas .Jayanthi A.Kannan R.Srinivasan	Effect of Taylor vortices on mass transfer from a rotating cylinder	AIChE J,51,2885-2898,2005.

In Proceedings of National Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1.	PST.Sai Ganesh Palappan	Studies on gas – solid fluidized bed segregation	CHEMCON 2005	New Delhi 2005
2.	S.jayanthi A.p.Deshpande Maharudrayya	An improved model to predict flooding/dehydration in PEM fuel cells.	III rd International conference on fuel cell science, Engg.and Tech.(FUELCELL 2005)	23-25 2005 Ypsilanti, Michigan, USA (Proceedings in CD)
3.	A.P.Deshpande A.Balleda A.Singh S.Pushpavanam	Circulation induced by a buoyant Plume in a partitioned tank	National Conference on Fluid Mechanics & Fluid Power	December 2005
4.	DVS Murthy	Issues in Industrial Air Pollution	IIT Madras	April 05
5.	Arun Tangirala	Sliding mode controller for unstable For PTD System	MIT Chromepet	NCPICD -2005
6.		Cascade Control of FOPTD System using sliding mode Controller	SIT,Pulloor	ETICT 2005

In Proceedings of International Conferences:

S. No.	Name of faculty	Title	Institution	Period
1.	PST.Sai S.Vidyasagar	Studies on Hydrodynamics of Liquid- Solid circulating Fluidized bed	International Congress of Chemistry and Environment	24-26 th December 2005 Indore.
2.	T.Swaminathan	IWA Specialty international Conference on waste water reclamation and reuse for sustainability.	Gwangjun I Institute of technology	December 3 rd 2005
3.	A.P.Deshpande Soni M.M.Diwan	Characterization of Microscopic Deformation in Polymeric Thin Films using particle Image velocimetry	Proceeding of SPIE—Volume 5852	III rd Intl.Conf.of the Asian Committee on Experimental Mechanics and III rd Conference of the Asian Committee on Experimental Mechanics.PP.608-613, (2005)
4.	A.P.Deshpande S.Jayanthi Maharudrayya	An improved model to predict flooding/dehydration in PEM fuel cells	ASME-III rd Intl. Conference on fuel cell Science.	Engg.and.Tech. Ypsilanti, Michigan 2005
5.	A.P.Deshpande S.Jayanthi S.Maharudrayya	A Model for the prediction of onset of flooding in PEM fuel cells.	World Chemical Engg. Congress.	Glasgow (2005)
6.	A.P.Deshpande S.Sanakranarayan Susy Varugheses Vetrimurugan Prathap Haridoss	Studies on size reduction and air classification of printed circuit board for material recycling	International Seminar on Mineral Processing Technology (MPT 2005)	PP113-122,Dhanbad (2005)
7.	Arun Tangirala	Identification of state-face models for processes with irregularly sampled outputs	IAFC world Congress	July 2005
8.	DVS Murthy S.Ramanathan Shri.N.Kapil	Studies on substrate Versatility in bio gas Production.	Proceedings of International workshop Of anaerobic bacteria and archaea.	March3-4 th 2006 Pune India.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr.R.Narayanan Professor,Dept of Chemical Engg., University of Florida,Gainesville	4 th January	Seminar talk on Pattern formation due to phase change.
2.	Dr.Sivakaumar Scientist,CLRI	10 th March 2005	Seminar talk on Studies on application of power Ultrasound in Leather processing.
3.	Dr.Rajagopalan Srinivasan National University of Singapore	8 th April 2005	Seminar talk on Artificial intelligence models of gene Regulatory Networks*
4.	Mr.Sivaramakishnan, PhD ,Scholar University of New Orleans, USA	27 th May 2005	Seminar on Water quality Modeling
5.	Dr.Srinivasa Ragavan Dept of Chemical Engineering, University of Maryland	2 nd June 2005	Seminar on Self Assembled Viscoelastic fluids and gels.
6.	Dr.Anath Annapragada University of Texas Health Centre Houston	24 th June 2005	Seminar on Novel Targeted agents for imaging and therapeutic applications
7.	Dr.Ramarkishnan, ,Dept of Chemical and Bio- Medical Engg., Florida State university	5 th August 2005	Colloidal Science
8.	Dr.S. Mandal, Asst.Manager- Tech Ceramics Division, Carborundum Universal	26 th August 2005	Ceramics-The Diversified Class
9.	Dr.Dhinkar S Kompala Dept of Cehm. Engg, University of Colorada,Boulder	2 nd September 2005	Dynamic Modeling of Biological Systems Metabolic Engineering and spontaneous oscillations

10	Mr.R.Natarajan(GM) Tubes Investments of India .Murugappa Groups,	9 th September 2005.	Applications of Heat Transfer in Industry.
11	Dr.R.Ravikrishna	16 th September 2005	Contaminated sediments- Perspectives in Assessment and Remediation.
12	Mr.S.Sekar Head ,SHE,Chemplast, Mettur	23 rd September 2005	Case studies of industrial Accidents Occurrence and avoidance.
13	Mr.Rusi Governor	29 th September 2005	A case study in Industrial R &D
14	Dr.Ramanarayanan Ramanathan	21 st October 2005	Synthesis and Characterization of catalysts and Electro catalysts Using Combinatorial Methods
15	B.Santhanam Managing Director Saint-Gobain Glass India Ltd	28 th October 2005	Glass Solution for Intelligent Building.
16	Prof.Alan Hatton Massachusetts Institute of Technology Cambridge,MA,USA	28 th October 2005	Interaction with students
17	Dr.Rajendra K Krishnaswamy Chevron Philips Chemical Company Bartlesville, OK 74004	9 th December 2005	Influence of Branching Distribution on the Crystallization kinetics and physical Properties of high Density Polyethylene
18	Dr.Munawar Shaik Abdul Post Doctoral Fellow Dept. of Chem.Engg. Princeton university	2 nd December 2005	Planning and scheduling of batch and continuous processes.
19	Dr.Chandra Saru Saravanan Senior Research Scientist Nanometrics Inc. California	16 th December 2005	Materials Design by Multi-scale Computations: From Surface Science to Tailor made Catalysts.
20	Pro.Zhu Dept of Chemical and Bio-Chemical Engg., The University of Western Ontario, London, Canada N6A 5B9	15 th February 2006	Introduction of University of Western Ontario and my Research Projects.
21	Prof.Graeme Jameson University of Newcastle MSW 2308 Australia	10 th March 2006	Theory and Applications of the Jameson Flotation cell for solid- Liquid separation.
22	Dr.Micheal Freytag and Team Senator, Hamburg	28 th March 2006	Interact with Senior Experts .of The Dept.
23.	Prof.J.S.N.Murthy& Dr.Prabhakar Reddy	8 th -12 th May 2006	Interaction with Faculty.
24.	Dr.Upendra Natarajan	28 th April 2006	Seminar on Molecular modeling of Polymer Physical Properties at various levels & Experimental Investigation of polymer Nanocomposites.
25.	Prof.George Gogos University of Nebraska- Lincoln USA	23 rd March 2006	Ranque –Hilsch Vortex tube Thermocycler for fast DNA Amplification and real time optical detection.
26	Dr.SureshnDhaniyala Clarkton university Postdam, USA	2 nd June 2006	New Techniques for Nano-Aerosol Instrumentation.

4.4.6 Other Activities:

Research Guidance :-

Dr.Abhijit :

Ph.D : S. Maharudrayya, Flow Distribution and water balance studies in PEM fuel cells,2005

M.Tech/DD.M.Tech : M. Nallaperumal, studies on polyacrylonitrile Solution spinning process parameters, 2005

V.Goyal, Experimental estimation of adhesion force between particulate soil and cotton substrate, 2005

S.Aruna, Leaching and electrochemical metal recovery from Waste printed circuit boards, 05

Dr.Susy Varughese

M.S : S.Balakrishnan, characterization and applications of natural Surfactants. Micellar structure and rheology of saponin from Sapaindus mukorossi, March 2006.

4.5 DEPARTMENT OF CHEMISTRY

4.5.1 Introduction:

The Department of Chemistry was established in 1959. The department today is very well equipped in terms of expertise and modern facilities and has actively engaged in frontier research and high quality teaching. The department offers a four semester master's (M. Sc) and doctorate degree programmes in chemistry and is also involved in teaching various aspects of chemistry at B. Tech and M. Tech degrees offered in the institute. The major areas of teaching at postgraduate level are:

Transition Metal Inorganic Chemistry Main Group Inorganic Chemistry Bioinorganic Chemistry Solid State Chemistry Organometallic Chemistry Nuclear Chemistry Analytical Chemistry Carbohydrate Chemistry Synthetic & Mechanistic Organic Chemistry	Electrochemistry Catalysis and Surface Science Photochemistry Polymer Chemistry Spectroscopy Quantum Chemistry Computational Chemistry Organic Chemistry Bioorganic Chemistry
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4.5.2 Academic Programmes:

New courses introduced:

S.No.	Course No.	Title
1.	CY 676	Principles of Surface Chemistry
2.	CY741	Developments in Catalytic and Surface Science

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.	32	25	1	-	-	58
Ph.D.	12	25	29	26	50	142
Total	44	50	30	26	50	200

Names of student/scholar attended conference/seminar and symposia abroad/India:

S. No.	Name of the student	Programme	Name of the conference/seminar/workshop Symposia	Date and venue
Conference:				
1	S. Shankara Gayathri	Ph.D	International Conference on American Chemical Society	03.04.2005 NJ, USA
2	B. Vijay Shankar		International Conference on Molecules to Materials	03-04.03.2006 Longowal, Punjab
3	P. Biji			
4	T. C. Girija		207 th Electrochemical Society Meeting	15 - 20.5.2005 Quebec City, Canada
5	M. Sathish		International Conference on Materials for Advanced Technologies (ICMAT 2005)	3 - 8.7.2005 Singapore
6	V. Sivakumar		5 th International Conference on Solid State Lighting	31.7. - 4.8. 2005 San Diego, California, USA
7	Anitha C Kumar		International conference on Molecules and Materials	3 -4.3.2006 SLIET Punjab
8	Divya O		International Conference on Molecules and Materials	
9	Susithra Selvam		International conference on Molecules and Materials	

10	Usharani Subuddhi	Ph.D	International conference on Molecules and Materials	
11	Sivakumar Vaidyanathan		International Conference on Optoelectronic materials and thin films for advanced technology	24 – 27.10. 2005 Cochin
12	P. Koteswariah		National Conference on Path to Health Biotechnology Revolution in India	24 – 26.11.05 Anna Univ.
13	J.V. K. Paul		XX Carbohydrate Conference	24-26.11. 2006 Dept. of Chemistry, University of Lucknow
14	Kanthi Kiran K		46 th Annual Conference of AMI MICRO-BIOTECH 2005	8 – 10.12. 2005 Osmania University
15	Arun Luiz T		Modern Trends in Inorganic Chemistry (MTIC – XI)	8 - 10.12. 2005 IIT Delhi
16	S. Asiri Naidu			
17	K. Jeyakumar		Joint International Conference on Building Bridges Forging Bonds for 21 st Century Organic Chemistry & Chemical Biology	6 – 9.01. 2006 NCL, Pune
18	Asmita Kumari			
19	Himansu Sekhar Sahoo		National Conference on Frontiers in Polymer Technology	10 – 12.02. 2006 Calcutta
20	Harikrishna Erothu			
21	S. M. Mahalingam		Discussion Meeting on Spectroscopy and Dynamics of Molecules & Clusters	30.03 – 01.04.2006 The Intl. Centre, Dona Paula, Goa
22	P. Suresh			
23	A. Aravind		International Conference on Nanoscience & Technology	16 – 18.03.2006 India Habitat Centre, Goa
24	T. D. Neelima			
25	M. Kannan		Fuel Cell Seminar 2005	14.11.2005 Palmsprings, California, USA
26	K. Rajendra Kumar			
27	B. Ramprasad		National Seminar on Fungal Biodiversity, Biotechnology & Bioinformatics	1 - 2. 2006 Sri Bhagawan Mahaveer Jain College
28	A. Saieswari			
29	F. Geoege Densingh Xavier		Trombay Symposium on Radiation and Photochemistry	5-9.1.2006 BARC Mumbai
30	Sreekumaran Nair A			
Seminar:				
1	T. Maiyalagan	Ph.D	National Seminar on Fungal Biodiversity, Biotechnology & Bioinformatics	1 - 2. 2006 Sri Bhagawan Mahaveer Jain College
2	K.P Pooja			
Symposia:				
1	Anitha C Kumar	PhD	IX Grove Fuel Cell Symposium	4– 6.10.2005 London, UK
2	Divya O			
3	Susithra S		National Symposium on Advances in Magnetic Resonance and its applications	8– 11.10. 2005 Jammu/Srinagar
4	Usharani Subuddhi			
5	Chandravathanam. S		International Symposium on Ionic Polymerization	23 – 28-10. 2005 Goa
6	V. Ramesh			
7	Vivek A V		National Symposium and Conference on Solid State Chemistry and Allied Areas	1 – 3.12.05 University of Goa
8	R. Prakash Babu			
9	S. Harihar Subramanian		10 th ISMAS Triennial International Symposium on Mass Spectrometry	29.01 – 1.02. 06 Kerala
10	P. Indra Neel			
11	Jobin Cyriac		International Symposium on Recent Development in Metal Oxide and Related Materials	8 – 12 .01.2006 IISc Bangalore
12	M. Pardha Saradhi			
13	T. Rajkumar		8 th CRSI National Symposium in Chemistry	3-5.02.2006 IIT Bombay
14	Ch Venkateswara Rao		Indo-Australian Symposium on Nanoscience and Nanotechnology	31.03 – 01.04.2006 IISc B'lore

Workshops:				
1	P. Hari Krishna Charan	Ph.D	Solid State and Materials Chemistry	09 - 22.07. 2005 IISc., Bangalore
			Orientation programme in Catalysis Research	16.5.2005 – 4.6.2005 IIT Madras
2	M. Anji Reddy		DST SERC Summer School on Solid State & Materials Chemistry	04 - 22.07.2005 IISc., Bangalore
3	Krishnendu Biswas		DST SERC Summer School on Solid State & Materials Chemistry	
4	P. Justin			
5	Ch. Venkateswara Rao		SERC Summer school on Fuel Cell School	4 - 16.7.05 IIT Bombay
6	M. Helen			
7	L. Hima Kumar			
8	Atul Kumar		Solid State and Materials Chemistry	09 - 22.07. 2005 IISc., Bangalore
9	Manoj Kumar Pandey		Indo-French Workshop on Solid State & Materials	16 - 22.07 2005 NCL Pune
10	P. Koteswaraiah		National Workshop on Value addition to foods 'FOOD PLUS 2005'	9 – 10.12 05 Bangalore
11	T. Rajmumar		Second IFLaSC Workshop, Indo-French Laboratory for Solid State Chemistry	16-18.12. 2005 IISc Bangalore
12	M. Sathish		National workshop on catalysis for energy	Banaras Hindu University 23-25.02 2006
13	S. Navaladian			
14	P. Sudhakar	Asian Polyolefin Workshop	7-9.12. 2005 Nara, Japan	

4.5.3 Faculty and their Development:

Faculty:

Sl.No.	Name and Qualifications	Major area of specialization (only 3 areas)
Professors:		
1	N. Chandrakumar Ph.D (IITK)	Magnetic resonance imaging & spectroscopy; Chem. Physics; Instrumentation
2	R. Dhamodharan Ph.D, (Mass,USA)	Chemistry of Macromolecules, Chemistry Polymers at Surfaces and Interfaces
3	D. Loganathan Ph.D (IITB)	Synthetic & Structural Organic Chemistry, Carbohydrate Chemistry and Bio-organic Chemistry
4	A. K. Mishra Ph.D (IITK)	Fluorescence Spectroscopy, Study of micro- and nano- organized systems
5	T. Pradeep Ph.D, (IISc, B'lore) Joint with SAIF	Nanomaterials, spectroscopy, ion chemistry, molecular surfaces
6	M. V. Sangaranarayanan Ph.D (IISc, B'lore)	Electrochemistry
7	S. Sankararaman Ph.D (Canada)	Synthetic and mechanistic organic chemistry
8	M. S. Subramanian Ph.D (IITM)	Analytical and Radio Analytical Chemistry
9	M. N. Sudheendra Rao Ph.D (IISc, B'lore)	Main Group Inorganic Chemistry, Hypervalent Silicon systems, Inorganic Heterocycles
10	G. Sundararajan Ph.D (USA)	Organic Chemistry, Organometallic Chemistry, Polymer Chemistry, Asymmetric Catalysis
11	U. V. Varadaraju Ph.D (IISc, B'lore) Joint with MSRC	Solid State chemistry, Materials joint with MSRC science
12	T. K. Varadarajan Ph.D (IITM)	Physical Chemistry (Catalysis, Chemical Kinetics)
13	R. P. Viswanath Ph.D (IITM)	Physics, chemistry, catalysis

Associate Professors:		
14	Archita Patnaik Ph.D (Varanasi)	Colloid and Interface Science Electron transport in organized assemblies Physical Chemistry/Chemical Physics
15	S. Baskaran Ph.D (IITKanpur)	Asymmetric synthesis, Natural product and organometallic chemistry
16	Indrapal Singh Aidhen. Ph.D (Pune)	Synthetic organic chemistry. Synthetic Carbohydrate chemistry
17	K. Mangala Sunder Ph.D (McGill)	Theoretical Solid State Nuclear Magnetic Resonance Theoretical Molecular Spectroscopy
18	K. Vidyasagar Ph.D (IISc,B'lore)	Solid state chemistry
Assistant Professors:		
19	P. Bhyrappa Ph.D, (IISc.B'lore)	Bioinorganic Chemistry, Supramolecular Chemistry
20	Debashis Chakraborty Ph.D (Germany)	Synthetic Organometallic Chemistry
21	Dillip Kumar Chand Ph.D (IIT Kanpur)	Supramolecular Chemistry, Inorganic Chemistry, Metal driven self assembly
22	N.Narasimha Murthy Ph.D (IISc.B'lore)	Bioinorganic chemistry, Inorganic chemistry Spectroscopy - Inorganic
23	G. Ranga Rao Ph.D (IISc.B'lore)	Surface Chemistry , Heterogeneous Catalysis, Porous Materials
24	Sanjay Kumar Ph.D (IIT Kanpur)	Theoretical Chemistry, Quantum Chemistry and Molecular Reaction Dynamics
25	Santosh J. Gharpure Ph.D (IISc Bangalore)	Organic Synthesis, New Synthetic Methods, Asymmetric Synthesis,
26	G. Sekar Ph.D (IIT Kanpur)	Enantioselective organic reactions enzymatic and non-enzymatic kinetic resolutions, total synthesis of biologically active molecules
27	Sundaragopal Ghosh Ph.D (IIT Bombay)	Metallaboranes and Metallocarboranes, Functionalization of Hydrocarbons
Emeritus Professor:		
28	B. Viswanathan Ph.D (IIT Madras)	Surface Science, Materials Science, Catalysis, Physical Chemistry
Scientific Officer:		
29	R. Balachandran Pillai Ph.D (IIT Madras)	Alkylation, Hydrogenation molecular transformation, reactions aof heterocyclic compounds
Pool Officer (CSIR):		
30	Dr. S. Mahalakshmi (Univ. of Madras)	Theoretical Chemistry

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

S.No	Coordinator(s)	Title	Period
Symposia:			
1	Dr. T. Pradeep	National Symposium on Chemical Structures and Dynamics	22.04.2005
Workshop:			
1	Dr. K. Mangalasunder	Shar Workshop on Computational Chemistry of Novel Proellant Materials	21.08.2005
2	Dr. M.S. Subramanian Dr. D V S Murthy (Chem. Engg. Dept)	Analytical Methods for Waste water Analysis	28.11 – 2.12.2005
Short term Course:			
1	Dr. B. Viswanathan	Orientation Programme in Catalysis (Research Scholars)	3 weeks (16.05 – 04.06 2005)

Short-term courses/Workshops/Seminars/Symposia/Conferences/ Training attended by the faculty members in Academic institutions and public sector undertakings:

S.No.	Name of faculty	Title	Period	Venue
Workshop:				
1	Dr. N. Chandrakumar	Indo-French Workshop on "New Solid State NMR Methods and Materials Characterization"	18-21.07. 2005	NCL Pune
2	Dr. K. Mangala Sunder	Indo-French Workshop on "New Solid State NMR Methods and Materials Characterization"		
		Computer Aided instruction and higher education through online techniques in National Workshop on ICT	14-16.07. 2005	Agnes College Mangalore
3	Dr. R. Damodharan	Strategic Management of Env. Pollution	3.03.2006	Dr. Mahalingam College of Engg. & Tech., Pollachi
4	Dr. A. K. Mishra	UGC Refreshers course on Analytical Methods in Biotechnology	25.03.2006	Annamalai University
5	Dr. B. Viswanathan	National Workshop on Catalysis for Energy	22-25.02. 2006	Banaras Hindu University
6	Dr. R. P. Viswanath			
7	Dr. G. Ranga Rao			
Seminar:				
1	Dr. T. Pradeep	National Seminar on "Emerging Frontiers in Chemical Sciences"	14.9.05	Meenakshi College for Women, Chennai
2	Dr. U. V. Varadaraju			
3	Dr. K. Mangala Sunder	National Seminar on e-learning and e-learning Technologies	7 -10.8. 2005	JNTU, Hyderabad
4.	Dr. G. Ranga Rao	National Seminar & Group Discussion Meeting of DRDO Sponsored Res. Project	02 – 03.12.05	Andhra University Visakhapatnam
		National Seminar on Frontiers in Chemistry	24 – 25.03.06	Cochin University of Science & Tech., Kochi
Symposia:				
1	Dr. N. Chandrakumar	National Symposium on Advances in Magnetic Resonance & Its Applications	8 – 11.10 2005	RRL, Jammu/ Srinagar
2	Dr. T. Pradeep	3 rd DST-JSPS Symposium	10 - 11.11.05	University of Tokyo
		Indo-JSPS symposium on supramolecular materials	14- 19.02.2006	Tokyo Institute of Technology, Japan
3	Dr. S. Sankararaman	National Symposium on Intellectual Property Education, Training & Research	17 – 18.08.05	IIT Delhi (Organized by WIPO (UNESCO) & MHRD)
		Singapore-India Collaborative and Cooperative Chemistry Symposium	20 – 21.02.06	National Univ. of Singapore
4	Dr. S. Baskaran	XI NOST Symposium	25 – 29.10.05	NCL Pune
		Indo – Russia n joint Seminar	07 – 8.11.05	IISc, Bangalore
		International Symposium on Advances in Organic Chemistry (INSOC 2006)	09 – 12.01.06	M.G University, Kottayam
5	Dr. Dillip Kumar Chand	National Symposium on New Challenges in Chemistry	20 – 21.03.06	GNDU, Amristar

Conference:				
1	Dr. R. Dhamodharan	Ionic Polymerization 2005	23 – 28.10.05	Goa
		National Conference on Frontiers in Polymer Technology	10 – 12.02.06	Indian Association for the Cultivation of Science, Calcutta
2	Dr. D. Loganathan	XX Carbohydrate Conference	24 – 26.11.05	Univ. of Lucknow
3	Dr. A. K. Mishra	19 th Annual Conference on Orissa Chemical Society	24.12. 05	Sambalpur University
		International Conference on Molecules to Materials	3 – 4.3.06	Sant longowal Institute of Engg. & Tech., Punjab
4	Dr. T. Pradeep	Application of Modern Tools in Chemistry	14 – 15.07.05	Farook College, Kozhikode
		Science & Technology of Advanced Materials	27 – 29.07.05	Pondicherry Engg. College
		JNC Research Conference on "Chemistry of Materials"	1 – 3.10.05	Kollam
		Nanochemistry & Spectroscopy	20.10.05	Sree Neelakanta Govt. Sanskrit College, Kerala
5	Dr. M. N. Sudheendra Rao	Modern Trends in Inorganic Chemistry	8 – 10.2005	IIT Delhi
6	Dr. G. Sundararajan	Singapore International Chemical Conference SICC-4	6 - 10.12.05	National University of Singapore
		Frontiers in Organic Chemistry	4 – 6.01.06	IISc Bangalore
		Organic Chemistry and Chemical Biology, ACS- CSIR joint Conference	6 – 9.01 06	NCL Pune
		National Conference on Frontiers in Polymer Technology	10 – 12.02.06	Indian Association for the Cultivation of Science, Calcutta
7	Dr. U. V. Varadaraju	International Conference on Materials for Advanced Technologies (ICMAT 2005)	3 – 8.07.05	Singapore
		National Conference on Luminescence and Its Applications	7 – 9.02.2006	Sant Gadge Baba Amravati University, Amravati
8	Dr. R. P. Viswanath	International Conference on Materials for Advanced Technologies (ICMAT 2005)	3 – 8.07.2005	Singapore
9	Dr. S. Baskaran	Indo-French Centre for Organic Synthesis (IFCOS)	23 – 24.10.05	IICT, Hyderabad
		Organic Chemistry – Today & Tomorrow	04 – 5.01. 06	IIScBangalore
		Joint International Conference on Building Bridges, Forging Bonds for 21 st Century Organic Chemistry & Chemical Biology	6 – 9 .01. 06	NCL Pune
10	Dr. Indrapal Singh Aiden	Indo-French Centre for Organic Synthesis (IFCOS)	23 –24. 10.05	IICT, Hyderabad
		XX Carbohydrate Conference	24 – 26.11.05	Univ. of Lucknow
11	Dr. K. Mangalasunder	International Conference on e-Learning	25 – 26.10.05	PSG College of Engg. & Tech.
12	Dr. K. Vidyasagar	Modern Trends in Inorganic Chemistry	8 – 10.12.2005	IIT Delhi
13	Dr. Debashis Chakraborty			
14	Dr. N N Murthy			
15	Dr. Dillip Kumar Chand	Singapore International Chemical Conference SICC-4	8 – 10.12.2005	National University of Singapore
16	Dr. G. Ranga Rao	13 th International Clay Conference	21 – 27.8.05	Waseda University Japan
17	Dr. K.Mangala Sunder	Discussion Meeting on Spectroscopy and Dynamics of Molecules and Cluster	30.03 – 01.04.2006	The Intl. Centre Dona Paula, Goa
18	Dr. Sanjay Kumar			

Special Lectures delivered by the faculty in other Institutions:

S.No.	Name of faculty	Topic of lecture	Venue and Date
1	Dr. N. Chandrakumar	Coherece Transformations and their Applications in NMR Spectroscopy and Imaging	NCL, Pune 26.052005
		Spin-1 NMR in the solid state	NCL Pune
		Materials Imaging by NMR	18 – 21.07.2005
		Meeting of Core Group on Electrochemical & Materials Science to Review Research	CECRI, Karaikudi 1 – 2.09.2005
		INSA Council Meeting – Attend release of India Science Report by Prime Minister	Vigyan Bhavan, New Delhi 28.09.2005
		What can we do with NMR?	CSMCRI, BHAVNAGAR 22 - 23.09. 2005
		NMR Imaging	Sree Chitra Tirunal Institute for Medical Sciences and Technology, Thiruvananthapuram 24.09.2005
		Some Applications of Transition selective coherence transfer	RRL, Srinagar 8 – 11.10.2005
		Spectroscopy	Ethiraj College, Chennai
Quantum Mechanics	19 – 20.10. 2005		
2	A K Mishra	Fluorescence spectroscopy of complex multifluorophoric systems	Department of Chemistry, IIT Kharagpur, 4.05. 2005
		Analytical applications of SF and EEMF spectroscopy	Chemicals Group, IGCAR, Kalpakkam , 11.06.2005
		Fluorescence spectroscopy: exciting results from our laboratory	Department of Chemistry, St Joseph's college, Trichy 5.10. 2005
		Can a career in science be exciting?	Adyar Bala Vidya Mandir Gandhi Nagar, Chennai 25.11.2005
		Photophysical studies on different generations of Newcome type dendrimers	19 th Annual Meeting of Orissa Chemical Society Sambalpur University, Sambalpur, 24.12.2005
		Prof. V. Thiagarajan Endowment Lecture	Vivekananda College Chennai, 18.03.2006
3.	Dr. T. Pradeep	Chemistry of Metal Nanoparticles	TIFR, Mumbai 04 – 06.04.2005
		Chemistry at ice surfaces	
		Internet and Associated Resources for Chemistry Teaching	Farook College, Kozhikode 14 - 15.07.2005
		Introduction to Nano Science and Nano Technology	Meenakshi College for Women, Chennai, 14.09.2005
		Faraday's Metal revisited	Pattambi College, Kollam 20.10 2005
		Molecular Links to Inorganic Fullermes	JNCASR Conference on Chemistry of Materials, Kollam 1 – 3, 2005
		Chemistry at the Nanoscale	Ethiraj College, Chennai 19 - 20, 2005
		Molecular interactions at nanoparticles	Institute of Molecular Science, Okazaki, 14.11.2005

	Dr. T. Pradeep	Emerging Frontiers of Nanoscience & Nanotechnology	NIT Warangal 21 st Nov. 2005
		Faraday's divided metals	VIT, Vellore, 09.02.2006
		Inner win – outer win	Deepam English Learning, Velachery, 26.02.2006
		Faraday's Divided Metals	Madras Christian College 27.02.2006
4	Dr. M. V. Sangaranarayanan	Diffusion at Ultramicro electrodes	IGCAR, Kalpakkam, 25.05. 2005
5	Dr. S. Sankararaman	NMR Spectroscopy	COSTED, Chennai, 01.09.2005
		Shape persistent acetylenic macrocycles, cyclophanes and dendrimers	IIT Kanpur 09.09.2005
		Organic Photochemistry	Ethiraj College, Chennai Oct. 19 - 20, 2005
		Pericyclic Reactions.	
		Pericyclic Reactions and their applications in Organic Synthesis	NCL, Pune 11 – 12.11.2005
		Shape persistent acetylenic macrocycles, cyclophanes and dendrimers	New College, Chennai 25.01.2006
		Polyethynylpyrenes and Polyrenylethyne Novel and highly efficient fluorophores	Institute of Material Research & Engg, Singapore 23.02.2006
		Organic light emitting diodes (OLED)	Loyola College, Chennai 28.02.2006
		Shape persistent acetylenic macrocycles, cyclophanes and dendrimers	Pondicherry University, Pondicherry 17.03.2006
Polyethynylpyrenes and polypyrenylethyne – Novel and efficient fluorophores	Vivekananda College, Madurai 18.03.2006		
6	Dr. M. S. Subramanian	Advanced separation Techniques	TSR – TSB College Vizhakapatnam, 13.03.2006
7	Dr. M. N. Sudheendra Rao	Recent Developments in Hypervalent silicon Chemistry	Ethiraj College, Chennai 19 - 20.10. 2005
		Hypervalent silicates – Recent developments	Bharathidasan University 23.10.2005
		Siltranes – Synthesis, Structure, Reactivity and Applications	
		Emerging Trends & New Vistas in Chemistry	30.11.2005 University of Calicut
8	Dr. G. Sundararajan	Single-site non-metallocene catalysts for olefin polymerisation - Is there a role for molecular symmetry?	School of Chemistry, Central University Hyderabad 12.08.2005
		Single-site catalysts - Getafix potion for polyolefins	Anna Adarsh College, Chennai 19.08. 2005
		Chemistry Nobel Prize - 2005	Ethiraj College, Chennai 19 - 20.10.2005
			International College for Girls, Jaipur , 20.11.2005 Vellore Institute of Technology, Vellore, 20.12.2005
9	Dr. U. V. Varadaraju	Materials for Lithium Battery – Applications	Meenakshi College for Women, Chennai, 14.09.2005
		Chemistry of Luminescent Materials	Ethiraj College, Chennai 19 - 20.10. 2005
10	Dr. R. P. Viswanath	Nanomaterials in the production and storage of H ₂	Alagappa University Karaikudi, March 2005
		Electrolytic Method for the removal of pollutants from water	BIHER, Deemed University, Chennai
		An overview of cds Nanoparticles	Banaras Hindu University Feb. 2006
11	Dr. Archita Patnaik	Electronic Structure and Molecular Orientation in Restricted dimensions	Chiba University, Japan 21-28.07.2005

12	Dr. S. Baskaran	Tandem cation-olefin azide cyclization: Stereo- and enantio selective synthesis of azapolycyclic ring systems	IISc Bangalore 7 - 8.11. 2005
		Stereoselective Synthesis of Biologically Active Molecules	Atul Company Limited, Gujarat 30.11. 2005
		Stereo- and enantio selective synthesis of azapolycyclic ring systems.	American Chemical Society (ACS) and CSIR-Symposium January 6-9.01.2006 NCL, Pune, India & January 11&12.01.2006 IICT, Hyderabad, India.
		Development of New Synthetic Methodology: Stereoselective Synthesis of Biologically Active Molecules	International Symposium on Advances in Organic Chemistry' (INSOC 2006) January 9&12.01.2006 Mahatma Gandhi University, Kottayam, India
13	Dr. K. Mangalasunder	The ICT Mode for Quality Enhancement in Higher Education	ICT Mangalore 14 - 15.07. 2005
		Computer aided instructions and higher education through online techniques	VIT Vellore, July 30, 2005
		Chemistry and Engineering Course Development as a supplement to traditional learning in a class room	PSG College of Engg. & Tech. 25.- 26.10. 2005
		Visualization of concepts in Quantum Chemistry	Ethiraj College, Chennai 19 - 20.10.2005
		Visualization of concepts in Group Theory.	
		Visualization of Concepts in Group Theory	Bharatidasan University, Tiruchchirappalli, 14.10.2005
		Visualization of Concepts in Quantum Chemistry	
		National Efforts in Technology Enhanced Learning in Engineering Courses	Shri Angalamman College of Engineering and Technology, Tiruchchirapalli 11.11.2005
Basic Techniques in e-learning and e-teaching			
14	Dr. K. Vidyasagar	Metal Phosphonates: A class of organic-inorganic hybrid materials	IIT Delhi, 8 - 10.12.2005 IISc Bangalore, 09- 11.01.2006
15	Dr. Dillip Kumar Chand	Pd(II) Driven Self-assembly Coordination Cages	Pondicherry University 26.08.2005
		Self-assembly and ligand exchange reactions around Pd(II)	Delhi University 22.03.2006
16	Dr. G. Ranga Rao	Chemistry on Surfaces	Ethiraj College, Chennai 17 - 21.10.2005
		Some aspects of ceria based materials in catalysis and energy applications	Banaras Hindu University, Varanasi 23 - 25.02.06
		Rare earth oxide materials for catalysis and energy applications	Cochin Univ. of Sci. & Tech. 25.03.2006
17	Dr. Debashis Chakraborty	Catalysts for Metal-Catalyzed Olefin Polymerization: Activators, Activation Processes, and Structure-Activity Relationships	IIT Madras June 2005
		Catalysis Research to Carbon Management: Progress, Challenges, and opportunities	
		Poly (caprolactone) and Poly (lactic acid)s by Chiral and Achiral Chelating Diamide Aluminium and Zinc Catalysts	IIT Delhi Dec. 2005
18	Dr. Santosh Ghapure	On the Role of Bismuth (III) in Etherification Reactions	48 th Science Club Meet, IIT Madras, 02.04.2005
		Bismuth (III) Mediated Etherification in the Synthesis of Cyclic Ethers	Joint Seminar in Organic Chemistry at IIT Madras 29.10.2005

Visits abroad by faculty:

S.No.	Name of faculty	Country visited	Date	Purpose of visit
1	Dr. T. Pradeep	Singapore	16 -19.02.2006	Japan-India Meeting on Molecular & Supramolecular Materials
		Japan	29.03.2006 – 28.01.2007	JSPS Invitation Fellowship
2	Dr. Sankararaman S	Singapore	20-21.02.2006	4 th Singapore India Chemistry Collaborative and Cooperative Symposium
3	Dr. G. Sundararajan	Singapore	07 – 10.12. 2005	4 th Singapore International Chemistry Conference
4	Dr. U. V. Varadaraju	France	23.10.2005 – 29.11.2005	Visiting Scientist
			19.03 – 02.04.2006	3 rd LAFICS Workshop & Lab visit
5	Dr. R. P. Viswanath	Singapore	03—8.07.2005	International Conference on "Materials for Advanced Technologies" (ICMAT 2005)
		USA	25 – 30.03.2006	First International Symposium on hydrogen from Renewable sources and refinery applications
6	Dr. Archita Patnaik	Japan	June 29 – July 8, 2005	An Invited Professor to the Centre of Excellence Programme
7	Dr. Bhyrappa P	Japan	01.7.05 – 30.4.2006	JSPS Invitation
8	Dr. Dillip Kumar Chand	Singapore	7 – 10.12 2006	4 th Singapore International Chemistry Conference
9	Dr. G. Ranga Rao	Japan	21 – 27.8.2005	13 th International Clay Conference

Honours and Awards obtained by Faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date
1	Prof. D. Loganathan	Elected as a member of "The Madras Science Foundation"	-	-	29.07 2005
2	Dr. T. Pradeep	Fellowship of Madras Science Foundation	-	-	03.08.2005

Honours and Awards obtained by Research Scholars:

Sl. No.	Name of Scholar	Name of Award	Awarded by	Awarded for	Date
1	K.P. Pooja (Guide: Dr. T. S. Chandra)	Best Poster Award	International Conference Microbial Diversity	Poster presentation	July 2005
2	M. Arun Prasad (Guide: Dr. M. V. Sangaranarayanan)	Oronzio De Nora Foundation Young Author Prize	International Society of Electrochemistry	Paper presentation	Sept. 2005
3	Mr. Krishnendu Biswas Guide: Prof. U. V. Varadaraju	Best Paper Award	International Conference on Optoelectric Materials and Thin Films for Advanced Technology (OMTAT 2005)	International Society of Electrochemistry	Oct. 2005
4	Ms.Sayani Chattopadhyay II M.Sc student	Rajiv Gandhi Sciences Talent Research Fellow for the year 2005	Jawaharlal Nehru Centre for Advanced Scientific Research		Nov. 2005

5	Usharani Subuddhi (Guide: Dr. A. K. Mishra)	Best Award	Poster	8 th Trombay Symposium on Radiation and Photochemistry	Poster Presentation	Jan. 2006
6	P. Koteswaraiah (Guide: Dr. T. S. Chandra)	Best Award	Poster	International Conference on Globalization of Traditional Complementary & Alternative Systems of Medicine	Poster Presentation	March 2006

Books, Monographs authored or co-authored:

S.No.	Name of faculty	Title	Publisher	Author/co-author
Books:				
1	Dr. S. Sankararaman	Pericyclic Reactions – A text book	Wiley – VCH Weinheim, 2005	-
2	Dr. M. S. Subramanian	Environmental Chemistry and Monitoring	Web based course under NFTEL project	-
Review of Book				
1	Dr. Sanjay Kumar	Physical Chemistry VIII Edition By Peter Atkins & Julio de Paula	Oxford University Press	P.W Alkins and J.de Paula

Fellowships of Academies and Professional Societies:

S.No.	Name of faculty	Level	Year of Admission
Humboldt Fellowship:			
1	Dr. S. Sankararaman	-	1998
2	Dr. Archita Patnaik	Junior ArH (General Level)	1987
3	Dr. Dillip Kumar Chand	-	1998
ISTE/CSI and others:			
1	Dr. D. Loganathan	Fellow of the Madras Science Foundation	2005
2	Dr. R. P. Viswanath	Life Member	1980
3	Dr. Archita Patnaik	MPI, Germany	1991-92
		NASA, USA	1989-90

4.5.4 Design and Development Activities:

Dr. K. Mangalasunder

Web based and animated content for UGC broadcast. 14 lectures on Quantum Chemistry and 14 lectures on group theory.

New facilities added or major equipment procured through project funds:

Sl.No	Name of Equipment	Value (Rs.in lacs)
1	Inert Atmosphere Glove Box	15.00
2	Dionex Analytical and Preparative HPLC with Electrochemical and UV detectors	33.00
3	Single crystal X-ray Diffractometer	141.90
4	HPLC	11.51
5	FTIR	14.69
6	HPLC	11.66
7	UV Visible	17.65
8	Mini brednell	04.85
9	UV visible spectrophotometer	03.00
10	Spectroelectrochemical analyzer	08.00

Patents filed:

Sl.No.	Title of the Invention	Principal/Co-Investigator(s)
1	A Method of manufacture of a device to monitor the flow of liquids & a device manufactured by the said method	Prof. T Pradeep
2	An improved Process for the Preparation of Polylactic Acid	Prof. B Viswanathan M/s Malladi Drugs & Pharmaceuticals Ltd.
3	An improved single stage procedure for the synthesis of cross-linked polyallylamine hydrochloride	Dr. S. Sankararaman
4	Synthesis of various salts of cross-linked polyallylamine polymer by opn-exchange metathesis	

4.5.5 Research and Consultancy:

Sponsored Research Projects :

S. No.	Title	Period	Funding agency	Amount (in lacs)	Co-ordinators
1	Facility for Spatially Resolved Magnetic Resonance: Methodology Development and Applications to Investigation of Composite Materials & Biological Systems	2005-2008	DSTX	520.00	Dr. N. Chandrakumar
2	Synthesis and Structural Studies of N-Glycoprotein Analogs	2005-2008	IFCP	54.32	Dr. D. Loganathan
3	Development of a Portable Fluorescence Based Fibre- Optic Sensor for Polycyclic Aromatic Compounds In Liquid Media	2004-2007	MHRD	15.00	Dr. A K Mishra
4	Synthesis of Acetylenic Macrocycles: Model Systems of Graphyne Substructures	2005-2008	CSIR	09.50	Dr. S. Sankararaman
5	Synthesis, structure and reactivity studies on shape persistent macrocyclic silacyclines.	2003-2006	DRDO	20.16	
6	Analysis of electron transfer processes across liquid/liquid interfaces	2004-2007	DST	11.00	Dr. M. V. Sangaranarayanan
7	Studies pertaining to the design and development of electrochemical Supercapacitors	2002-2005	DRDO	21.10	
8	Analysis of underpotential deposition of metals and two-dimensional phase transitions	2003-2006	CSIR	10.47	
9	Synthesis, Characterization of Derivatives of Poly (Dichlorophosphazene)	2004-2005	Heavy Water Board	03.26	Dr. M. N. Sudheendra Rao
10	Addition Polymerization of Olefins and Ring-opening Polymerization of Lactams by Single-site Catalysts	2005-2008	DSTX	38.00	Dr. G. Sundararajan
11	Development of Membranes for Fuel Cell Applications	2005-2007	MNES	23.40	Dr. T. K. Varadarajan
12	Design and Development of Environmentally Secure Rare Earth Based Colorants for Surface Coating Applications	2006-2009	CSIR	52.20	Dr. U. V. Varadaraju
13	Photoactive Nanoparticles for Photocatalytic decomposition	2003-2006	DST	9.82	Dr. R. P. Viswanath

14	Synthetic efforts towards a new class of Lipophilic Spacers in the field of Heparinoid Mimetics	2005-2007	CSIR	09.96	Dr. Indrapal Singh
15	Development of Online, Interactive Curricula in Core Science subjects with built-in feedback components and reusability for Science and Engineering Streams in India	1 year	Alumni Funds	43.36	Dr. K. Mangala Sunder Dr. M. Singaperumal
16	National Programme on Technology Enhanced Learning (National Web coordinator)	2003-2006	MHRD	1500	Professor M. S. Ananth, Principal Coordinator, Professor Kushal Sen, IIT Delhi, National Video coordinator
17	IITM-Sun Microsystems for development of visual aids in science subjects	Aug 2005-Aug 2007	Sun Microsystems	15.00	Dr. K. Mangala Sunder
18	Synthesis and Properties of Fullerene Porphyrin and Porphyrin Donor - Acceptor Complexes	2005 - 2007	DRDO	14.31	Dr. P. Bhyrappa
19	Metal driven self-assembly coordination cases via modular approach	2004-2007	DST	13.92	Dr. Dillip Kumar Chand
20	Investigation of Dispersed Heteropoly Acids and Oxids Monolayers on Ceria Based Oxide Systems	2005 - 2007	DRDO	14.97	Dr. G. Ranga Rao
21	Enantio- and Diastereoselective Addition of Substituted Allylorganometallics to Carbonyl Compounds: Application towards the Asymmetric Total Synthesis of Balanol	2005-2008	CSIR	10.46	Dr. Santosh Gharpure
22	New Methods for the Synthesis of Cyclic Ethers based on Vinylogous Carbonates	2005-2008	DST	23.98	
23	Enantioselective Oxidative Kinetic Resolution: Asymmetric Version of Corey-Kim Oxidation and Swern Oxidation	2005-2008	DST	11.34	Dr. G. Sekar
24	Metallo Phosphonamides and Phosphonates: Synthesis, Structural Characterization and some Exploratory investigations	2006-2009	DST	19.00	Dr. Debashis Chakraborty
25	Atom Economy based strategies for stereo selective synthesis of Biologically active azacyclic ring systems	2003-2006	DST	28.49	Dr. S. Baskaran Dr. Sanjay kumar

Industrial Consultancy projects:

S.No.	Name of faculty	Title	Industry	Amount (Rs.in lacs)
1	Dr. G. Sundararajan	NMR Facility	Various organizations	2.5

RBIC projects

S.No.	Name of faculty	Title	Industry	Amount (Rs.in lacs)
1	Dr. S. Baskaran	Investigation of new type of Ionic Liquid Electrolytes	Motorola labs. Bangalore	09.46
2	Dr. Debashis Chakraborty	Trouble shooting of KClO ₃ production	Vaigai Industries	02.20

Research Publications:

Total No. of papers published in Refereed National Journals	...	16
Total No. of papers published in Refereed International Journals	...	112
Total No. of papers presented in National Conference	...	04
Total No. of papers presented in International conferences	...	07

In Refereed National Journals:

Sl. No.	Name of Faculty	Title of the paper	Name of the Journal
1	Dr. R. Dhamodharan	Atom Transfer Radical Polymerization of p-(Me,Cl) Benzylmethacrylates	Polymer Society for Polymer Science in India, 89-90 (2006)
2		Synthesis of Polystyrene Three arm Star-via Radical Reversible Addition-Fragmentation Chain Transfer (RAFT) Polymerization	Polymer 2006, Society for Polymer Science in India, 77-78 (2006)
3	Dr. T. Pradeep	A micro-convection model for thermal conductivity of nanofluids	Pramana, 65, 863 (2005)
4		Nanoparticles-chemistry, new synthetic approaches, gas phase clustering and novel applications	Pramana, 65, 631 (2005)
5	Dr. M V Sangaranarayanan	Development of electrochemical super capacitors using under potential deposition of thallium on silver	Ind. J. Chem. 44A, 1395 (2005)
6		Under potential deposition of metals - Progress and prospects in modeling	J. Chem. Sci. 117 207 (2005)
7	Dr. T. K. Varadarajan	Preparation, characterization and electro-catalytic activity of phosphomolybdic acid embedded organic-inorganic nanocomposites	Ind. J. Chem. 44A, 994 (2005)
8		Synthesis and Structural Characterization of cerium incorporated manganese oxide OMS-2 type catalysts	Ind. J. Chem. 44A, 2214 (2005)
9		Comparison of electrochemical behaviour of polyanions with that of biological species	Bull. Catal. Soc. India, 4, 109 (2005)
10	Dr. U. V. Varadaraju	Luminescent host lattices, LaInO ₃ and LaGaO ₃ - A reinvestigation of luminescence of d ¹⁰ metal ions	Mater. Res. Bull. 41, 724 (2006)
11		Synthesis, characterization and electrochemical studies on LiCoAsO ₄	Mater. Res. Bull. 41, 601 (2006)
12		Solid state studies on Bi _{1.7-x} Hg _x V ₈ O ₁₆ (x □ 0.4) and magnetic properties of alkali metal inserted A _x Bi _{1.7} V ₈ O ₁₆ (A = Li and Na) hollandite type phases	Materials Chem. Phys. 96, 22 (2006)
13		Influence of isovalent ion substitution on the electrochemical performance of LiCoPO ₄	Mater. Res. Bull. 40, 1705 (2005)
14		Exhibition of structural flexibility of the infinite layer framework of the prototype compound Ca _{0.85} Sr _{0.15} CuO ₂ prepared under ambient conditions	Mater. Res. Bull. 40, 1460 (2006)
15		Environmentally benign novel green pigments: Pr _{1-x} Ca _x PO ₄ (x = 0-0□4)	Bull. Mater. Science 28, 299 (2005)
16	Dr. K. Vidyasagar	Synthesis, Structure and Intercalation Properties of Low-dimensional Phenylarsonates, $A(HO_3AsC_6H_5)(H_2O_3AsC_6H_5)A = Tl$	J. Chem. Sci. 118, 117 (2006)

In Refereed International Journals:

Sl.No.	Name of Faculty	Title of the paper	Name of the Journal
1	Dr. R. Dhamodaran	Synthesis and properties of polystyrene carrying pendant hydroxybarbiturate groups	J. Macromolecular Science, Pure and Applied Chemistry A42(2) , 189-202 (2005)
2		Synthesis and characterization of block copolymers of P(MMA-b-n-BA-b-MMA) via ambient temperature ATRP of MMA	J. Macromolecular Science, Pure and Applied Chemistry A42 (4) , 471-484 (2005)
3		Ambient Temperature ATRP of Benzyl Methacrylate as a Tool for the Synthesis of Block Copolymers with Styrene	J. Polym. Sci. Part A: Polym. Chem. 44(9) , 2848-2861 2006
4		Growth of poly(methyl methacrylate) brushes on silicon surfaces by atom transfer radical polymerization	Journal of Polymer Science, Part A: Polymer Chemistry 44(5) 1758-1769 (2006)
5	Dr. D. Loganathan	Synthesis of n-(β -Glycopyrano-syl) azidoacetamides	J. Carbohydr. Chem. 24 , 1 (2005)
6		Enzymatic Synthesis of N-glycoprotein linkage region disaccharide mimetics using β -N-acetylhexosaminidases from <i>Aspergillus oryzae</i> and <i>Vigna radiate</i>	Tetrahedron: Asymmetry 16 , 255 (2005)
7		Binding of β -D-glucopyranosyl bisemethoxy phosphoramidate to glycogen phosphorylase b: kinetic and crystallographic studies	Bioorg. Med. Chem. 13 , 765 (2005)
8		Stereoselective Single-step Synthesis and X-Ray Crystallographic Investigation of Acetylated Aryl 1,2-trans glycopyranosides and Aryl 1,2-cis C2-hydroxyglycopyranosides	Carbohydr. Res. 341 , 19 (2006).
9		Glycan Assembly Driven by N-H...O and C-H...O Interactions: Observation of a Unique Pattern of Bifurcated Hydrogen Bonds in the Crystal Structures of N-Glycoprotein Linkage Region Models	Glycobiology 16 , 343 (2006).
10	Dr. Ashok K. Mishra	Fluorescence spectroscopic study of serum albumin-bromadiolone interaction: fluorimetric determination of bromadiolone	Journal of Pharmaceutical and Biomedical Analysis 38 , 556-563 (2005)
11		Investigation in to the effects of transformer oil on fluoro(poly)etherimides and their nanocomposites films	Journal of Metastable and Nanocrystalline Materials, 23 , 347-350 (2005)
12		Study on the fluorescence characteristics of bromadiolone in aqueous and organized media and application in analysis	Chemosphere, 61 , 1580-1586(2005).
13		Prototropism of 1-hydroxypyrene in liposome suspensions: implications towards fluorescence probing of lipid bilayers in alkaline medium	Photochemical and Photobiological Sciences, 5 , 283 - 290 (2006)
14		Synchronous Fluorescence Spectroscopy and its Applications	ISRAPS Bulletin, 18 (1&2) , 4 - 8 (2006)
15	Dr. T. Pradeep	Flow-Induced Transverse Electrical Potential across in Assembly of Gold nanoparticles	Physical Review Letters 95 , 164501 (2005)
16		Interaction of Azide Ion with Hemin and Cytochrome c immobilized on Au and Ag Nanoparticles	Langmuir 21 , 11896 (2005).
17		$Te_nS_4^+(n=1-4)$ clusters in the gas phase	Chem. Phys. Lett. 417 , 34 (2006).

18	Dr. T. Pradeep	Growth of Gold Nanoparticles in Human Cells	Langmuir 21, 11562 (2005).
19		Novel Cage Clusters of MoS ₂ in the Gas Phase	J. Phys. Chem. A 109, 7339 (2005).
20		Observation of a fifth order optical nonlinearity in 29 kDa Au@alkanethiol clusters excited in the visible	Chem. Phys. Lett. 403, 308 (2005).
21		Capped Metal Clusters in the Gas Phase	Int. J. Nanoscience 5, 935 (2005).
22		Structural transformation in formic acid on ultra cold ice surfaces	Chem. Phys. Lett. 402, 116 (2005).
23		Au _x Ag _y @ZrO ₂ core nanoparticles: synthesis, characterization, reactivity and optical limiting	Materials Science & Engineering B 117, 173 (2005).
24		Potential of Silver Nanoparticle-Coated Polyurethane Foam As an Antibacterial Water Filter	Biotechnology & Bioengg. 90, 1 (2005).
25		On the formation of protected gold nanoparticles from AuCl ₄ ⁻ by the reduction using aromatic amines	J. Nanoparticle Res. 7, 209 (2005).
26		Dr. M. V. Sangaranarayanan	Electrochemical reductive cleavage of carbon-chlorine bond in 1-chloro-2,4-dinitrobenzene	Electrochimica Acta 51, 242 (2005).
27	Evidence for the formation of radical in the reductive cleavage of carbon-bromine bond in 4-bromomethylbiphenyl-2-carbonitrile		Chem. Phys. Lett. 414, 55 (2005).
28	Estimation of electrochemical quartz crystal microbalance frequencies from cyclic voltammetric data: underpotential deposition of metals as an illustration		J. Solid State Electrochem. 9, 621 (2005).
29	Hydration energies of Thallium(I) halides – novel simulation methodology		J. Molecular Structure 750, 28 (2005).
30	Under potential deposition of metals – Progress and prospects in modeling		J. Chem. Sciences 117, 207 (2005).
31	Hammett-type relationship for the aromatic chlorides cleavage of radical anions of and bromides		Tetrahedron 61, 3755 (2005).
32	Dehydration energies of alkaline earth metal halides – a novel simulation methodology		Chem. Phys. 310, 59 (2005).
33	4-Bromo-2, 6-dichloroaniline		Acta Crystallogra. E61, o758 (2005).
34	Distinction between stepwise and concerted mechanisms in reductive cleavage reactions – use of voltametric current function in the analysis of non-linear kinetic laws		Tetrahedron 61, 1785 (2005).
35	Anion-induced adsorption of thallium complex on silver electrodes		J. Colloid & Interface Science 282, 92 (2005).
36	Investigation of polyaniline-coated stainless steel electrodes for electrochemical supercapacitors		Synthetic Metals 156, 244 (2006).
37	Analysis of electron transfer processes across liquid/liquid interfaces: Estimation of free energy of activation using diffuse boundary model		Langmuir 22, 1347 (2006).
38	Dr. S. Sankararaman		Synthesis, absorption and fluorescence emission properties of 1,3,6,8-tetraethynylpyrene and its derivatives	Eur. J. Org. Chem. 4162 (2005).
39		Synthesis of 2,5-Diethynyl Substituted Oxepins from trans-1,4-Diethynylcyclohexa-2,5-diene-1,4-diols.	Tetrahedron Lett. 46, 3221 (2005).
40		Synthesis of Shape Persistent Polyaryl Dendrimers. Facile Entry Into Polyene and Polyene Dendrimers.	Eur. J. Org. Chem. 2740 (2005).

41	Dr. M. S. Subramanian	Selective extraction of U (VI) over Th(IV) from acidic streams using Di-bis(2-ethylexyl) malonamide anchored chloromethylated polymeric matrix	Talanta 65, 179 (2005).
42		Extraction chromatographic method for the separation of actinides and lanthanides using EDHBA grafted polymer	Talanta 65, 735 (2005).
43		AXAD-16-3,4-dihydroxy benzoyl methyl phosphonic acid: A selective preconcentrator for U and Th from acidic waste streams and environmental samples	React. Funct. Polym. 62, 105 (2005).
44		Amide grafted Amberlite XAD-16 polymer for the selective and sequential separation of U(IV) and Th(IV) from acidic waste effluents	Sol. Extr. Ion Exch. 23, 163 (2005).
45		New Multidentate Ion-Selective Grafted Polymer for preconcentration of Lanthanides and Actinides	Anal. Letters 38, 1331 (2005).
46		DAPPA Grafted Polymer: An efficient solid phase extractant for U(VI), Th(IV) and (La(III) from acidic waste streams and environmental samples	Talanta 67, 81 (2006).
47		Selective Preconcentration of U(VI) and Th(IV) in Trace and Macroscopic Levels using Malonamide grafted polymer from acidic matrices	Microchimica Acta 150, 297 (2005).
48		New Multi-Dentate Ion-selective AXAD-16-MOPPA polymer for the preconcentration and sequential separation of U(VI), Th(IV) from Rare Earth Matrix	Separation Science & Technology 40, 2213 (2005).
49		BEHSA grafted polymer for selective extraction of U(VI), Th (IV) and La (III) from acidic matrices and also from environmental samples – A green process	Radiochim. Acta 94, 1 (2006).
50	Dr. G. Sundararajan	Sterically modified C ₃ and pseudo-C _s symmetric titanium and zirconium catalysts for polymerization of 1-hexene	Polymer Preprints (ACS, Division of Polymer Chemistry) 47, 280 (2006).
51		Investigation of the active species in a Michael addition promoted by chirally modified tetrahydroborate	Tetrahedron 62, 1474 (2006).
52		Novel Linear and Tribranched Polymers with Redox-Active End Groups via W(CO) ₆ -Initiated Metathesis Polymerization	Org. Letters 8, 605 (2006).
53		Tuning the reactivity of N,O,O,O-non-metallocene catalysts for α -olefin polymerization: issues related to ligand symmetry and derivatization.	Macromolecular Rapid Communications 26, 1854 (2005).
54		Highly efficient resolution of racemic diethanolamine using (-) camphor-10-sulfonic acid	ARKIVOC 11, 137 (2005).
55	Dr. T. K. Varadarajan	Preparation, characterization and catalytic properties of cerium incorporated manganese oxide OMS-2 catalysis	Catalysis Communication 6, 41 (2005).
56		Alkylation of Naphthalene with alcohols over acidic mesoporous solids	J. Mol. Catal. A: Chemical, 226, 15 (2005).
57		Cerium incorporated ordered manganese oxide OMS-2 materials: Improved catalysts for wet oxidation of phenol compounds	Applied Catalysis: Environmental 59, 93 (2005).
58		Microwave assisted cyclocondensation of dialdehydes with chiral diamines forming calixsalen type macrocycles	Tetrahedron Letters 46, 3151 (2005).
59		A novel single step chemical route for noble metal nanoparticles embedded organic-inorganic composite films	Mater. Chem. Phys. 95, 51 (2005).
60		Polyoxometalate based soft chemical route for preparation of Pt nanorods and self-assemblies	Bull. Matter. Sci. 28, 629 (2005).

61	Dr. T. K. Varadarajan	Preparation of noble metal supported carbon electrodes using photochemically reduced heteropolyanions in composite films	J. Mol. Catal. A: Chemical, 241 , 52 (2005).	
62		Heteropolyacid catalyzed synthesis of Chloromethyl Methyl Ether	Tetrahedron Letters 47 , 429 (2005).	
63	Dr. U. V. Varadaraju	Intense Red Phosphor for White LEDs Based on Blue GaN LEDs	J. Electrochem. Soc. 153 , H54 (2006).	
64		Synthesis and Eu ³⁺ luminescence in new oxysilicates, Al ₃ Bi(SiO ₄) ₃ O and Al ₂ Bi ₂ (SiO ₄) ₃ O [A=Ca, Sr and Ba] with apatite-related structure	J. Solid State Chem. 178 , 3284 (2005).	
65		Intense Red-Emitting Phosphors for White Light Emitting Diodes	J. Electrochem. Soc. 152 , H168 (2005).	
66		White-light generation in Sr ₂ SiO ₄ : Eu ²⁺ , Ce ³⁺ under near-UV excitation: A novel phosphor for solid-state lighting	J. Electrochem. Soc. 152 , H152 (2005).	
67		Nitrogen containing carbon nanotubes as supports for Pt - Alternate anodes for fuel cell applications	Electrochem. Commun. 7 , 905 (2005).	
68		Electrochemical reaction of lithium with Zn ₃ P ₂	J. Power Sources 144 , 204 (2005).	
69		Frustrated exchange interactions in the Dy ₆ Al ₃ Si system	Physica B: Condensed Matter. 359-361 , 217 (2005)	
70		Dr. R. P. Viswanath	Synthesis, characterization & photo catalytic activity of N-TiO ₂	Chem. Mater. 17 , 6349 (2005).
71			Electrochemical degradation of phenol	Koren J. Chem. Engg (2005).
72	Dr. Archita Patnaik	Rotational Flexibility in NH ₄ ⁺ – Encapsulated 18-Crown-6 Studies by Molecular Dynamics and Positron Annihilation: Where Does the Positron Localize?	J. Phys. Chem. A 109 , 1269 (2005).	
73		Polarized near-edge x-ray-absorption fine structure spectroscopy of C ₆₀ – functionalized 11 – amino – 1 – undecane thiol self-assembled monolayer: Molecular orientation and Evidence for C ₆₀ aggregation	J. Chem. Phys. 122 , 154703–1 (2005).	
74		C ₆₀ Aggregate Structure and Geometry in Nonpolar O-Xylene	J. Phys. Chem. B 109 , 87 (2005).	
75		A new fullerene C ₆₀ -didodecyloxy benzene dyad: An evidence for ground state electron transfer	Chem. Phys. Lett. 414 , 198 (2005).	
76		Structure and Dynamics in Solvent-Polarity-Induced Aggregates from a C ₆₀ Fullerene-Based Dyad	Langumir 21 , 12139 (2005).	
77		Surface confined self-assembled Fullerene nanostructures : a microscopic study	Applied Surface Science 245 , 26 (2005).	
78		Dr. S. Baskaran	1,3:4,6-Di-O-benzylidene-D mannitol as a source for novel chiral intermediates through regioselective reductive cleavage	Tetrahedron Lett. 46 , 743 (2005).
79	A facile, catalytic and environmentally benign method for chemoselective deprotection of –OTBDMS ether by PMA supported on Silica gel.		Tetrahedron Lett. 46 , 2965 (2005).	
80	Regioselective Cleavage of the bis-benzylidene acetal of D-mannitol under oxidative and reductive conditions: a new approach to C ₂ -symmetric chiral ligands		J. Org. Chem. 70 , 4520 (2005).	
81	An unusual solvent effect in the cuprate displacement reaction of indolizidin-5-yl-methyl p-toluenesulphonate: Stereoselective synthesis of indolizidine alkaloids 167B and 209D		Tetrahedron Lett. 46 , 4559 (2005).	

82		Bathochromic shift of the fluorescence spectral maximum with increasing generation of dansyl labeled Newcome type dendrimers	ym. Jour. 2006, 0000	
83	Dr. Indrapal Singh	Convenient Enantiopure Synthesis of (2S, 3R)-2-O-Benzyl-3,4-O-isopropylidene-D-erythritol from D-(+)-Glucono- δ lactone: A Potential C ₄ Chiral Building Block	Synthesis 13, 2267 (2005).	
84		Simple and Highly Convenient Two-Step Practical Procedure for the Synthesis of Optically Pure Methyl D-erythro-2, 3-Dihydroxy-butanone	Adv. Synth. 347, 715 (2005).	
85		Unambiguous assignment of the stereochemistry at the Anomeric carbon in Methyl- α -D-C-Aryl-glucopyranoside Derivative: A representative of products from our new strategy for 2-Deoxy-C-aryl-glucopyranosides	J. Carbohydr. Chem. 24, 321 (2005).	
86		Efficient and Rapid Regioselective Deprotection of Isopropylidene ketals	Z. Naturforsch. 60b, 962 (2005).	
87		Towards a Synthesis of Vigabatrin using glycal chemistry	Molecules 10, 871 (2005).	
88		Propargyl bromide as an excellent α -Bromoacetone equivalent: Convenient and New route to α -arylacetonates	J. Org. Chem. 71, 349 (2006).	
89		Dr. K. Vidyasagar	Synthesis and Structural Characterization of new Mixed-Valent Tellurium Oxides, $A_4 [Te_5^{6+}Te_3^{4+}] O_{23}$ (A = Rb and K)	Inorg. Chem. 44, 9369 (2005)
90			Syntheses, Structure and Intercalation properties of Low-Dimensional Phenylphosphonates, $A(HO_3PC_6H_5)(H_2O_3PC_6H_5)(Alkali)$	Eur. J. Inorg. Chem. 4936 (2005)
91	Sodium methylenediphosphonate, $Na(HO_3PCH_2PO_3H_2)$		Acta Cryst. E61, m1794 (2005)	
92	$[(C_2H_5)_4N]_4[MO_8O_{26}]_4$: a re-determination and correction		Acta Cryst. E61, m1885 (2005)	
93	Rubidium thiogallate		Acta Cryst. E61, 1193 (2005)	
94	Synthesis and X-ray Crystal Structures of New Three-dimensional thylenediphosphonates, $A[HO_3P(CH_2)_2PO_3H_2]$ (A = alkali metal, TI and NH ₄): Solid Brønsted acids Exhibiting Topotactic Intercalation and Deintercalation of Ammonia		Eur. J. Inorg. Chem. 813 (2006)	
95	Dr. K. Mangala Sunder		Rotational Spectra of monosubstituted asymmetric benzene-water dimers	J. Molecular Spectroscopy, Vol 232, p. 296 (2005)
96		Calculating intensities using effective Hamiltonians in terms of Coriolis adapted normal modes	J. Chem. Physics, V. 122, 0341606	
97	Dr. P. Bhyrappa	Microporous Porphyrin Solids-Suslick	Acc.Chem. Res. 38, 283 (2005).	
98		Synthesis and Crystal structure of 5 - (4-carboxyphenyl) - 10, 15, 20-tri (4-t-butylphenyl) porphyrinato zinc (II) complex	J. Chem. Sci. 117, 139 (2005).	
99	Dr. Dillip Kumar Chand	Self Assembly by Ligand-Exchange Reactions	Eur. J. Inorg. Chem. 3346 (2005).	
100		A New Class of Self-Assembly Multinuclear Pt(II) Coordination Cages by a Modular Approach	Tetrahedron Lett. 47, 2867 (2006).	

101	Dr. G. Ranga Rao	Cerium Containing Al and Zr-Pillared Clays: Promoting Effect of Cerium (III) Ions on Structural and Catalytic Properties	J. Porous Materials 12, 171 (2005).
102		Location and interaction of cerium ions in Al- and Zr-pillared montmorillonite clays: UV-Vis diffuse reflectance spectroscopy study	Materials Chem. Phys. 89, 110 (2005).
103	Dr. G. Ranga Rao	Assignment of surface IR absorption spectra observed in the oxidation reactions: $2\text{H} + \text{H}_2\text{O}/\text{Si}(100)$ and $\text{H}_2\text{O} + \text{H}/\text{Si}(100)$	Surface Science 575, 330 (2005).
104		Promoting effect of ceria on the physicochemical and catalytic properties of $\text{CeO}_2\text{-ZnO}$ composite catalysts	J. Mol. Catal. A: Chemical 243, 204 (2006).
105	Dr. Sundaragopal Ghosh	Condensed Metallaborane Clusters: Synthesis and Structure of $\text{Fe}_2(\text{CO})_6(\eta^5\text{-C}_5\text{Me}_5\text{RuCO})(\eta^5\text{-C}_5\text{Me}_5\text{Ru})\text{B}_6\text{H}_{10}$	Chem. Commun. 3080 (2005).
106		Borane Mimics of Classic Organometallic Compounds: $[(\text{Cp}^*\text{Ru})(\text{B}_6\text{H}_{14})(\text{RuCp}^*)]^{0,+1}$ Isoelectronic Analogues of Dinuclear Pentalene Complexes	Angew. Chem. Int. Ed. 44, 6568 (2005).
107		Insertion of B-X (X = Cl, SMe_2) Moieties into Ruthenaborane Frameworks: Synthesis and Characterization of $(\eta^5\text{-C}_5\text{Me}_5\text{Ru})_2(\mu\text{-H})\text{B}_4\text{H}_m\text{Cl}_n$, (m,n = 4,3; 5,2 and 7,2); closo-1-(SMe_2)-2,3-($\eta^5\text{-C}_5\text{Me}_5\text{Ru})_2(\mu_3\text{-H})\text{B}_5\text{HCl}_3$, and closo-2,3-($\eta^5\text{-C}_5\text{Me}_5\text{Ru})_2\text{B}_6\text{H}_3\text{Cl}_3$.	Organometallics 24, 2473 (2005).
108		Synthesis and Characterization of exo-BH_2 -($\eta^5\text{-C}_5\text{Me}_5\text{M})_2\text{B}_6\text{H}_{14}$, M = Ru, Re, and Conversion of the Ruthenaborane into $(\eta^5\text{-C}_5\text{Me}_5\text{Ru})_2\text{B}_{10}\text{H}_{16}$ with an Open Cluster Framework Based on a Capped Truncated Tetrahedron.	Angew. Chem. Int. Ed. 44, 2916 (2005).
109	Dr. N. N. Murthy	Structure of a five-coordinate mononuclear cobalt (II) complex: Chlorobis ([N, N-(1, 1-biphenyl-2,2-dimethylene)]2-aminomethyl)pyridine cobalt (II) bromide	J. Chem. Cryst. (2006)
110		Selective DNA strand scission with binuclear copper complexes: Implications for active Cu-O_2 species	J. Am. Chem. Soc., 0000 (2006)
111	Dr. Sanjay Kumar	Total Cross Sections for Dissociative Electron Attachment to Ozone	J. Phys. B: At. Mol. Opt. Phys. 38, 75 (2005)
112		Elastic and Charge Transfer Collisions in H^{++} CO System	J. Chem. Phys. 124, 034314 (2006)

In proceedings of National Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1	Dr. R. P. Viswanath	An overview of CdS nanoparticles	BHU, Varanasi	Feb. 2006
2	Dr. S. Baskaran	Unusual aggregation of pyrene labeled dendrimer in aqueous solution.	7th CRSI National Symposium in Chemistry, IACS, Kolkata, India.	Feb 4-6, 2005
3		Tandem cation-olefin-azide cyclization: Stereo- and enantio selective synthesis of azapolycyclic ring systems.		
4		Cation-olefin-azide cyclization: Novel synthesis of azapolycyclic ring systems.			ACS National Meeting, San Diego, CA, USA	March 13-17, 2005

In proceedings of International Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1	Dr. R. Dhamodharan	Controlled graft copolymerization of functionalized methacrylates via atom transfer radical polymerization at ambient temperature	IP 2005 – International Symposium on Ionic Polymerization (IUPAC), Goa.	23– 28.10. 2005
2.		<i>Ambient temperature atom transfer radical polymerization of t-butyl acrylates</i>		
3		<i>Reversible Addition Fragmentation Chain Transfer (RAFT) polymerization of Styrene Using New Chain Transfer Agents (CTA)</i>		
4	Dr. R. P. Viswanath	Influence of heteroatom doping on TiO ₂ and its blueship	NSU, Singapore	3 – 8.07.2005
5	Dr. Archita Patnaik	Two dimensional Biphasic Nanocables from a C60 Based Acceptor-Bridge-Donor Dyad	Materials Research Society Spring Meeting, San Francisco, USA	28-03 – 01.04.2005
6	Dr. G. Ranga Rao	Ze- and Al-pillared clays for alkylation and nitrate reduction reactions	13 th Intl. Clay Conference, Tokyo	21 – 27.08.05
7	Dr. Sanjay Kumar	Bound Resonant Negative Ion States of SO ₂	XXV International Conference on Photonic, Electronic and Atomic Collisions Rosario, Argentina	20-26.07. 05

Distinguished Visitors to the Department

S.No	Name of the visitor and designation	Date of visit	Purpose of visit
1	Prof. P. Sundararajan Dept. of Chemistry Carleton University, Ottawa, Canada	02.05.2005	Seminar & Research Discussion
2	Dr. Amarendra Vijay Dept. of Chemistry University of Houston Houston, Texas, USA	09.05.2005	Seminar & Research Discussion
3	Dr. P.K. Ajikumar Dept. of Chemistry National University of Singapore	27.05.2005	Seminar presentation
4	Dr. Mintu Halder Dept. of Chemistry Lowa State University	07.06.2005	Seminar & Research Discussion
5	Dr. R. K. Ponde Micro Devices Metrohm Limited, Mumbai	21.06.2005	Seminar & Discussion on FT-IR/FT-RAMAN Instrumentation
6	Prof. S. Ramakrishnan Dept. of Inorganic & Physical Chemistry Indian Institute of Science, Bangalore	23.06.2005	Ph.D viva & Guest Lecture
7	Dr. Rajendra Bera Head, Software Division, IBM India	26.06.2005	Seminar & Research Discussion
8	Dr. R. Krishnan Dept. of Chemistry University of Georgia Athens, Georgia	15.07.2005	Seminar presentation
9	Dr. P. Raveendran Supercritical Fluids Group Research Centre for Compact Chemical Process National Institute for Advanced Industrial Science & Technology, Sendai Japan	18.07.2005	Seminar presentation

10	Prof. George John Department of Chemistry City College of the City University of New York	18.07.2005	Seminar presentation
11	Dr. K. Kalyanasundaram EPFL Lausanne, Switzerland	26.07.2005	Seminar presentation
12	Dr. B. Rajakumar Postdoctoral Research Associate University of Colorado Boulder, USA	04.08.2005	Seminar presentation
13	Prof. D. Venkatraman Dept. of Chemistry University of Massachusetts Amherst, MA – USA	05.08.2005	Seminar presentation
14	Dr. K. N. Ganesh Scientist, NCL, Pune	22.09.2005	Delivered Guest Lecture
15	Dr. C. J. Thomas, (Alumnus of the Dept.) Sr. Principle Scientist, Technical Manager – Catalysis & Chiral Technologies, Johnson Matthey, New Jersey, USA	30.9.2005	Technical presentation & Interactive Session
16	Prof. Anil Kumar Dept. of Chemistry, IIT Bombay	10.10.2005	Ph.D Viva & Seminar Presentation
17	Dr. T. Bhaskar Dept. of Applied Chemistry Okayama University, Japan	13.10.2005	Seminar Presentation
18	Dr. Jaydeb Chakrabarti S. N. Bose Centre for Basic Sciences, Kolkatta	24.10.2005	Seminar Presentation
19	Dr. Rene Gree – Professor University of Rennes, France	28.10.2005	Seminar & Discussion
20	Dr. Michel Vaultier – Professor, University of Rennes, France	28.10.2005	Seminar & Discussion
21	Dr. Parimal R. Desai (Distinguished Alumnus Awardee – 2005) Vice President, Wyeth Research, NY, USA	31.10.2005	Seminar Presentation
22	Prof. J P Kennedy Distinguished Professor (Polymer Science & Technology) University of Akron, OHIO, USA	31.10.2005	Seminar Presentation
23	Prof. Ashok K. Ganguli Dept. of Chemistry IIT Delhi	09.11.2005	Seminar Presentation
24	Prof. Krishna Rajarathnam Dept. of Human Biological Chemistry & Genetics, University of Texas Medical Branch, Galveston, USA	21.11.2005	Seminar Presentation
25	Dr. Brindaban C. Ranu Professor and Head Dept. of Organic Chemistry Indian Association for the Cultivation of Science, Jadavpur, Kolkatta	25.11.2005	Ph.D Viva examination and Seminar Presentation
26	Dr. M. Nethaji Principal Scientific Officer Inorganic & Physical Chy. Dept. Indian Institute of Science, Bangalore-12	29.11.2005	Seminar & Pre – installation discussion on XRD facility
27	Dr. V. Pralong Crismat, Caen, France	13.12.2005	Seminar Presentation
28	Dr. V. Caignert Crismat, Caen, France	13.12.2005	Seminar Presentation
29	Prof. Satish V. Kailas Dept. of Mechanical Engg & Centre for Product Design and Manufacturing Indian Institute of Science, Bangalore	16.12.2005	Seminar Presentation
30	Prof. P. Sundararajan Carleton Chemistry Institute Ottawa, Canada	16.12.2005	Seminar Presentation

31	Prof. Uwe Beifuss Department of Chemistry University of Hohenheim Stuttgart, Germany	03.01.2006	Seminar Presentation
32	Dr. Vasudevan Ramesh School of Chemistry & Manchester Interdisciplinary Biocentre The University of Manchester United Kingdom	13.01.2006	Seminar Presentation
33	Prof. Richard R. Schmidt Dept. of Chemistry University of Konstanz Germany	16.01.2006	Seminar Presentation
34	Dr. Anindya Datta Dept. of Chemistry IIT Bombay	19.01.2006	Ph.D Viva and Seminar Presentation
35	Prof. H. Ila (Junjappa) Dept. of Chemistry IIT Kanpur	23.01.2006	Seminar Presentation
36	Prof. Henri Kagan University of Paris – Sud, France	27.01.2006	Seminar Presentation
37	Dr. K. Dhanalakshmi University of Pittsburgh USA	30.01.2006	Seminar Presentation
38	Dr. S V K Kumar TIFR, Mumbai	03.02.2006	Seminar Presentation
39	Dr. Bharathi Pondi Scynexis Inc. Durban, NC, USA	06.02.2006	Seminar Presentation
40	Dr. U. Kazamaier Institute of Organic Chemistry University of Saarlands Germany	13.02.2006	Seminar Presentation
41	Dr. K. Pachamuthu Dept. of Chemistry University of Montral Canada	14.02.2006	Seminar Presentation
42	Dr. Sathya Srinivasachari Advisor: Prof. Theresa M. Reineke Dept. of Chemistry, University of Cincinnati Cincinnati, Ohio, USA	15.02.2006	Seminar Presentation
43	Dr. Yaydeb Chakrabarti Bose Institute	08 – 10.02.2006	Lab Visit
44	Dr. Kuei-Hsien Chen Research Fellow Institute of Atomic & Molecular Sciences, Centre for Condensed Matter Sciences National Taiwan University	15.03.2006	Seminar Presentation
45	Dr. Lalit Kumar Chordia CEO – Thartech	30.03.2006	Seminar Presentation

4.5.6. Other Activities:

- A Special Meeting on "Curriculum Development" for Integrated M.Sc Programme at IIT Madras was held on April 27th, 2005 by inviting External Members
- A farewell function to Prof. K. Lalitha was organized in the Department on 24th June, 2005 jointly hosted along with the Department of Biotechnology. On that occasion, a Technical Session was arranged and the following members delivered lectures on the following topics:

Prof. K. K. Balasubramanian
Exe. Director - R & D
Shasun Chemicals, Chennai

"Challenges in Process Development - Story of Isradipine"

Dr. A. G. Appu Rao
Head, Protein Science & Tech.
CFTRI, Mysore

"Mechanism of thermal inactivation of glucose oxidase"

Dr. K. R. Swaminathan
Manager (QA), International
Flavours & Fragrance, Chennai

"Art & Science of Fragrances and Flavours Creation"

Prof. B. V. Viswanathan

"Science & Technology of Fuel Cells"

This event was started on 17th August, 2005 in the Department. The lectures was held in the department between 5.30 & 6.30 PM on every Monday, Wednesday & Friday. Faculty Members / Scientists / Students (B.Tech, M.Tech, MS, M. Sc & Ph D) from IITM and outside institutions are participated.

From IITM: Departments of Applied Mechanics; Chemical Engineering; Chemistry; Mechanical Engineering; Metallurgy & Materials Engineering; Physics and MSRC

From Outside: Madras University ; Anna University ; Loyola College ; CLRI ; CECRI (Chennai branch) ; Center for Fuel Cell Technology

- **Prof. KKB's Endowment Lecture:**

Dr. S. Sivaram, Director, NCL Pune delivered Prof. K. K. Balasubramanian's Endowment lecture entitled "Organic – Inorganic Hybrids: Polymer Clay Nanocomposites" on 2nd September 2005 in IC & SR Main Auditorium.

- **Indo-French Mini Symposium** (IIT Madras – University of Rennes) was held on 29th October, 2005. Prof. Rene Gree, Prof. Michel Vaultier, Prof. Sankararaman & Dr. Santosh J. Gharpure gave lectures. Prof. G. Sundararajan coordinated the event.
- Prof. B.Viswanathan conducted an orientation course in the University of Tezpur for research scholars in catalysis from Feb 1 to 14th Feb. 2006.

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 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 Courses Introduced:

Sl.No	Course No.	Title
1.	CE567	Fuzzy Logic and its Applications in Civil Engineering
2.	CE777	Computational Fracture Mechanics

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech	46	41	43	37	05	172
Dual Degree	13	13	10	08	11	55
M.Tech.	76	92	0	0	0	168
M.S.	3	12	17	12	12	56
Ph.D.	11	25	23	16	39	114
Total	149	183	93	73	67	565

Names of student / scholar attended Conference/Seminar and Symposium Abroad or India:

Sl. No.	Name of the student/scholar	Programme	Name of the Conf./ Seminar/ Symposium	Date and Venue
1.	Mr. Kanagasabapathi B	Ph.D Scholar	Presented a Paper titled "Scheduling and Visualizing Multiple Resource-Constrained Projects" at 4 th Annual Conference of the Management in Construction Researchers Association	University of Malaya, Kuala Lumpur, Malaysia, 4 th & 5 th May 2005
2.	Ms. Jegathambal P, Mr. Anjaneya Prasad M, Ms. Pramada S K, and Ms. Mary Kutty Abraham	Ph.D Scholars	Attended ASIA Oceania Geosciences Society Annual Meeting 2005 at Singapore	Singapore, during 20 th to 24 th June 2005
3.	Mr. Mathava Kumar S	Ph.D Scholar	Attended ASPIRE 2005 International Conference	Singapore during 10 th – 15 th July 2005

4.6.3 Faculty and their Development:

Faculty

Name and Qualifications	Major Area of Specialization
Professors	
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.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.K.Srinivasan, Ph.D. (IITM)	Environmental and Water Resources Engineering
Dr.V.Thamizh Arasan Ph.D. (IITM)	Transportation Engineering
Dr. A. Veeraragavan Ph.D (Bangalore University)	Transportation Engineering
Associate Professors	
Dr.A.Boominathan, Ph.D. (Moscow)	Geotechnical Engineering
Dr.Ligy Philip (Ms.) Ph.D. (IIT Kanpur)	Environmental Engineering
Dr.R.Sivanandan, Ph.D. (Virginia Tech.)	Transportation Engineering
Assistant Professors	
Dr.P.Alagusundaramoorthy Ph.D.(IITM)	Composite Technology
Dr.Amlan Kumar Sengupta Ph.D. (Univ. of Missouri)	Structural Engineering
Dr.K.Ananthanarayanan, Ph.D. (IITM)	Building Technology and Construction Mgmt.
Dr.G.Appa Rao Ph.D. (I.I.Sc. Bangalore)	Structural Engineering
Dr.G.R.Dodagoudar Ph.D. (IIT Bombay)	Geotechnical Engineering
Shri.K.Gopalakrishna, M.Tech. (IIT Kanpur)	Environmental & Water Resources Engineering
Dr. Indumathi M Nambi, Ph.D (Clarkson Univ.)	Environmental & Water Resources Engineering
Dr.Karthik K Srinivasan Ph.D. (Texas, Austin)	Transportation Engineering
Dr.Manu Santhanam Ph.D. (Purdue Univ.)	Building Technology and Construction Mgmt.
Dr. J. Murali Krishnan, Ph.D (IIT Madras)	Transportation Engineering
Dr. B. Nageswara Rao, Ph.D (Iowa Univ.)	Structural Engineering
Dr.R.G.Robinson Ph.D. (IISc., Bangalore)	Geotechnical Engineering
Dr.S.R.Satish Kumar, D.Engg. (Nagoya Univ.)	Structural Engineering
Dr.K.P.Sudheer, Ph.D. (IIT Delhi)	Environmental & Water Resources Engineering
Visiting Faculty	
Dr. U. Saravanan (Texas A&M)	Structural Engineering
Dr. Ashwin Mahalingam (Stanford Univ)	Building Technology and Construction Mgmt.
Adjunct Faculty	
Dr. C. Lakshmana Rao (MIT, USA)	Structural Engineering
Dr. M. S. Sivakumar (Louisiana)	Structural Engineering
Emeritus Professor	
Dr. A.R. Santhakumar (Canterbury, New Zealand)	Structural Engineering

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

Sl.No	Co-Ordinators	Title	Period
Conferences/workshops			
1	Dr. J Muralikrishnan	Long Lasting Highway Pavements – Issues and Challenges	IIT Madras on 2 nd April 2005
2	Dr. Mohan S and Dr. Gandhi S. R	Incineration and Solid Waste Management for Clean Environment at IIT Madras	IIT Madras on 29 th and 30 th April 2005
3	Dr K. Rajagopal	Geosynthetics in Infrastructure Projects	May 3, 2005
4	Dr K. Rajagopal and Dr. R.G. Robinson	Prediction Methods in Geotechnical Engineering	June 3, 2005
5	Dr. Mohan S	Impact of Climate Changes on Water Related Infrastructure for Developing Countries	IIT Madras, 25 th & 26 th August 2005
6	Dr. Gandhi S R	Geosynthetics for Residual Soils	IIT Madras, 1 st Oct. 2005

7	Dr. Devdas Menon & Dr. Meher Prasad A	Code Based Approaches for Seismic Design and Assessment-European and Indian Perspectives	CLT, 26 th Nov. 2005
8	Dr. Satish Kumar S R	Revised IS 800	Viswesvaraya Seminar Hall, Dept. Of Civil Engg. IIT Madras from 21 st to 26 th Nov. 2005
10	Dr. Mohan S	Traditional Rainwater Harvesting System	Coimbatore , Tamil Nadu between 7 th and 9 th Dec. 2005
11	Dr. Appa Rao G	High Performance Cements and Fiber Reinforced Composites	Indian Institute of Science, Bangalore on 13 th Dec. 2005
12	Dr. Kalyanaraman V	India – Australia Workshop on Cold-formed Steel Structures	IIT Madras during 19 th and 20 th Jan 2006
13	Dr. Satyanarayana K.N	Public Private partnerships for Infrastructure Development – An International Perspectives	IIT Madras during 14 th to 15 th Feb 2006
14	Dr. Mohan S	Environmental Impact Assessment for Engineers of Tamil Nadu Pollution Control Board	IIT Madras 20 th to 24 th March 2006
15	Dr. Mohan S Dr. Murty	Advances in Water Engineering for Sustainable Development (NCAWESD-2005)	IIT Madras
Short Term Courses			
1	Dr. Boominathan A & Dr. Dodagoudar G R	Soil Dynamics and Earthquake Engineering	IIT Madras, 13 th – 17 th June 2005
2	Dr. Dodagoudar G R & Dr. B. Nageswara Rao	Finite Elements in Earthquake Engineering (NPEEE)	4 th – 8 th July 2005
3	Dr. Dodagoudar G R & Dr. B. Nageswara Rao	Probability methods in Earthquake Engineering (NPEEE)	11 th – 15 th July 2005
4	Dr. Amlan K Sengupta	Seismic Retrofit of Multistoried Reinforced Concrete Buildings (NPEEE)	IIT Madras 18 th – 23 rd July 2005
5	Dr. Satyanarayana K N	One day Project Management Programme	M/s Aarvee Associates, Hyderabad, 21 st July 2005
6	Dr. Appa Rao G	Advances in Materials and Mechanics of Concrete Structures	IIT Madras, 12 th & 13 th August 2005
7	Dr. Ramachandraiah A	Science Seminar at Tamil Nadu Science and Technology Centre, Chennai under the auspices of Acoustical Society of America	6 th August 2005
8	Dr. Mohan S	Environmental Impact Assessment	Viswesvaraya Seminar Hall, Dept. of Civil Engg. IIT Madras during 12 th to 23 rd Dec. 2005
9	Dr. Nageswara Rao B & Dr. Dodagoudar G R	Introduction to the Finite Element Method	Viswesvaraya Seminar Hall, Dept. Of Civil Engg. IIT Madras from 4 th to 6 th Nov. 2005
10	Dr. Mohan S	Air Quality Modeling	IIT Madras during 16 th to 20 th Jan 2006
11	Dr. Veeraragavan A	Highway Construction & Management	IIT Madras, 10 th Feb 2006
12	Dr. Mohan S	Water Quality Modeling	IIT Madras, during 27 th Feb to 3 rd March 2006
13	Dr. Nageswara Rao B & Dr. Dodagoudar G R	Introduction to the Finite Element Method	Viswesvaraya Seminar Hall, Dept. Of Civil Engg. IIT Madras from 4 th to 6 th Nov. 2005
14	Dr. Nageswara Rao B & Dr. Dodagoudar G R	Finite Element Seismic Analysis (FESA 2006)	IIT Madras, 20 th to 24 th March 2006
15.	Dr. Veeraragavan A	Highway Construction and Management	IIT Madras, 4 th – 8 th July 2005
16.	Dr. Veeraragavan A	Highway Construction and Management for the senior level engineers of R & B Dept. of Govt. of Andhra Pradesh	IIT Madras, 16 th – 20 th August 2005

17	Dr. Veeraragavan A	Highway Construction and Management for Senior Level Engineers of R & B Dept. of Govt. of Andhra Pradesh	IIT Madras, 24 th – 28 th Oct. 2005
18	Dr. Veeraragavan A	Highway Construction and Management for Senior Level Engineers of R & B Dept. of Govt. of Andhra Pradesh	IT Madras, 6 th – 10 th June 2005

Short-term Courses/Workshops/Seminars/Symposia /Conferences attended by the faculty members in other Academic Institutions and public Sector Units:

Sl. No.	Name of Faculty	Title	Institution	Period/ Duration
Workshops				
1	Dr. Amlan K Sengupta	Modelling of Tsunamis	IIT Madras	2 nd & 3 rd April 2005
2	Dr. Veeraragavan A & Dr. Karthik K Srinivasan	Dissemination of Manual for Safety in Road Design	The National Highway Authority of India at New Delhi	17 th May to 20 th May 2005
3	Dr. Mohan S	Chaired one technical session and also presented a paper on Percolation Ponds during the one day workshop on Rainwater Harvesting in Tamil Language	Neyveli	24 th Sept. 2005
4	Dr. Mohan S	Environmental Ethics	PMCTW, Tanjore	15 th Oct. 2005
5	Dr. Mohan S	Recent Trends in Environmental Pollution Control and Management	SRM Institute of Science and Technology, Kattankulathur	21 st – 22 nd Oct. 2005
6	Dr. Rajagopal K	Physical Modeling in Geotechnical Engineering and presented a paper titled 'Finite Element Analysis of Geotechnical Problems'	DST-UK Royal Society at IIT Bombay	16 th to 18 th March 2005
7	Dr. Ravindra Gettu Dr. Rajagopal Dr. Koshy Varghese Dr. Ligy Philip Dr. Ashwin Mahalingam	Tsunami Rehabilitation Housing Projects	Nagapattinam	16 th March 2006
Seminar:				
1.	Dr. Kalyanaraman V	Aerospace Structures – XIVNASAS	Visveswaraya National Institute of Technology	
Conference:				
1	Dr. Santhakumar A. R Dr. Satish Kumar S.R	Chaired a session in the National Conference on Reconstruction of Shelters for Tsunami Affected People organized by UNDP & Govt. of Tamil Nadu	IIT Madras	12 th April 2005
2	Dr. Sivanandan	Co-Chaired a technical session and served as a organizing committee member in the National workshop on Incineration and Solid Waste Management	IIT Madras	29 th & 30 th April 2005
3	Dr. Boominathan A	Case Studies in Geotechnical Engineering	IISc Bangalore	25 th & 26 th July 2005
4	Dr. Thamizh Arasan V	Urban Transport Planning and Management	Central Institute of Road Transport, Pune	22 th – 22 nd Oct. 2005
5	Dr. Mohan S	Hydrological Aspects of Rejuvenation of Urban Lakes	Udaipur	20 th – 21 st Oct. 2005
6	Dr. Kalyanaraman V	Attended Aeronautical Research and Development Board (AR&DB), Structures Panel Meeting	IIT Bombay	11 th Nov. 2005
7	Dr. S. R. Gandhi	Co-chaired a session on Ground Improvement in the Indian Geotechnical Conference 2005	Nirma University, Ahmedabad	18 th Dec 2005

8	Dr. Satish Kumar S.R.	Chaired a Seminar in the International Conference on Recent Advances in Concrete Construction Technology	SRM Engineering College, Chennai	9 th Dec. 2005
9	Dr. Sudheer K. P	Chaired one session of the International Conference on Artificial Intelligence	Pune	20 th 22 nd Dec. 2005
10	Dr. Indumathi M. Nambi	Chaired Water – 2006 NEERI session on R & D Frontiers in Water and Wastewater Management	NEERI, Nagpur	19 th to 21 st Jan 2006
11	Dr. Mohan S	Chaired a Session at the National Conference on Environmental Solutions for Sustainable Development 2006 (ESSD – 2006)	A. C. College of Engineering Technology, Karaikudi	24 th Feb 2006
12	Dr. Boominathan	Chaired a session at the National Conference on Earthquake Analysis and Design of Structures	PSG College of Technology, Coimbatore	1 st to 3 rd Feb 2006
13	Dr. Rajagopal K	National Conference IGC 2005	Nirma Institute of Technology, Ahmedabad	18 th & 19 th Dec 2005
14	Dr. Rajagopal K	Use of Geosynthetics for coastal protection.	International Symposium on Tsunami reconstruction with Geosynthetics	8 th & 9 th Dec 2005
15	Dr. Appa Rao G	Students Seminar	KSRM Engineering College, Cuddapah	4 th March 2006
16	Dr. Nageswara Rao B.N	Chief Guest	National Conference on Advanced Computing Techniques in Civil Engineering, St. Peter's Engineering College, Avadi	1 st March 2006
Expert Committee Work / Industry Visit :				
1	Dr. Veeraragavan A	AICTE Expert Committee Member	Visited Periyar Maniyammai College of Engineering and Technology.	3 rd April 2005
2	Dr. Kalyanaraman V	Attended committee meeting for screening application for Swarna jayanthi Fellowship	INSA, New Delhi	7 th April 2005
3	Dr. Kalyanaraman V	Served as a selection committee member for the selection of Chief Technical Officer.	IIT Bombay	26 th April 2005
4	Dr. Kalyanaraman V	Expert Committee Member	CAPART Committee, New Delhi	4 th April 2005
5	Dr. Kalyanaraman V	Steel Bridges Committee Meeting B-7	IRC, New Delhi	8 th April 2005
6	Dr. Kalyanaraman V	AR & DB Structures Panel Meeting	SERC, Chennai	15 th & 16 th April 2005
7	Dr. Kalyanaraman V	Technology Development Mission Phase II Meeting	Kolkatta	17 th April 2005
8	Dr. R. Sivanandan	Participated in the Brain Storming Session on implementation of Road Safety Action Plan for Tamil Nadu	Tamil Nadu Road Sector Projects, Adyar. Chennai.	8 th April 2005
9	Dr. Satyanarayana K. N	TDM Meeting of Mission Co-ordinators to review and finalize the proposal in the area of Disaster Mitigation and Management	IIT Roorkee	30 th April 2005
10	Dr. Veeraraghavan A	Attended Research Advisory Group Meeting	National Transportation Planning and Research Centre, Trivandrum	8 th April 2005
11	Dr. Mohan S	Served as Expert Member of the Staff (Teaching) Selection Committee	Pondicherry Engineering College	9 th May 2005

12	Dr. Santhakumar A R Dr. Meher Prasad A Dr. Satish Kumar S R	Participated as Judges for Hazard Resistant House Design Contest	Gandhigram Rural University	19 th May 2005
13	Dr. Santhakumar A R	Attended a meeting for preparation of Technical Guidelines for Hazard Resistant Constructions for Rehabilitation of Tsunami Victims	Revenue Administration, Govt. of Tamil Nadu, Secretariat Building, Chennai	18 th May 2005
14	Dr. Veeraragavan A & Dr. Mohan S	Visited the Centre of Transportation Engg. of JNTU Hyderabad as Expert Committee Member of the AICTE for the continuation of approval of the M.Tech Programme in Transportation Engg.	Centre of Transportation Engineering of JNTU Hyderabad	8 th May 2005
15	Dr. Santhakumar A R	Revised Data for Estimating Quantities of Building Materials for Government of Tamil Nadu	Secretariat Building, Chennai	23 rd May 2005
16	Dr. Santhakumar A R	Rehousing Tsunami Victims	UNESCO Office, Chennai	24 th May 2005
17	Dr. Veeraragavan A	Served as subject expert for the promotion of Professor & Assistant Professors	Government Engg. Colleges in Kerala	6 th June 2005
18	Dr. Kalyanaraman V	Attended the Expert Committee Meeting	DST at Indian Academy of Sciences, Bangalore	27 th June 2005
19	Dr. Mohan S	Attended the Expert Committee (AICTE) meeting of Ministry of Environment & Forest, New Delhi	Ministry of Environment & Forest, New Delhi	9 th , 29 th & 30 th June 2005
20	Dr. Mohan S	Faculty Selection at Thiagarajar College of Engineering, Madurai	Thiagarajar College of Engineering, Madurai	25 th June 2005
21	Dr. Meher Prasad A	Attended a meeting of Board of Studies at Jawaharlal Nehru Technical University,	JNTU, Hyderabad	14 th July 2005
22	Dr. Veeraragavan A & Dr. Devdas Menon	Served as Experts for Selection of Faculty	NIT Calicut	20 th July 2005
23	Dr. Kalyanaraman V	Attended Peer review committee meeting	R & D Engineers, Pune	20 th July 2005
24	Dr. Mohan S	Served as Expert for the Selection of Faculty	IIT Kharagpur	17 th July 2005
25	Dr. Mohan S	Served as Expert for the Expert Committee (Industry)	Ministry of Environment and Forests	19 th July 2005
26	Dr. Kalyanaraman V	Served as Expert Member in the Enquiry Commission for the Collapse of the Daman Ganga Bridge	Daman	6 th August 2005
27	Dr. Amlan K Sengupta	Laboratory visit	NCRE Lab, Taiwan	7 th - 14 th August 2005
28	Dr. Mohan S	Served as Expert for the Expert Committee (Industry)	Ministry of Environment and Forests	30 th & 31 st August 2005
29	Dr. Kalyanaraman V	Peer Review Committee Meeting	Sarvatra Bridging System at R & D Engineers	
30	Dr. Devdas Menon	Attended an Expert Committee Meeting to select best Technical paper published by Scientists of SERC, Taramani for Dr. M. Ramaiah Prize	SERC, Chennai	12 th Sept. 2005
31	Dr. Meher Prasad A	Attended Selection Committee Meeting to Select Assistant Professors	Indian Institute of Science, Bangalore	19 th Sept. 2005
32	Dr. Mohan S	Attended Expert Committee Meeting at Pollution Control Board to Monitor the Progress of different Industries	TNPCB	3 rd , 5 th and 10 th Sept. 2005
33	Dr. Kalyanaraman V	Attended Phase II meeting	Technical Development Mission (TDM), New Delhi	12 th Sept. 2005

34	Dr. Kalyanaraman V	Attended 37 th Meeting of Central Board of Railway Research (CBRR) at Research	Design and Standards Organisation (RDSO), Lucknow	20 th Sept. 2005
35	Dr. Amlan K Sengupta	Attended the Indian Concrete Institute Conference (ACECON)	Mumbai	22 nd - 25 th Sept. 2005
36	Dr. Mohan S	Served as AICTE Expert Committee Member for approval of an Engg. College	Visakhapatnam	7 th Oct. 2005
37	Dr. Mohan S	Attended Expert Committee Meeting	Ministry of Environment and Forests, New Delhi	19 th Oct. 2005
38	Dr. Sivanandan R	Served as a Member of the Panel Discussion in the Seminar on Passenger Transportation in India-Prospects	Integral Coach Factory (ICF), Chennai	4 th Oct. 2005
39	Dr. Sivanandan R	Participated in the Stake holder's workshop on the feasibility study for developing the Outer Ring Road (ORR) Project in Chennai Metropolitan Area	Chennai	19 th Oct. 2005
40	Dr. Meher Prasad A	Attended an Expert Committee Meeting to Select Assistant Professors	College of Engineering, Pondicherry	21 st Oct. 2005
41	Dr. Kalyanaraman V	Attended a meeting convened by the Enquiry Commission on the collapse of Daman Ganga Bridge	Daman	8 th & 9 th Oct. 2005
42	Dr. Kalyanaraman V	Participated in a Round Table discussion on Intellectual Properties Cell	Indian Institute of Science, Bangalore	26 th Oct. 2005
43	Dr. Mohan S	Attended Selection Committee Meeting for Selection of Professors and Associate Professors at Osmania University	Osmania University, Hyderabad	19 th Nov. 2005
44	Dr. Mohan S	Attended Expert Committee Meeting	Ministry of Environment and Forests, New Delhi	25 th - 28 th Nov. 2005
45	Dr. Gandhi S R	Visited Cochin Port to investigate failure of a berthing structure	Cochin Port	15 th - 16 th Nov. 2005
46	Dr. Ravindra Gettu	Attended a meeting with Mr. Abhijit Dutta, Managing Director of SIKA India to explore possible collaboration		24th Nov 2005
47	Dr. S. R. Gandhi	Attended a meeting to review codes on Foundation Design (CED: 43)	BIS	30th Nov 2005
48	Dr. Mohan S	Attended Expert Committee meeting on National Plan of Action for preventing pollution of coastal waters from land based activities	New Delhi	3 rd Dec. 2005
49	Dr. Mohan S	Attended Expert Committee Meeting	Ministry of Environment and Forests, New Delhi	23 rd Dec. 2005
50	Dr. Meher Prasad A	Attended Expert Committee Meeting	Earthquake Engineering Education (NPEEE) at Shastri Bhavan	26 th Dec. 2005
51	Dr. Gandhi S. R.	Attended a meeting to finalise the handbook on Seismic Retrofit of Buildings.	CPWD, New Delhi	20 th Dec. 2005
52	Dr. Mohan S	Attended Expert Committee Meeting	Ministry of Environment and Forests, New Delhi	24 th & 25 th Jan 2006
53	Dr. Thamizh Arasan V	Nominated as an Expert Member	Urban Transport, Ministry of Urban Transport, New Delhi	January 2006

54	Dr. Kalyanaraman V	Structures Panel Meeting convened by Aeronautical Research and Development Board	Visveswaraya National Institute of Technology, Nagpur	31 st Jan 2006
55	Dr. Appa Rao G	Attended the Meeting for the review of the DST Sponsored Project titled 'Characterization of fracture surface in Cementitious Materials through Fractal Analysis	National Institute of Technology, Trichy	16 th & 17 th Jan 2006
56	Dr. Appa Rao G	Attended the Technical Program Discussion Meeting of Board of Research in Nuclear Sciences Projects.	BARC, Mumbai on 10 th & 11 th Feb 2006	10 th & 11 th Feb 2006
57	Dr. Saravanan U	Participated in a brain storming session on Occupant and Pedestrian Safety.	IISc. Bangalore, 2 nd Feb 2006	2 nd Feb 2006
58	Dr. Ravindra Gettu	To discuss possible collaboration in the evaluation of the tsunami rehabilitation housing projects.	Meeting with Mr. C. V. Sankar IAS, Govt. of Tamil Nadu	11 th Feb 2006
59	Dr. Nageswara Rao B. N	Sponsored Project	IGCAR Kalpakkam	24 th Feb 2006
60	Dr. Mohan S	Expert Committee Meeting	Ministry of Environment and Forests, New Delhi	29 th & 30 th March 2006
61	Dr. Kalyanaraman V	Sixth Meeting of Army Technology Board	College of Military Engineering, Pune	2 nd & 3 rd March 2006
62	Dr. Kalyanaraman V	Eighth Meeting of the Structural Engineering and Structural Sections and Sectional Committee - CED 7	Bureau of Indian Standards, New Delhi	10 th March 2006
63	Dr. Mohan S	8 th Meeting of Technical Sub Committee 1 (EIA) of Tamil Nadu Pollution Board, Chennai	Dept. of Environment and Forests, Secretariat, Chennai	21 st March 2006

Special Lectures Delivered by the Faculty in other Institutions:

Sl.No	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr. Veerargavan A	Design and construction of Rural Roads and Maintenance of Rural Roads	Rural Development and Engineering Department, Govt. of Karnataka on 20 th April 2005
2.	Dr. Ravindra Gettu	Guest lecture	Indian Concrete Institute, Guindy on 18 th May 2005
3.	Dr. Ravindra Gettu	Guest lecture	Association of Consulting Engineers, Coimbatore on 20 th May 2005
4.	Dr. Mohan S	Chief Guest Address on World Environment Day	ONGC, Chennai on 5 th June 2005
5.	Dr. Satish Kumar S R	Structural Steel design for University Teachers	Institute for Steel Development & Growth (INSDAG) at BHU, Varanasi on 6 th & 7 th June 2005
6.	Dr. Kalyanaraman V & Dr. Satish Kumar S R	Proposed Revision of IS 800	Anna University, Chennai on 17 th & 18 th June 2005
7.	Dr. Veerargavan A	Choice of Materials for Road Construction	Indian Geotechnical Society, Guntur on 23 rd July 2005
8.	Dr. Veerargavan A	Recent Trends in Pavement Management System	Society of Civil Engineers and the Institute of Urban Transport (India), Tamilnadu Chapter on 27 th July 2005
9.	Dr. Ravindra Gettu	Self Compacting Concrete	Queens University of Belfast, UK on 1 st July 2005
10.	Dr. Satish Kumar S R	Design of Structures for Fire Safety at the National Programme for Capacity Building of Engineers in Earthquake Risk Management	IISc Bangalore on 11 th July 2005
11.	Dr. Meher Prasad A	End Game Technology	DRDL at Hyderabad on 11 th and 12 th August 2005

12.	Dr. Rajagopal K	Use of FLAC program for research in Geotechnical Engineering	IGS Chapter at Chennai on 9 th August 2005
13.	Dr. Satish Kumar S R	Analysis for Seismic Retrofit	Hindustan College of Engg. Padur on 23 rd Sept. 2005
14.	Dr. Sudheer K P	Computer Applications in Civil Engg.	Sastra Deemed University, Thanjavur on 30 th Sept. 2005
15.	Dr. Veeraragavan A	Maintenance of Roads, Pavement Management and Road Safety	Engineers of Karnataka PWD, Bangalore on 17 th Sept. 2005
16.	Dr. Ravindra Gettu	Possibilities and Limitations of Self Compacting Concrete	Hyderabad on 10 th Sept. 2005
17.	Dr. Ravindra Gettu	History of Concrete	Hyderabad on 10 th Sept. 2005
18.	Dr. Mohan S	Environmental Management	Muthukumaran Institute of Technology, Chennai on 30 th Sept. 2005
19.	Dr. Mohan S	Intermittent Water Supply System	Tamilnadu Water Supply and Drainage Board, Chennai on 24 th Oct. 2005
20.	Dr. Indumathi M Nambi	Wastewater Collection and Treatment for a Colony	Central Public Works Department, Chennai on 26 th Oct. 2005
21.	Dr. Gandhi S R	Design and Maintenance of Ash Pond for Flyash Disposal	SVU, Tirupati on 2 nd Oct. 2005
22.	Dr. Rajagopal K	Pullout Behaviour of Reinforcement Elements in Residual Soils	Indian Geotechnical Society, Chennai Chapter
23.	Dr. Kalyanaraman V	Seismic Structural Analysis and Design (SESTRAD)	NIT, Trichy on 22 nd Oct. 2005
24.	Dr. Sudheer K P	Storm Water Drainage & Rainwater Harvesting	CPW Department, Chennai on 25 th Oct. 2005
25.	Dr. Satish Kumar S R	Revised IS 800 Code	Sinhgad College of Engineering, Pune on 19th Nov. 2005
26.	Dr. Dodagoudar G R	Seismotectonics and Seismic Zoning of India in National Programme for Capacity Building of Engineers in Earthquake Risk Management (NPCBEERM)	Anna University, 28 th Nov. 2005
27.	Dr. Sivanandan R	Attended a meeting to discuss on traffic management and control issues for the city	Police Commissioner's Office, Chennai, 14th Nov. 2005
28.	Dr. Sivanandan R	Advanced Traffic Management for Chennai at the conference on city of Tomorrow	Goethe Institut-Max Mueller Bhavan in Cooperation with IIT Madras, Anna University, VRD and CIM, 17th – 19th Nov. 2005
29.	Dr. Mohan S	Issues and Options at the conference on city of tomorrow	Goethe Institut-Max Mueller Bhavan in Cooperation with IIT Madras, Anna University, VRD and CIM, 17th – 19th Nov. 2005
30.	Dr. Mohan S	Attended the Doctoral Committee meeting	Vellore Institute of Technology, Vellore, 14th Nov. 2005
31.	Dr. Rajagopal K	Controlled Yielding to reduce Lateral Earth Pressures on Rigid Retaining Walls	Asian Institute of Technology, Bangkok, 7th Dec. 2005
32.	Dr. Veeraragavan A	Road Construction Technology and Management	Bangalore, 2nd & 3rd Dec. 2005
33.	Dr. Ravindra Gettu	Development of Fibre-Reinforced Self-Compacting Concrete in the Symposium on developments in High Performance Cement and Fiber Reinforced Composites	IISc. Bangalore on 13th Dec. 2005
34.	Dr. Ravindra Gettu	Condition Assessment of Buildings in the CPWD-IITM Workshop on the Handbook on the Seismic Retrofit of Buildings	Vigyan Bhavan, New Delhi on 20th Dec. 2005
35.	Dr. Ravindra Gettu	Self Compacting Concrete, Underwater Concrete and High Performance Concrete	CPWD, Chennai, 27 th & 28 th Dec. 2005
36.	Dr. Gandhi S R	Ash Pond Design and Construction for Disposal of Fly Ash in the Indian Geotechnical Conference	Nirma University, Ahmedabad on 17 th Dec. 2005

37.	Dr. Dodagoudar G R	Seismic Stability Analysis of Earth Structures in National Programme for Capacity Building of Engineers in Earthquake Risk Management	Anna University, Chennai on 1 st Dec. 2005
38.	Dr. Santhakumar A R	Productivity in Constructions	Construction Industry Development Council at Radha Park Inn, Chennai on 2 nd Dec. 2005
39.	Dr. Santhakumar A R	Earthquake Resistant Design of Earthen Buildings in a workshop on Earthquake Resistant Structures	College of Engineering, Anna University on 5 th Dec 2005
40.	Dr. Satish Kumar S R	Post Earthquake Evaluation of Buildings in a workshop under National Programme for capacity Building in Earthquake Engineering and Risk Management (NPCBEERM)	Anna University on 1 st Dec. 2005
41.	Dr. Satish Kumar S R	Seismic Behaviour and Design of Steel Structures in a workshop under National Programme for capacity Building in Earthquake Engineering and Risk Management (NPCBEERM)	Anna University on 1 st Dec. 2005
42.	Dr. Satish Kumar S R	Steel Concrete Composite Construction	CPWD, Rajaji Bhavan, Chennai on 26 th Dec. 2005
43.	Dr. Kalyanaraman V	Retrofit of Steel Building	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
44.	Dr. Meher Prasad A	Structural Analysis & Energy Dissipation and Base Isolation	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
45.	Dr. Devdas Menon	Introduction & Historical and Heritage Structures	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
46.	Dr. Gandhi S R	Geo-Technical Aspects and Retrofit of Foundations	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
47.	Dr. Santhakumar A R	Retrofit for non-engineered and masonry buildings	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
48.	Dr. Ravindra Gettu	Condition Assessment of Buildings	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
49.	Dr. Satish Kumar S R	Seismic Vulnerability Aspects	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
50.	Dr. Amlan K Sengupta	Retrofit of Reinforced Concrete Buildings and Preliminary Evaluation for Seismic Retrofit	CPWD, Vigyan Bhavan, New Delhi on 20 th Dec. 2005
51.	Dr. Mohan S	Literature Review and Technical Writing	Research Methodology Course, College of Engineering, Trivandrum.
52.	Dr. Mohan S	Ground Water Modeling: An overview	Dept. of Geology, Andhra University on 27 th Jan 2006
53.	Dr. Amlan Kumar Sengupta	Seismic Analysis and Retrofitting of Building	Reserve Bank Staff College, Chennai on 10 th Jan 2006
54.	Dr. Gandhi S. R	Ground Improvement and Pile Construction	Neyveli Lignite Corporation on 3 rd Feb 2006
55.	Dr. Gandhi S. R	Earthquake and Tsunami Damages in Andaman & Nicobar Islands	National Conference on Geotechnical Engineering Trends on 28 th Feb 2006
56.	Dr. Mohan S	Optimization in water Resources Systems	Vellore Institute of Technology, Vellore on 13 th Feb 2006
57.	Dr. Mohan S	Leachate Treatment	National Seminar on Integrated Hazardous Waste Management, Madras Chamber of Commerce, Chennai on 18 th Feb 2006
58.	Dr. Meher Prasad A	Studies on Seismic Evaluation of Reinforced Concrete Multi storeyed Building	National Conference on Earthquake Analysis and Design of Structures (EQADS - 06). PSG College of Technology, Coimbatore on 3 rd Feb 2006
59.	Dr. Devdas Menon	Computer Aided Analysis and Design: Use and Misuse	RVR and JC College of Engineering, Guntur on 23 rd Feb 2006
60.	Dr. Devdas Menon	Retrofit of Heritage Building	Indian Geotechnical Society, Guntur on 23 rd Feb 2006

61.	Dr. Boominathan A	Geotechnical Aspects of Seismic Hazards and Earthquake Design	PSG College of Technology, Coimbatore during 1 st to 3 rd Feb 2006
62.	Dr. Sudheer K. P	Optimization	College of Engineering, MAE, Pune on 22 nd Feb 2006
63.	Dr. Appa Rao G	Performance Modifying Mechanisms of Silica Fume in Concrete	National Conference on High Performance Concrete – 2006 at Ananthapur on 24 th Feb 2006
64.	Dr. Appa Rao G	Effect on Pre-Stressing Losses and Codal Provisions	National Conference on Disaster Management at Visakapatnam during 27 th and 28 th Feb 2006
65.	Dr. Nageswara Rao B. N	Meshfree Methods for solving boundary value problems	National Conference on High performance Advanced Computing Techniques in Civil Engineering, St. Peter's Engineering College, Avadi on 1 st March 2006
66.	Dr. Dodagoudar G. R	Fuzzy Sets in Structural Analysis and Stability Analysis of Slopes	National Conference on High performance Advanced Computing Techniques in Civil Engineering, St. Peter's Engineering College, Avadi on 1 st March 2006

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1.	Dr. Satyanarayana, K.N.	China	28 th March to 3 rd April 2005	European commission Sponsored Research Project on EU Asia Network of Competence Enhancement on Public – Private Partnerships network from 28 th March
2.	Dr. Koshy Varghese & Dr. Satyanarayana K N	South Africa	17 th to 27 th May 2005	DST Sponsored Collaborative Project under the Indo-South African Inter-Governmental Science and Technology Co-operation Programme
3.	Dr. Kalyanaraman V	PAN IIT 2005	Washington in United States of America	20 th May to 22 nd May 2005
4.	Dr. Koshy Varghese	USA	1 st June to 22 nd July 2005	Arizona State University, USA on Collaborative visit.
5.	Dr. Devdas Menon & Dr. Meher Prasad A	Rome	19 th June 2005 to 2 nd July 2005	Present a paper at the 9 th International Conference on Structural Safety and Reliability
6.	Dr. Ravindra Gettu	Spain and Dundee, UK	6 th June – 14 th July 2005	Visited Technical University of Catalonia, Barcelona, Spain and participated a Conference in Dundee, UK
7.	Dr. Appa Rao G	Germany	17 th June – 31 st July 2005	Visited University of Stuttgart, Germany under INSA – DFG Exchange of Scientist Programme
8.	Dr. Sudheer K P	Arkansas, USA	Feb – July 2005	Visited University of Arkansas, USA under BOYSCAST Fellowship from DST
9.	Dr. Mohan S	Beijing, China	7 th – 9 th Sept. 2005	Chaired one technical session and also presented a paper on Fuzzy Logic Modelling for Multi Reservoir Operation during the Second International Conference on Artificial Intelligence : Applications and Innovations
10.	Dr K. Rajagopal	Osaka, Japan	12-16 September 2005	Attend and presented a paper at 12 th International conference on Soil Mechanics and Geotechnical Engineering
11.	Dr. A. Boominathan	Osaka, Japan	12-16 September 2005	Attend and presented a paper at 12 th International conference on Soil Mechanics and Geotechnical Engineering
12.	Dr. Koshy Varghese	Ferrara, Italy	11 th – 14 th Sept. 2005	Presented papers at the International Symposium on Automation and Robotics in Construction (ISARC-2005)

13.	Dr. Ramachandraiah A	Minneapolis, Minnesota, USA	17 th – 21 st Oct. 2005	Presented a paper at the International Conference on NOISECON 2005 of Joint Acoustical Society of America
14.	Dr K. Rajagopal	Bangkok, Thailand	6-10 December 2005	Present a paper at an international symposium on Tsunami Reconstruction Using Geosynthetics
15.	Dr. Mathews M. S, Dr. Gandhi S. R, Dr. Meher Prasad A, Dr. Devdas Menon, & Dr. Satyanarayana K. N	Ta Prohm Temple, Cambodia	21 st to 29 th Jan 2006	Inspection and scientific studies of Te Prohm Temple, in connection with a project sponsored by Archaeological Survey of India

Honours and Awards obtained:

Sl. No	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1	Dr. Mohan S	The Rekha Nandi and Bhupesh Nandi Prize	20 th Indian Engineering Congress	For the paper titled "Modelling of Pollutant Transport in Ground Water"	16 th Dec. 2005
2	Dr. Veeraragavan A	Commendation Certificate	66 th Annual Session of the Indian Roads Congress	For the paper titled "Development of Flexible Pavement Preservation Framework for an Integrated Asset Management"	
3	Dr. Manu Santhanam	AICTE Career Award	AICTE	for Young Teachers for 2005 – 2006	
4	Dr. Boominathan A Ch. Ramana, Reserch Scholar	IGS – Shri M. S. Jain award	Indian Geotechnical Conference (IGC – 2005)	For the best paper entitled 'Behaviour of Pile Walls in Liquefying soil layers'	17 th Dec. 2005
5	Mr Vinod Kumar Singh (M. Tech student)	ISTE National Award for the Best M. Tech. Thesis	Annual Convention of ISTE	Bapuji Institute of Engineering and Technology, Davangere, Karnataka	15 th Dec 2005

Fellowships of Academies and Professional Societies:

Sl. No	Name of Faculty	Name of Award	Awarded by	Awarded for
1	Dr. Appa Rao G	Alexander von Humboldt Fellowship	AVH Germany	Research at University of Stuttgart
2	Dr. Mohan S	Fellow of the INAE	INAE	Distinguished Contributions to Civil Engg.
3	Dr. Mohan S	Fellowship	Indian Water Resources Society	Professional Contributions in the field of Water Resources.
4	Dr. Nageswara Rao	Alexander Van Humboldts Fellowship.	AVH Germany	Research work at Technical University of Freiberg

4.6.4 Design and Development Activities:

Brief and specific details of Process/Instruments/Equipments/Software Designed and Developed:

- Dr.K.Rajagopal developed a large-scale laboratory apparatus for performing pullout tests on soil reinforcement and anchor elements. This is the first of its kind in this country and is not available at any other institute in the country.
- Dr.A.Boominathan developed a borehole pick for measurement of seismic wave velocities in soil / rock strata.
- A pultrusion process has been set up by Dr.P.Alagusundaramoorthy for the manufacture of FRP fibers, I Channel and angle sections at COMPTEC IIT Madras. Experimental studies are going on. After successful completion it will be patented.

New facilities added or major equipment procured through project funds:

1. Cyclic Tri axial Testing Facility
2. 64 Channel Data Acquisition System with Transducers for Dynamic and Static testing
3. 100 Ton Adjustable Type Dynamic and Static Loading Frame
4. Advanced Sample Preparation system for Asphalt Concrete Mixtures
5. Rotational Viscometer for characterizing the fatigue characteristics of Asphalt Mixtures
6. Repeated Loading System for characterizing Asphalt and Modified Asphalt Mixtures.
7. Modified Marshall Sample preparation and testing systems.

4.6.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No	Title	Period	Funding Agency	Amount (Rs. in lacs)	Co-ordinators
1	Traffic Control Strategies to Mitigate Environmental Pollution (Sub-Project)	2003-2006	IIT Madras (Interdisciplinary Research Programme)	18.5	Dr. Sivanandan R Dr. Shet U. S. P
2	Congestion Mitigation in Indian Urban Areas (sub-Project)	2004-2006	IIT Madras (Interdisciplinary Research Programme)	52.2	Dr. Sivanandan R Dr. Thamizh Arasan V
3	Reliability Analysis of Reinforced and Pre-stressed Concrete Structures.	9.3.2005 to 8.3.2007	BRNS, DAE	23.90	Dr. Nageswara Rao B Dr. Meher Prasad A
4	Multi scale fracture analysis of functionally graded materials	4.8.2005 to 3.8.2008	DST under Fast Track proposals for Young Scientists Scheme	10.16	Dr. Nageswara Rao B
5	Studies on Fatigue Crack Growth Behaviour under Multi-Axial Stress State	10.11.2005 to 9.11.2006	Indra Gandhi Centre for Atomic Research	3.2	Dr. Nageswara Rao B
8	Seismic Vulnerability of Historic Centres in India	2004 to 2007	DST of India and MAE of Italy	6.0	Dr. Meher Prasad A Dr. Dodagoudar G. R Dr. Mathews M. S Dr. Devdas Menon
9	National Program for Capacity Building of Engineers in Earthquake risk Management	2004 to 2007	MHA	22.00	Dr. Meher Prasad A Dr. Dodagoudar Dr. Satish Kumar
10	National Project on Earthquake Engineering Education	2003 to 2007	MHRD	80.00	Dr. Meher Prasad A
11	Pseudodynamic Testing Facility	2002 to 2007	FIST Program of DST	175.00	HOD, Civil Engg. Dr. Meher Prasad A
12	Experimental Numerical Evaluation of the Role of Drag Load in Reducing Pile Capacity	4.8.05 to 3.8.08	DST	20.08	Dr. Gandhi S. R Dr. Boominathan A
13	Study of the interaction between chemical admixtures and the other components in a cement based material, and its technological implications	2005 to 2008	IIT (New Faculty Funding Scheme)	5.0	Dr. Ravindra Gettu
14	Mud Blocks for low cost housing	2005 to 2008	IIT (Ru Tag)	1.54	Dr. Ravindra Gettu Dr. Manu Santhanam
15	Intermittent Water Supply Design and Control	8.1.2005 to 31.1.2006	Loughborough University, UK	13.60	Dr. Mohan S
16	Affordable housing with lightweight concrete	2004 to 2006	(DST-NSF) in collaboration with Arizona State University, USA	4.30	Dr. K. Ramamurthy Dr. Koshy Varghese
17	EU-Asia network of competence Enhancement in Public-Private Partnership (PPP) in Infrastructure Development	2004 to 2007	European Commission	12.50	Dr. Satyanarayana K N

18	A comparative analysis of the health and wellbeing in older construction workers in south Africa and India	2004 to 2007	DST	6.85	Dr. Satyanarayana K N Dr. Koshy Varghese Dr. Muraleedharan V
19	Probabilistic classification of satellite Images to Obtain Landform pattern	2005 to 2007	DTRL	21.5	Dr. Koshy Verghese Dr. Sukaundu Das Dr. Ravindaran
20	Investigation of Constructability for Lightweight Concrete for Housing	2003 to 2006	DST	6.50	Dr. Koshy Verghese Dr. Ramamurthy K
21	Road Accident Modelling	2004 to 2006	DFID, UK	10.00	Dr. Veeraragavan
22	Leak Detection in Gas Pipeline Systems	2002 to 2005	GAIL (INDIA) Ltd'	17.50	Dr. Murty B. S Dr. S. Narasimhan
23	Modelling Mixed Traffic Flow on Urban Roads and Development of Capacity Standards	2003 to 2006	Ministry of Human Resource Development, Govt. of India	10.00	Dr. Thamizh Arasan V Mr. Subbi Reddy M
24	Investigations on Modern Technologies for construction of road / rail embankments on soft clay soils	Apr.2005 to Sep 2008	MHRD	23.00	Dr. Rajagopal K Dr R.G. Robinson Dr. Dodagoudar G. R Dr. Lakshmana Rao C
25	Modernisation of Geotechnical Earthquake Engineering Laboratory	2003 to 2006	MHRD	25.00	Dr. Boominathan A Dr. Dodagoudar G. R Dr K. Rajagopal Dr. Gandhi S. R.
26	Fatigue Crack Growth in Pipe Elbows	Feb 2002 to Mar 2005	IGCAR	7.00	Dr. Satish Kumar S. R Dr. Kalyanaraman V
27	Seismic Retrofitting of Structures	Aug 2002 to Mar 2005	CPWD	70.00	Dr. Satish Kumar S. R Dr. Devdas Menon SERC
28	Design Aids for IS 800	Mar 2005 to Jun 2006	INSDAG	14.00	Dr. Satish Kumar S. R Dr. Kalyanaraman V
29	Studies on Fatigue crack growth behaviour under multi – axial stress	Oct 2005 to Oct 2007	IGCAR	15.30	Dr. Satish Kumar S. R Dr. Nageswara Rao BN
30	Seismic Evaluation and Retrofit of Existing Multi – storeyed Buildings	2002 to 2005	DST	69.20	Dr. Amlan K Sengupta Dr. Meher Prasad A
31	Development of Web Based courses on 'Prestressed Concrete Structures' under the National Programme on Technology Enhanced Learning (NPTEL)	2003 to 2005	MHRD	3.0	Dr. Amlan K Sengupta Dr. Devdas Menon
32	Handbook on 'Seismic Retrofit of Buildings'	2005 to 2006	CPWD	9.0	Dr. Amlan K Sengupta Dr. Devdas Menon
33	Reliability Analysis of Piled Raft Foundation Systems	2003 to 2006	IIT Madras	5.00	Dr. Dodagoudar G. R
34	Seismic Vulnerability of Historic Centres in India, Indo-Italian Project	2005 to 2008	DST, New Delhi	29.94	Dr. Mathews M. S Dr. Meher Prasad A Dr. Devdas Menon Dr. Dodagoudar G. R
35	Seismological and Geotechnical Investigations for Development of shake Maps of Chennai City	2005 to 2008	DST, New Delhi	35.94	Dr. Boominathan A. Dr. Dodagoudar G. R
36	Probabilistic Seismic Hazard analysis for Ground Motion Studies	2005 to 2008	IGCAR, Kalpakkam	8.42	Dr. Dodagoudar G. R Dr. Boominathan A
37	Effect of Embedment on Seismic Response of NIB-PFBR	2005 to 2006	IGCAR, Kalpakkam	11.24	Dr. Dodagoudar G. R Dr. Boominathan A Dr. Robinson R. G

38	Development of a low-cost technology for arsenic removal in rural areas of West Bengal, Science & society Programs (under STARD), Govt. of India, (DST-for three years from 2003)	2003 to 2006	Ministry of Science and Technology, DST	13.50	Dr. Ligy Philip
39	Cr (VI) removal and recovery from tannery waste using Bio-Systems.	2004 to 2007	Dept. of Bio-Technology, Govt. of India	13.60	Dr. Ligy Philip Dr. Chandraraj Dr. Swaminathan T
40	Monitoring of Toxic pollutants and Development fo Flue gas Control Technology for Clean Air in Chennai City, India	2004 to 2007	Swedish International Development Agency	56.00	Dr. Ligy Philip Dr. Swaminathan T
41	Interdisciplinary Research Project: Infrastructure Technology Group – Urban Infrastructure Systems. Congestion Mitigation in Indian Urban Areas Sub-Project. Task leader on: Dynamic demand Management and Modeling for Congestion Mitigation	Jan 2004 to Jan 2007	Interdisciplinary Research Group on urban Infrastructure systems, IIT Madras	34.00	Dr. Karthik K Srinivasan Dr. Thamizh Arasan V Dr. Sivanandan R Overall co-ordinators Dr. Bhaskar Ramamurthy Dr. Satyanarayana K N
42	Development of Multinational Framework for Analysis of Transportation	Aug 2004 to Aug 2007	New Faculty Grant	5.0	Dr. Karthik K Srinivasan
43	Mud Blocks for low cost Housing	2005 to 2006	Ru TAG	1.54	Dr. Manu Santhanam Dr. Gandhi S. R Dr. Ravindra Gettu
44	Long Term Effects of Acceleration of Strength Gain in Concrete	2005 to 2008	AICTE	10.50	Dr. Manu Santhanam
45	Institute Interdisciplinary Project	2003 to 2005	IIT Madras	5.00	Dr. Ramachandraiah A
46	Case Study on Acoustics	2005	Auburn University (Faculty & Student Exchange)	\$ 7500	Dr. Ramachandraiah A (Co-ordinator from Indian Side)
47	Preparation of Design Manual for designing Steel Structures according to New IS 800	2004 to 2005	INSDAG	13.86	Dr. Kalyanaraman V Dr. Satish Kumar S. R
48	Preparation of Handbook and Constructions Steel	2004 to 2005	INSDAG	13.00	Dr. Kalyanaraman V Dr. Santhakumar A. R
49	Fracture Assessment of Secondary Sodium Pipe	2002 to 2005	IGCAR	6.08	Dr. Kalyanaraman V Dr. Satish Kumar S. R
50	Development of Fibre Reinforced Polymer Rebars for Reinforcing Concrete structures.	Apr 2003 to Apr 2005	MHRD	12.00	Dr. Alagusundaramoorthy P Dr. Balasubramanian M
51	Experimental / Numerical Evaluation of the Role of Drag Load in Reducing Pile Capacity	July 2005 to July 2008	DST, New Delhi	20.07	Dr. Gandhi S. R Dr. Boominathan A

Industrial consultancy Projects:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs. in lacs)
1	Dr. Veeraragavan A Dr. Sivanandan R	Proof Checking of Geometric Design Aspects of Outer Ring Road in Hyderabad	Hyderabad urban Development Authority(HUDA)	2.5
2	Dr. Veeraragavan A	Traffic Engineering Consultancy for the preparation of DPR for 4/6 laning for NH-47	Seccon Surveys	0.33
3	Dr. Veeraragavan A	Traffic Management Plan for Sri Khalahasti Town	District Collector, Chittoor	2.16
4	Dr. Veeraragavan A	Tests on Track Ballast	Southern Railways	0.17

5	Dr. Veeraragavan A	Investigations on distress and Suggest Remedial measures on Hubli – Haveri Road Project	AFCON Infrastructures Ltd.	1.10
6	Dr. Murty B. S Dr. Thandaveswara BS	Priyadarshini Jurala Hydroelectric Project –Tail race channel – Mathematical Model Studies.	APGENCO	0.81
7	Dr Thamizh Arasan V	Material Testing and Mix Design for Wet Mix Macadam, Bituminous Concrete Works	Highways Department, Govt. of Tamil Nadu	0.90
8		Derivation of Job Formula for Bituminous Mixes for Runway and taxi way pavements	Airports Authority of India, National Airports Division, Coimbatore	0.98
9		Material Testing and Mix Design for Macadam, Bituminous Macadam and Bituminous Concrete works.	Highways Department, Government of Tamil Nadu	0.72
10		Design of Mixes for sub-base and base courses of runway and parking bay Pavements	Airports Authority of India, National Airports Division, Coimbatore	0.90
11	Dr.Devdas Menon	Testing Elastometric Bearings	Pioneer Rubber Industries	2.20
12		Fatigue test on 27K15 anchorage system	Freyssinet Prestressed Concrete Co. Ltd	2.75
13	Dr.Devdas Menon Dr. Meher Prasad A	Damage Assessment of Boiler Stack	Chennai Petroleum Corporation Ltd.	1.10
14	Dr.Devdas Menon	Proof Checking of Structural Designs for APIIC	C. R. Narayana Rao	1.65
15		Design of various structures	Directorate of Light Houses and Light Ships	0.88
16		Relaxation Tests on PSC Strands	Southern Railways - Vigilance	1.54
17		Proof Consultancy for Design of Bridges for Udhampur Srinagar Baramulla Rail Lane Project	IRCON	5.94
18		Health Check on existing RC Structures at HPCL Visakapatnam.	Engineers India Ltd.	1.65
19		Testing of L & T Formwork Component	Testing of L & T Formworks Division	4.23
20		Inspection and non – destructive testing of roof at KDT, Chennai Airport	Airports Authority of India	3.30
21		Relaxation tests on PSC Strands	Larsen & Toubro Ltd	0.88
22		Load Transfer Test on 5S15 flat Anchorage	Dynamic Prestress	1.65
23		Proof Checking of ROB on Solapur – Gulbarga Section	RITES	1.65
24		Proof Checking of 6.1m and 9.13m Span Railway Bridges	Rail Vikas Nigam Ltd.	3.00
25		Pushover and thermal analysis of Delhi Secretariat Building	PWD, Delhi	5.51
26		Calicut Airport – Vetting of Structural Design and Drawings	Larsen & Toubro Ltd.	4.32
27		Dr. Meher Prasad A	Design Check for aerial mast tower	Light Houses	0.40
28	Test on load sharing of props		L & T - ECC	0.50
29	Tensile Testing on Steel Plates		SAIL	0.22
30	Assessment of failure of canopy		PCL	0.38
31	Design Consultancy for 128m TV tower		ECIL	0.55
32	Fatigue Testing of Axles		Axles India	7.71
33	Design Checking of Microwave Towers		Aster	0.88
34	Design Check of Design Loading System		Merit	0.35
35	Dr. Mohan S Mr. Gopalakrishna	Rectification of Cyanide Problems in Effluent Treatment Plant & Performance Analysis	Gabriel India Limited, Hosur	1.10

36	Dr. Mohan S Mr. Gopalakrishna K Dr. Ramamurthy K	Technical Services for setting up of Sewege Treatment Plants	Tidel Park, Chennai	2.00
37	Dr. Mohan S	Water Quality Analysis and Performance Monitoring of Water treatment plant	Neyveli Lignite Corporation, Neyveli	0.82
38	Dr. Mohan S Dr. Gandhi S. R	Checking Design & Performance Analysis of Common Waste Disposal Facility at SIPCOT, Gummidipoondi.	Tamil Nadu Waste Management Ltd., Chennai	5.51
39	Dr. Mohan S	Analysis of Bio-Sludge for Landfill Applications	Indian Additives Ltd., Chennai	0.11
40	Dr. Rajagopal K Dr. Robinson R. G	Development of efficient connection systems for reinforced earth walls	VSL, India Pvt. Ltd., Chennai	3.34
41	Dr. Rajagopal K	Proof Checking and advice for construction of RE walls for Chennai Bypass Road	Hindustan Construction Corporation, Mumbai	1.27
42	Dr. Rajagopal K Dr. Robinson R. G	Consultancy services for the use of geotextile layers in airport runway pavement.	Garware Wall Ropes Ltd., Chennai	0.835
43	Dr. Rajagopal K	Design of pavement for container freight station at Dronagiri Node, Vavi Mumbai	Balmer Lawrie Ltd., Kolkatta	0.835
44	Dr. Satish Kumar S.R	Testing of Roofing Sheets and preparation of design tables	Century Roofing Sheets	0.77
45	Dr. Satish Kumar SR	Testing of Hoist Cranes	NIOT	0.38
46	Dr. Amlan K Sengupta Dr. Devdas Menon	Seismic Evaluation for Pondicherry Rajnivas Building	PWD, Pondicherry	18.00
47	Dr. Dodagoudar G. R Dr. Boominathan A	Seismic Studies at AOB Site, Bangarampalem, Vishakapatnam District, Andhra Pradesh	M/s VPC Concrete & Technologies. Vihshakapatnam	1.50
48	Dr. Ligy Philip	Environmental Auditing of SPIC Fertilizers, Tuticorin	SPIC Fertilizers, Tuticorin	2.20
49	Dr. Ligy Philip	Calcium Chloride recovery from Manali Petrochemical Ltd. Effluents	Manali Petrochemicals	1.20
50	Dr. Ligy Philip	Environmental Impact Assessment of CaCO ₃ deposition in Tuticorin Alkali Chemicals, Tuticorin.	Tuticorin Alkali Chemicals, Tuticorin.	1.70
51	Dr. Robinson R. G Dr. Rajagopal K	Evaluation and recommendation of geofabfc for port.	MECON, Chennai	0.45
52	Dr. Robinson R. G	Evaluation and recommendation of geoFabric fo Rehabilitation of Roads	KNR Constructions, Belgaum	0.30
53	Dr. Robinson R. G Dr. Gandhi S. R	Advice for Design of Foundations	M/s Turns Tech, Turnkey Pvt. Ltd.	0.10
54	Dr. Manu Santhanam	Cooling Studies of Concrete for Dam construction	Maytas NCC JV	1.00
55	Dr. Manu Santhanam	Concrete Mixture Design for Gandhikota Dam	Maytas NCC JV	0.99
56	Dr. Manu Santhanam	Evaluation of Grouts	Degussa Construction Chemicals	1.10
57	Dr. Ramachandraiah A	Design of Auditoria	Enarc Industry, Trichur	0.50
58	Dr. Ramachandraiah A	Study on Acoustic Absorption	L & T	0.10
59	Dr. Gandhi S. R.	Design of Ash Dyke at Parichha	DST, New Delhi	6.22
60		Design of interconnection Bund for Ash Ponds	Neyeli Lignite Corporation Ltd.	1.32
61		Study of Ash Dyke safety	National Thermal Power Corporation	2.16
62		Design of Ash Pond	M. N. Dastur & Company	1.98
63		Proof Checking of Ash Pond Design for TSII expansion	Neyeli Lignite Corporation Ltd.	2.25
64		Inspection of Ash dyke to suggest remedial measures	BHAL	0.30
65		Slope stability analysis for Hydro power projecet	Tamil Nadu Electricity Board	1.10

66		Restoration of slope near Pb 70011 Tank	Mangalore Refinery and Petrochemical	4.50
67	Dr. Gandhi S. R.	Analysis of sinking of water escape	BHIL	0.30
68	Dr. Gandhi S. R.	Analysis of Pile Group Settlements	RIEP	0.90
69	Dr. Gandhi S. R.	Design of Ash pond for 1b Thermal Power Station	Orissa Power Generation Corporation Ltd.	0.30
70	Dr. Gandhi S. R.	Slope Restoration works at Mangalore	Mangalore Refinery and Petrochemical Limited	3.00
71	Dr. Kalyanaraman V	Testing of Failure Analysis of Cooling Tower	CPCL	0.20
72	Dr. Kalyanaraman V	Rehabilitation of NI – 8 hanger at Carnicobar	Military Engineer Services	2.00
73	Dr. Kalyanaraman V	Proof Checking Composite girder-Quaziguard Baramulla	RITES, Ltd.	4.25
74	Dr. Alagusundaramoorthy P	Inspection and checking the strength of existing concrete beams in Ammonia Stripper Building for Chennai Petroleum Corporation Ltd.	VATECH, Chennai.	1.50
75	Dr. Alagusundaramoorthy P Dr. Sundaravadivelu R	Eccentricity in the WEG foundation of Windmill-Assessment And Repairing	Det Norske Veritas (DNV) Chennai	1.00
76	Dr. Sundaravadivelu R Dr. Alagusundaramoorthy P	Rehabilitation Measures and Maintenance of Naval Wharf and Coast Guard jetty Damaged due to Earthquake and Tsunami	Military Engineering Services (MES), Port Blair, Andaman	5.51
77	Dr. Alagusundaramoorthy P Dr. Sundaravadivelu R	Rehabilitation of Haddowharf at Port Blair Damaged due to Earthquake and Tsunami	Andaman & Lakshadweep Harbour Works, Port Blair, Andaman	13.78
78	Dr. Boominathan A Dr. Alagusundaramoorthy P	Checking and Design of Transportation Structures	Hyderabad Urban Development Authority (HUDA), Hyderabad.	17.35
79	Dr. Boominathan A Dr. Robinson R. G	Evaluation of Modulus of Subgrade Reaction of Soil at Chennai Airport	Airport Authority of India, Chennai	4.00
80	Dr. Boominathan A Dr. Gandhi S. R	Checking of Design and Construction Procedure for Bund of Maturation Ponds	Chennai Metropolitan Water Supply & Sewerage Board	1.80
81	Dr. Boominathan A	Review of Soil Report for 300 MW CCPP at Dholpur, Rajasthan	M/s GEA Energy System (INDIA) Pvt. Ltd.	1.00
82	Dr. Boominathan A	Dynamic Tests at HPCL, Vizag	RVR Projects (P) Ltd.	2.80

RBIC Projects:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs. in lacs)
1	Dr. Devdas Menon	Preparation of Handbook on 'Seismic Retrofit of Buildings'	CPWD & Indian Building congress	9.00
2	Dr. Ravindra Gettu	Evaluation of the variability of the results of the Marsh cone and mini – slump tests of cement paste, and the slump flow test of concrete.	Univ. Poli.De Catalunya (Spain)	1.62
3	Dr. Ravindra Gettu Dr. Manu Santhanam	Optimization of the fines in self – compacting concrete in order to obtain a low cost material and simplify mix design	Degussa Construction Chemicals (Italy)	8.04
4	Dr. Mohan S	Numerical Modelling of Bhavani Kattalai Barrage III	IHH, Poondi, PWD, Tamil Nadu	1.65
5	Dr. Mohan S	Study on infiltration Measures into Groundwater Aquifer	Neyveli Lignite Corporation, Neyveli	7.35

Retainer Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs. in lacs)
1	Dr. Gandhi S. R	Retainer Consultancy Services	L & T	0.24
2	Dr. Gandhi S. R	Retainer Consultancy Services	L & T	0.50

Exchange programme with other Universities:

Four students from EPFL, Switzerland have studied in the department for two semesters.

Journal Editorial Boards:

Sl.No	Name of Faculty	Level	Journal
1	Dr. S.R. Gandhi	Editor	Indian Geotechnical Journal
2	Dr. G. R. Dodagoudar	Co-Editor	Indian Geotechnical Journal

Research Publications

Total No. of papers published in Referred National Journals	....	22
Total No. of papers published in Referred International Journals	....	36
Total No. of papers published in National Conference	63
Total No. of papers published in International Conference	71

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- Rama Raju K, Meher Prasad A, Abdil Malik S, and Ramesh M (2005) *Effectiveness of nonlinear viscous fluid dampers with upper toggle brace mechanism in vibration control of a steel moment resistant frame model*, Journal of Structural Engineering, 32 (5), December, pp. 357-364.
- Rama Raju K, Meher Prasad A, Lakshmanan N, Muthumani K, Jagadish D R, and Amuthasheela R (2005) *Optimum distribution of viscous fluid dampers in structural systems*, Journal of the Institution of Engineers (India), 86, November, 2005, pp. 103-108.
- Sreeja Chandran, Meher Prasad A, and Devdas Menon (2005) *Structural distress of the corbelled vaults in the Ta Prohm temple of Angkor Wat*, Journal of Structural Engineering, 32(2), June, 2005, pp. 131-134.
- Kasthurba A. K., and Santhanam, M., "A Re-look Into the Code Specifications for the Strength Evaluation of Laterite Stone Blocks for Masonry Purposes," *Journal of the Institution of Engineers (India) – Architectural Engineering Division*, Vol. 86, 2005, pp. 1- 6.
- Kasthurba, A. K., Mathews, M. S., and Santhanam, M., "Weathering Damages to Laterite Stone Monuments: Decay Features and properties of Laterite in Churches of Goa," *Journal of the Indian Association for Study of Cultural Heritage*, In Press.
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- Alexander, M., Ballim, Y., and Santhanam, M., "Performance Specifications for Concrete Using the Durability Index Approach," *Indian Concrete Journal* Vol. 79, No. 12, 2005, pp. 41 – 46.
- Alagusundaramoorthy, P., Lakshman Kumar, K.A.B., and Veera Sudarsana Reddy, R. "Pultruded Fiber Reinforced Polymer Composite Deck Panels for Highway Bridges", *The Bridge & Structural Engineer, India* (2005), pp. 17-28.
- Ravi Chugh and Devdas Menon, "Design aids for estimation of shear in seismic design of RC beams", *Indian Concrete Journal*, Vol. 79, No. 3, pp 22-28, March 2005.
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- Rao, B.N., "On Computation of Sensitivity of Stress Intensity Factors in Functionality Graded Materials", *Journal of Structural Engineering, SERC*, Jan 2006
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- Sridhar, R, Suresha, S.N, Sunil Bose and Veeraragavan, A., "Study of Polymer Modified Open Graded Friction Courses", *Indian Roads Congress Journal* Volume 66-2, September 2005.
- Punith, V.S., Reddy, M.P.S., and Veeraragavan, A., "Characterization of Bituminous Paving Mixes by Indirect Tensile Test", *Highway Research Bulletin (HRB) Number 73*, Indian Roads Congress, October 2005.
- Thomas, A. V., Satyanarayana Kalidindi, Ananthanarayanan K. (2005) "Adequacy of Developmental Efforts in Indian BOT Road Projects," *Indian Highways*, Vol. 33, No.7, pp. 41-55, July 2005.

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18. S. Mohan and S.K. Pramada, "Management of South Chennai Coastal Aquifer System - A Multi Objective Approach", Jalvigyan Sameeksha (Hydrology Review), Vol. 20, pp. 1-14., 2005.
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22. Madheswaran, C. K., Thandavamoorthy, T. S., Natarajan, K., Sundaravadevelu R., and Boominathan, A (2005). "Ground and Structural Vibrations during driving of concrete and steel piles" Journal of the Institution of Engineers (India). Vol. 86. pp. 28-33.

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2. Pranab Kumar Ghosh and Ligy Philip (2005). "Performance evaluation of waste activated carbon on atrazine removal from contaminated water" Journal of Environmental Science and Health- Part B. vol. 40, No3, pp 425-441
3. Jayasingh, J. and Ligy Philip (2005) "Bioremediation of chromium contaminated soil: optimization of operating parameters under laboratory conditions", Journal of Hazardous Materials. Vol.118, 1-3, 113-120
4. K. Rama Krishna and Ligy Philip (2005). "Treatment of Chromium Contaminated Soils using a Bioreactor – Biosorption System", Journal of Hazardous Materials, Vol 121, No.1-3, pp 109-117
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7. Mathava kumar S and Ligy Philip (2006), "Enrichment and isolation of endosulfan degrading mixed bacterial culture", J. of Environ. Sci. and Health Part-B Vol 41, No.1. pp. 81-96
8. Sanjay Bharman and Ligy Philip. (2006) "An Integrated System for the Treatment of Oxides of Nitrogen from Flue Gases", Environmental Science and Technology. 40 (3): 1035-1041 FEB 1 2006
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10. Robinson, R. G., Tan, T. S. Dasari, G. R., Leung, C. F. and Vijayakumar, A. (2005). "Experimental study of the behaviour of a lumpy fill of soft clay", International Journal of Geomechanics, ASCE, 5(2), 125-137.
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13. Reebu Zachariah Koshi and V. Thamizh Arasan "Influence of Bus Stops on Flow Characteristics of Mixed Traffic", Journal of Transportation Engineering, American Society of Civil Engineers (ASCE), Vol. 131, No. 8, pp 640-643, August, 2005.
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32. R. Gettu, D.R. Gardner, H. Saldivar and B.E. Barragan, "Study of the Distribution and Orientation of Fibers in SFRC Specimens", Materials and Structures, V. 38, pp. 31-37 (2005).
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2. Pradeep Sarkar, Meher Prasad A and Devdas Menon (2005) Strength distribution in asymmetric building: Review of code provisions, Proceedings of Structural Engineering Convention (SEC-2005), 14-16, December, 2005, IISc, Bangalore.
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8. Rohit Agarwal and Santhanam, M., "High Performance Concrete Incorporating Ternary Blends of Cementitious Materials," ICACS 2005, Structural Engineering Research Centre, Chennai, January 2005.
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12. Kumar S (2006) "Earthquake Resistant Design in India – Current Status and Future Prospects", National Conference on Earthquake Analysis and Design of Structures EQADS-06, Feb 2-3, 2006, Coimbatore, pp 171-178
13. Venkateshwarlu G and Kumar S (2006) "Seismic Ductility Demands on RC Buildings by Non-linear Static and Dynamic Analysis", National Conference on Earthquake Analysis and Design of Structures EQADS-06, Feb 2-3, 2006, Coimbatore. pp A49-A58.
14. N B Misra and Kumar S (2006) "Seismic Analysis and Design of Light Gauge Steel Frames", National Conference on Earthquake Analysis and Design of Structures EQADS-06, Feb 2-3, 2006, Coimbatore. pp A83-A92.
15. Veera Sudarsana Reddy, R., and Alagusundaramoorthy, P., "Contact Molding Hand Lay-up Glass Fiber Reinforced Polymer Composite Highway Bridge Deck Panels", Proceedings of the National Conference on New Perspectives and Paradigm in Materials, Design & Construction of Civ
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18. V. Thamizh Arasan. "Policy Formulation for Urban Transportation Systems Planning", National Seminar on Urban Transport Planning and Management, Central Institute of Road Transport, Pune, India, October 20-22, 2005, pp V1-V9.
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3. Prathibha S and Meher Prasad A (2005) "Performance based damage assessment of existng RC buildings in India", Paper # 203, Proceedings of the Ninth International Conference On Structural Safety And Reliability (ICOSSAR'05), Rome, Millpress.
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Distinguished Visitors to the Department:

Sl. No	Name of the visitor and designation	Date of visit	Purpose of visit
1.	The Ministry of Relief, Rehabilitation and Reconciliation of the Govt. of Srilanka	22 nd August 2005	The Rain Water Harvesting and Ground Water Recharging
2.	Dr. Felix Jachimowicz, Vice-President, W.R. Grace Construction Chemicals (Mass.) USA	14 th Sept. 2005	Exploring Joint Research Possibilities in the area of Construction Chemicals and Packaging
3.	Dr. Mario Corradi, Senior Vice-President, Degussa Construction Chemicals (Italy) and Executives from degussa (India)	15 th Sept. 2005	Initiating Joint Research on Self-Compacting Concrete and its Implementation in the Construction Sector
4.	Dr. Coroline Figueres, Chief, UNESCO – IHE, Delft, Netherlands	24 th Nov 2005	To discuss on possible collaborative research work
5.	Prof. Guido Magenes and Dr. Carlo G Lai	24th Nov. 2005	Visited the department and interacted with faculty.
6.	Prof. Zdenek P. Bazant, Northwestern University, USA	7 th Dec. 2005	Delivered Prof. C. S. Krishnamurthy Memorial Lecture on 'Extreme Value Statistics and Size Effect in Fracture'
7.	Prof A.P.S. Selvadurai, Professor and Head, Department of Civil Engineering, McGill University, Montreal, Canada	5th December 2005	Delivered a lecture on "Elastic Solutions of interest to Geotechnical Designs"
8.	Prof. Ravindra K. Dhir, University of Dundee, UK	10th Dec. 2005	To establish co-operation between the Concrete Technology Units at the University of Dundee and our Dept.
9.	Delegation from Southampton University, England	16 th Jan 2006	Visited the department
10.	Mr Elinor Bone, President, The Institution of Structural Engineers, UK	20 th Jan 2006	Visited the department
11.	Mr. Amal Bhogal, Deputy Director, Institution of Civil Engineers, London.	26 th April 2005	Delivered a lecture on 'Professional Activities of Institution of Civil Engineers, London

4.6.6 Other Activities:

Faculty Retreat:

Department of Civil Engineering organized Faculty Retreat Programme at Coorg during April 22-26, 2005. During the Faculty Retreat, Dr. Lakshman Prasad of IIM, Bangalore conducted a session on 'Team Building and Organization'. Twenty seven Faculty Members with their family (Total 71) participated in the Faculty Retreat.

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 department has the highest number of MS/PhD scholars among all Computer Science departments of like institutions in the country.

4.7.2 Academic Programmes:

New Courses Introduced:

Sl.No.	Course No.	Title
1	CS671	Advances in Visual Perception
2	CS672	Data Mining
3	CS673	Probabilistic Reasoning in AI
4	CS675	Grid Computing
5	CS676	Digital Design Verification

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech	29	29	30	33	3	124
Dual Degree	12	12	9	7	7	47
M.Tech	47	70	-	-	-	117
M.S	15	32	42	16	6	111
Ph.D	5	18	13	5	19	60
Total	108	161	94	61	35	459

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
1.	B. Venkata Ramana Ashish Choudhary E. Syama Sundara Reddy A. Pavan Kumar Manimegalai Rajkumar B. V. N. Prashanth Sriram Raghavan	M.S	Inter Research Institute Student Seminar in Computer Science IRISS 2005	IIT Kanpur 1st – 2nd April '05
2.	B. Venkata Ramana Ashish Choudhary E. Syama Sundara Reddy A. Pavan Kumar Manimegalai Rajkumar B. V. N. Prashanth Sriram Raghavan		MICROSOFT ACADEMIC SUMMIT 2005	New Delhi 4TH – 5TH April '05
3.	Samuel Thomas		Technical Track of Forum Nokia Tech Day	Bangalore 5th -7th May '05
4.	R. Kumarswamy	Ph.D	International Conference on Cognitive and Neural Systems 2005	Boston, USA 18th – 21st May '05
5.	Sujatha R Upadhyaya		International Workshop on Description Logics DL 2005	National e-Science Institute, Edinburgh, UK 26th – 28th July '05
6.	G. Delip Rao Sriram Raghavan Rakesh Bangani M. Sairamesh Vimal Mathew	M.S	Workshop on Machine Learning	IISc Bangalore 2nd Sep' 05 & 3rd Sep '05
7.	K. Hima Prasad		14th ACM Conference on Information and Knowledge Management (CIKM-2005)	Bremen, Germany- 31.10.2005 to 4.11.2005

8.	Krishna Suri Narayanam	M.S	Workshop on "Algebra & Coding Theory" & Symposium on "Coding theory"	IISc., Bangalore 21.11.2005 to 9.12.2005
9.	Krishna Suri Narayanan		Algebra & Coding Theory & Symposium on Coding Theory	IISc Bangalore 1st -9th Dec '05
10.	M. B .Siddhartha		NCMCM 2005	PSG Tech, Coimbatore 14th – 17th DEC'05
11.	Rakesh B E. P. Vivek Masilamani R Gururaj	M.S M.S Ph.D Ph.D	Intl. Conference on Advanced Computing & Communications	Coimbatore 14th – 17th Dec'05
12.	Venkata Kiran Yedugundla G. V. Raju E. P. Vivek M. Dhanaraj B. Venkata Ramana Antony Franklin	M.S M.S M.S M.S Ph.D Ph.D	Intl. Conf. On High-Performance Computing	Goa 17th – 23rd Dec '05
13.	Vishal Gupta G. Ananth U. Saravana Karthikeyan Pradeep Kumar R. Manimegalai	B.Tech M.Tech M.Tech M.Tech Ph.D	14th Asian Test Symposium (ATS 2005)	Kolkatta 18th – 23rd Dec 2005
14.	K. Hima Prasad R. Guturaj A. Rajesh Kumar	M.S Ph.D M.Tech	COMAD 2005	IIIT Hyderabad 20th – 22nd Dec '05
15.	S. K. Noor Mohammad R. Manimegalai	Ph.D Ph.D	International Conference on VLSI Design 2006	Hyderabad 4th – 7th Jan '06
16.	N. Dhananjaya R. Padmanabhan P.G.Deivapalan A. Lakshmi R. Ramya P. Shri Hari Krishna Lakshmi Narayana P A. D. Dileep	Ph.D Ph.D M.S M.S M.S M.S M.S M.Tech	Winter School on Speech & Audio Processing (WISSAP 2006)	IISc Bangalore 4th – 7th Jan' 06
17.	A. D. Dileep P. Lakshmi Narayana	M.Tech M.S	Winter School on Soft Computing Tools, Simulation & Applications WSSCTSA 06)	ISI Kolkata 10th – 14th Jan '06
18.	Sanasam Ranbir Singh	Ph.D	TECH VISTA 2006	Bangalore 12th Jan '06
19.	P. Vinod	Ph.D	1. Workshop on Computer Vision Graphics & Image Processing (WCVGIP '06) 2. Asian Conference on Computer Vision (ACCV '06)	Hyderabad 12th – 13th Jan '06 Hyderabad 14th – 16th Jan '06
20.	R. Abhilash	M.S	Workshop on Computer Vision Graphics & Image Processing (WCVGIP)+ Workshop on Computer Vision (ACCV)	IIIT Hyderabad 12th -16th Jan '06
21.	P. Manohar	M.S	NCC-06 12th Natl Conf on Communications	IIT-Delhi, Jan 06

4.7.3 Faculty and their activities:

Prof. C. R. Muthukrishnan, Prof. S. Raman, and Prof. B. Yegnanarayana retired from active service upon superannuation.

Prof. B. Yegnanarayana was reappointed effective 1st February 2006.

Prof. T. A. Gonsalves was appointed head of the department effective 1st of August.

Dr. Shankar Balachandran and Dr. Anurag Mittal were appointed as Assistant Professors.

Dr. N. Sudha, Visiting Assistant Professor, has left the department.

Faculty:

Name and Qualifications

Major Area of Specialization

Professor:

Gonsalves T. A., Ph.D (Standford)

Computer Networks, Distributed Systems, Operating Systems, Performance Evaluation Telecom Software, NMS

Hema A Murthy, Ph.D (IIT Madras)

Speech processing, Computer Graphics and pattern recognition.

Janaki Ram 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, Formal Languages and Automata Theory, Algorithms, Molecular Computing.

Pandu Rangan C., Ph.D (IISc)

Algorithms, Parallel and VLSI algorithms, Graph Theory, Computational Geometry, Randomised Algorithms, Computational Learning theory, Crypto-analysis.

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

Siva Ram Murthy C., Ph.D (IISc)

Parallel and Distributed Computing, Real time systems, Computer Network Architecture for High Performance computing, Dependable Computing

Sreenivasa Kumar P., Ph.D (IISc)

Graph Theory, Algorithms, Parallel Computations, Data Mining and Data Bases.

Yegnanarayana B., Ph.D (IISc)

Digital Signal Processing, Speech, Computer Vision, Neural Networks.

Associate Professors:

Chandra Sekhar C., Ph.D (IIT Madras)

Speech recognition, Artificial Neural Networks, Computer architecture

Deepak Khemani, Ph.D (IIT Bombay)

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

Kamakoti V., Ph.D (IIT Madras)

Software for VLSI Design, Computational Geometry, High Performance Computing

Sukhendu Das, Ph.D (IIT Kharagpur)

Computer Vision, Image processing and pattern recognition, Graphics, Neural Networks, Digital and Analog Systems.

Assistant Professors:

Anurag Mittal, Ph.D
(University of Maryland, College Park)

Computer Vision, Visualization, Computer Graphics

Narayanaswamy N. S., Ph.D (IISc)

Software for Information Management, Algorithms & Complexity Theory.

Ravindran B., Ph.D
(University of Massachusetts, Amherst)

Machine Learning, Reinforcement Learning, Information Filtering, Data Mining.

Shankar Balachandran,
Ph.D. (University of Texas, Dallas)

CAD for VLSI, Reconfigurable Computing, Computer Architecture

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

Sl.No	Name of Faculty Involved	Name of the Conference/workshop	Date & Venue
1.	Prof. C. Pandu Rangan	ASIACRYPT 2005	04-08 Dec '05 Chennai
2.	Prof. S. V. Raghavan	2nd Indo-Australian Conference on IT Security	16th & 17th Jan '06 IIT Madras, Chennai
3.	Prof. C. Pandu Rangan	IRISS 2006	19th - 21th Jan '06 IIT Madras, Chennai
4.	Prof. B. Yegnanarayana Dr. C. Chandrasekhar Dr. Sukehendu Das Dr. Hema A Murthy	WISP -2006 INAE Workshop on Image & Speech Processing	IC & SR IIT Madras 26th -28th Feb '06

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

Sl.No.	Name of Faculty	Title	Period
1.	Dr. Deepak Khemani	IRISS – 2005	IIT Kanpur 1st - 2nd April
2.	Dr. Deepak Khemani	FLAIR 2005 Clearwater Beach USA	15th – 17th May '05
3.	Prof. C. Pandu Rangan	EUROCRYPT '05 Denmark	21st – 25th May '05
4.	Dr. Deepak Khemani	ICAPS- 2005 California, U.S.A	5th – 10th June '05
5.	Dr. B. Ravindran	Workshop on Machine Learning	2nd Sep' 05 & 3rd Sep '05 - IISc Bangalore
6.	Prof. T. A. Gonsalves	Board of Studies meeting Department of IT	3.9.2005 PSG Tech Coimbatore
7.	Prof. Hema A Murthy	CEP course on "Computer Networks" (for the ISRO SDRC Scientists, Sriharikota)	27.9.2005 to 1.10.2005
8.	Dr. C. Chandrasekhar	Lectures on Pattern Recognition	NMAM Inst. of Technology, Nitte, Udupi, Karnataka 29.11.2005-1.12.2005
9.	Prof. C. Pandu Rangan	ASIACRYPT 2005	04-08 Dec '05 Chennai
10.	Dr. B. Ravindran	Workshop on Frontiers on E- Business	8th – 9th Dec'05 GM Motors Bangalore
11.	Dr. V. Kamakoti	Asian Test Symposium	17th – 21st Dec '05 Kolkatta
12.	Dr. Shankar Balachandran Prof. Hema A Murthy	Conference on Alternative & Augmentative Communication	18th – 20th Dec '05 IIT Madras
13.	Dr. P. Sreenivasa Kumar	COMAD 2005 B Conference on Management of Data	20th- 22nd Dec' 05 IIT, Hyderabad
14.	Dr. V. Kamakoti Dr. Shankar Balachandran	Intl. Conf. on VLSI Design 2006	4th – 7th Jan '06 Hyderabad
15.	Dr. C. Chandrasekhar	Winter School on Speech & Audio Processing (WISSAP 2006)	IISc Bangalore 4th – 7th Jan' 06
16.	Prof. S. V. Raghavan	2nd Indo-Australian Conference on IT Security	16th & 17th Jan '06 IIT Madras, Chennai
17.	Dr. Sukhendu Das	DRDO – IITM Meeting	19th Jan '06 DRDO, Delhi
18.	Dr. Anurag Mittal	DRDO- IITM Workshop	19th & 20th Jan '06 New Delhi
19.	Prof. C. Pandu Rangan	IRISS 2006	19th - 21th Jan '06 IIT Madras, Chennai
20.	Prof. C. Pandu Rangan	Workshop on Theory of Networked Computation	15th - 17th Feb '06 New York U.S.A
21.	Prof. B. Yegnanarayana Prof. Hema A Murthy Dr. C. Chandrasekhar Dr. Sukehendu Das	WISP -2006 Workshop on Image & Speech Processing	IC & SR IIT Madras 26th -28th Feb '06
22.	Prof. S. V. Raghavan	Symantec Asia South Executive Summit	2nd - 4th March '06 Shanghai, China

Special lecture delivered by the faculty in other Institutions:

Sl.No	Name of Faculty	Topic of Lecture	Venue and Date
1.	Prof. B.Yegnanarayana	Nonspectral processing of speech	April 22, 2005, Invited Talk at NOLISP workshop, Barcelona, Spain
2.	Prof. D. Janakiram	Grid Computing at IIT Madras, National Conference on Trends in Information Technology (NCTIT)	Bishop Heber College, Tiruchirapalli, 29th April 2005
3.	Prof. B. Yegnanarayana	ANN concepts	June 22, 2005, 10:30 am, Infosys Technologies, Chennai
4.	Prof. B. Yegnanarayana	Project presentation on "High performance detection system"	June 27, 2005, 9am to 12noon, Presentation at NSTL, Visakhapatnam
5.	Prof. C. Siva Ram Murthy	Wireless MAC Protocols for Ad Hoc Networking.	July 8, 2005, Simon Fraser University, Canada.
6.	Prof. B. Yegnanarayana	Introduction to multivariate data analysis	July 18, 2005, 9am, workshop on Multivariate data analysis, CEP workshop, Chem Engg, IIT Madras, Chennai
7.	Prof. B. Yegnanarayana	Applications of ANN in Image Processing	August 27, 2005, 9am to 11am. Invited talk at Workshop on Applications of ANN in Engineering, Rajarajeswari Engineering College, Chennai-95
8.	Prof. B. Yegnanarayana	Linear Prediction of Speech	August 31, 2005, 1:30pm to 4pm. Three lectures in Short term course on DSP for SDSC-SHAR Scientists and Engineers, EE Dept, IIT Madras
9.	Prof. B. Yegnanarayana	Detection on Vowel Onset Point events using excitation information	September 6, 2005, 2:30 to 2:50pm. Paper presentation at INTERSPEECH2005, Lisbon, Portugal
10.	Prof. B. Yegnanarayana	Speech Processing	September 26, 2005, 10:30am to 12:30pm. CEP course, LRDE, Bangalore
11.	Prof. B. Yegnanarayana	Audio-Video based person authentication	November 7, 2005, 10am, EU-India Workshop at IIT Kharagpur
12.	Prof. B. Yegnanarayana	Signals we do not process	December 1, 2005, 3:30pm, Talk at Osmania University, Hyderabad
13.	Dr. P. Sreenivasa Kumar	Workshop on XML Databases	Kerala Education Grid at the Indian Institute of Information Technology and Management (IIITM- K), Thiruvananthapuram, Kerala, India, December 10th & 11th, 2005
14.	Prof. D. Janakiram	Peer-to-Peer Grid Computing with Vishwa: Enabling Teraflop Computing, IEEE INDICON 2005	IIT Madras - Dec 12 th 2005.
15.	Prof. T. A. Gonsalves	Session Chair, "Computer Communication Networks" In "IEEE INDICON '05 Int'l Conference"	IIT-Madras 12th Dec 2005
16.	Prof. Hema A Murthy	"Multimodal Interfaces for the Computer", "IEEE INDICON '05 Int'l Conference"	IIT-Madras 12th Dec 2005
17.	Prof. D. Janakiram	Data Mining, 2-day Workshop on Data Mining, Data Warehousing & Business-Intelligence	Vellore Institute of Technology Dec 16-17 2005
18.	Prof. B.Yegnanarayana	Key Note Address: Is Pattern Recognition a Statistical Problems	India-Intl. Conference on Artificial Intelligence (IICAI 05) Pune, 20th Dec '05
19.	Prof. D. Janakiram	Grid Computing, in National Conference on Grid Computing	Sri Venkateswara Engineering College Chennai - 21st Dec '05
20.	Prof. B. Yegnanarayana	Is pattern recognition a statistical problem?	December 20, 2005, 11am, Keynote address t IICAI05, Pune, India
21.	Prof. B. Yegnanarayana	Challenges in speech processing for man-machine communication	December 30, 2005, 12:30pm, Workshop on Digital Library, IIIT, Hyderabad
22.	Dr. Sukhendu Das	Generic Object Recognition	DRDO – IITM Meeting DRDO, Delhi - 19th Jan '06

23.	Dr. Anurag Mittal	Multi-Camera Vision Systems	DRDO –IITM Workshop, Delhi, 20th Jan'06
24.	Prof. B. Yegnanarayana	Speech processing for speech and speaker recognition, and for enhancement	January 19, 2006, 3pm, Tutorial at CAIR-IITM workshop at SAG in Delhi
25.	Prof. S. V. Raghavan	Challenges in Creating a Resilient Infrastructure	Symantec Asia South Executive Summit Shanghai, China 2nd March '06

Visits abroad by faculty:

Sl.No.	Name of faculty	Country visited	Date	Purpose of visit
1.	Prof. B. Yegnanarayana	Barcelona, Spain	19th – 23rd April '05	To deliver a talk at NOLISP'05 (Non- Linear Speech Processing)
2.	Dr. N. S. Narayanaswamy	Germany	13th May '05 – 29th July '05	To Visit Max Planck Institute for Computer Science
3.	Prof. S. V. Raghavan	SUNY, Buffalo, U.S.A	14th May '05 - 31st July '05	To undertake Collaborative Research at the University of Buffalo
4.	Dr. Deepak Khemani	U.S.A & UK	18th May '05 – 16th June '05	University visits and to attend "FLAIR 2005" Conference
5.	Prof. C. Pandu Rangan	Zurich, Switzerland	26th May '05 - 9th June '05	Technical Discussions at Swiss Federal Inst. of Technology, Zurich
6.	Dr. Deepak Khemani	U.S.A	5th June – 16th June '05	To attend ICAPS- 2005
7.	Prof. C. Pandu Rangan	U.S.A	26th June '05 - 15th July '05	To visit BELL Labs U.S.A. & IBM's T.J Research Center, U.S.A
8.	Prof. C. Siva Ram Murthy	USA, Canada & Singapore	12th - 22nd July '05	To Participate in Microsoft research Faculty Summit & to visit Universities in USA, Canada & Singapore
9.	Prof. C. Pandu Rangan	U.S.A	16th - 22nd July '05	To Participate in Microsoft research Faculty Summit
10.	Prof. B. Yegnanarayana	Lisbon, Portugal	4.9.2005 to 5.9.2005	To attend and present paper in the INTERSPEECH 2005 Conference & also visit some Universities in Portugal & Spain
11.	Prof. S. V. Raghavan	Australia	10.10.2005 to 14.10.2005	In connection with the proposed Indo-Australian Conference on IT Security and also to discuss on research collaboration in the area of IT Security
12.	Dr. P. Sreenivasa Kumar	Bremen, Germany	31.10.2005 to 4.11.2005	To attend and present paper at the 14th ACM Conference on Information and Knowledge Management (CIKM-2005)
13.	Dr. P. Sreenivasa Kumar	Bremen, Germany	6.11.2005 to 12.11.2005	To visit Universities in Germany

Honours and Awards obtained:

Prof. C. Pandu Rangan was elected a fellow of the Indian National Academy of Engineering (INAE).

Prof. P. Srinivasa Kumar, Mr. Hima Prasad (MS), Ch Rajesh & A. Rajesh Kumar (M.Tech) shared the best paper award for their two different papers presented in COMAD 2005 B at IIT Hyderabad.

- MQEB: Metadata-based Query Evaluation of Bi-labeled XML Data. Proceedings of the 12th International Conference on Management of Data (COMAD-2005b)
- Handling Updates in Sequence Based XML Query Processing. Proceedings of the 12th International Conference on Management of Data (COMAD-2005b)

Prof. P. Srinivasa Kumar and G. V. Subramanyam, was adjudged the best student paper for "Efficient Handling of Sibling Axis in XPath" in the conference COMAD2005 at January, 2005, Goa, India. Available in ACM Digital Library

Dr. Shankar Balachandran got the best thesis award from the University of Texas, Dallas.

Professional Service:

Prof. C. Pandu Rangan was appointed member of the Editorial Board of the Journal of Parallel and Distributed Computing.

Prof. D. Janakiram has been appointed as Chairman, Special Interest Group on Grid Computing of the Computer Society of India.

Prof. C. Siva Ram Murthy, was appointed as Associate Editor, for the IEEE Transactions on Computers and Subject Area Editor, for the Journal of Parallel and Distributed Computing.

Books, Monographs authored/co-authored:

Sl.No	Name of Faculty	Title
1.	D. Janakiram	"Grid Computing", Tata Mcgraw-Hill Publishers, ISBN: 0-07-060096-1, 2005

4.7.4 Research and Consultancy:**Sponsored Research Projects:**

Sl.No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (in Rs.)
1.	CSE0506071D RDOCPAN	Investigations for Thin Multi Precision Arithmetic	Prof. C. Pandu Rangan	4/8/2005 to 5/31/2006	Defence Research and Development Organisation	600000
2.	CSE0506068O SRPVKAM	Development of Models for Low Cost VLSI Design	Dr. V. Kamakoti	5/11/2005 to 5/10/2007	Open Silicon Research Pvt.Ltd - USA	276000
3.	CSE0506067A LUMVKAM	Intelligent Reconfigurable Low Cost Robotics Lab	Dr. V. Kamakoti	6/2/2005 to 6/1/2007	Alumni Association	2622000
4.	CSE0506070D RDOCCHA	Soft Computing Methods for Cipher System Identification and Key Clustering	Dr. C. Chandrasekhar	7/15/2005 to 7/14/2007	Defence Research and Development Organisation	972000
5.	CSE0506069N OVATAGO	Thin Client Systems	Prof. T. A. Gonsalves	7/7/2005 to 7/6/2007	Novatium	3600000
6.	CSE0506072D STXDEEP	Integration Knowledge System on Soil Nutrient Management Through Image Processing of Chromatograms	Dr. Deepak Khemani	10/26/2005 to 10/25/2007	Department of Science & Technology	1404000
7.	CSE0506073IG CAVKAM	Generic Test Bed for Verification of Digital Designs	Dr. V. Kamakoti	10/18/2005 to 10/17/2006	Indira Gandhi Centre for Atomic Research	2168000
8.	CSE0506106IS RONSNA	Software Libraries for Planners and Schedulers	Dr. N. S. Narayanaswamy	1/13/2006 to 1/12/2008	Indian Space Research Organisation	732000
9.	CSE0506075MI COCPAN	Foundation Research in Cryptography	Prof. C. Pandu Rangan	2/16/2006 to 2/15/2007	Microsoft Research Labs India Private Ltd.	645189
10.	CSE0506076DI TXCPAN	Protocols for Secure Communication and Computation	Prof. C. Pandu Rangan	3/29/2006 to 3/28/2009	Department of Information Technology	4080000
11.	CSE0506077D RDOSUKH	Recovery of 3D Shapes based on Multiview Textures	Dr. Sukhendu Das	NULL	Defence Research and Development Organisation	985000

Consultancy Research Projects:

Sl.No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (in Rs.)
1.	RB0506CSE0 01GMTCPSE	Ontology based knowledge management	Dr. P. Sreenivasa Kumar	9/8/2005 To 9/8/2006	General Motors Technology Centre	537900
2.	RB0506CSE0 02SIEIDJAN	Refactoring c# code to design pattern based code	Prof. D. Janakiram	10/1/2005 To 9/30/2008	Siemens Information Systems Ltd	600000

Retainer Consultancy:

Sl.No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (In Rs.)
1.	RC0506CSE50 4SBIXTAGO	Professional services on retainer basis	Prof. T. A. Gonsalves	3/1/2006 to 2/28/2007	State Bank of India	240000

Research Publications:

Total No. of papers published in National Journals	:	01
Total No. of papers published in International Journals	:	24
Total No. of papers published in National Conference	:	02
Total No. of papers published in International Conference	:	52

In Refereed National Journals:

Sl.No	Name of Faculty	Title
1.	T. A. Gonsalves	Web Services for Rural India", CSI Communications, v 29, n 9, Mar. 06, pp. 21-23.

In Refereed International Journals:

Sl.No	Name of Faculty	Title
1.	S. V. Gangashetty, C. Chandra Sekhar, and B. Yegnanarayana	Spotting Multilingual Consonant-Vowel Units of Speech using Neural Network Models, Springer Lecture Notes in Artificial Intelligence:, in Marcos Fundez-Zanuy, ... (Eds.), Nonlinear Analyses and Algorithms for Speech Processing (Revised Selected Papers from International Conference on Non-linear Speech Processing, NOLISP 2005, Barcelona, Spain, April 19-22) (LNAI Vol. 3817, ISBN: 3-540-31257-9), pp. 303-317, 2005.
2.	B. Yegnanarayana, S. R. M. Prasanna, J. M. Zachariah and Ch. S. Gupta,	Combining evidence from source, suprasegmental and spectral features for a fixed-text speaker verification system, IEEE Trans. Speech Audio Processing, vol.13, no.4, pp.575-582, July 2005.
3.	Vikas Raykar, Ramani Duraiswami and B. Yegnanarayana	Extracting the frequencies of the pinna spectral notches in measured head-related impulse response, Journal Acoustical Society of America, vol.118, no.1, pp.364-374, July 2005.
4.	A. Vijay Srinivas and D. Janakiram	A Model for Characterizing the Scalability of Distributed Systems ACM SIGOPS Operating System Review, Vol. 38, Number 3, July 2005.
5.	V. C. Raykar, B. Yegnanarayana, S. R. M. Prasanna and R. Duraiswami,	Speaker localization using excitation source information, IEEE Trans. Speech Audio Processing, vol.13, no.5-II, pp.751-761, September 2005.
6.	M. A. Maluk Mohamed, A. Vijay Srinivas and D. Janakiram	Moset: An Anonymous Remote Mobile Cluster Computing Paradigm. Journal of Parallel and Distributed Computing (JPDC), vol. 65, No. 10, October 2005, pp. 1212-1222.
7.	B. Yegnanarayana, S. R. M. Prasanna, R. Duraiswamy, and D. Zotkin,	Processing of reverberant speech for time-delay estimation, IEEE Trans. Speech Audio Processing, vol.13, no.6, November 2005.
8.	P. C. Reghu Raj and S. Raman	A Phrase Grammar-based Conceptual Indexing Paradigm Applied Artificial Intelligence, Taylor & Francis, vol. 19, no. 6, pp. 559-599 (2005)
9.	B. Yegnanarayana and S. R. M. Prasanna	Enhancement of degraded speech from multiple microphones using excitation source information, Speech Communication, communicated in 2005.
10.	S. R. M. Prasanna, Ch. S. Gupta, and B. Yegnanarayana,	Source information from linear prediction residual for speaker recognition, Speech Communication, communicated in 2005.
11.	B.S. Manoj, V. Vidhyashankar, and C. Siva Ram Murthy	Slot Allocation Strategies for Delay Sensitive Traffic Support in Asynchronous Ad hoc Wireless Networks, Journal of Wireless Communications and Mobile Computing, vol. 5, pp. 193-208, 2005.
12.	S. Dharma Rao and C. Siva Ram Murthy	Distributed Dynamic QoS-aware Routing in WDM Optical Networks, Computer Networks, vol. 48, no. 4, pp. 585-604, 2005.
13.	B.S. Manoj, R. Ananthapadmanabha, & C. Siva Ram Murthy	Multi-hop Cellular Networks: Architecture and Protocols for Best-effort and Real-time Communication, Journal of Parallel and Distributed Computing, vol. 65, no. 6, pp. 767-791, 667-791, 2005.
14.	Harsha V. Madhyastha, G. V. Chowdhary, N. Srinivas, and C. Siva Ram Murthy	Grooming of Multicast Sessions in Metropolitan WDM Ring Networks, Computer Networks, vol. 49, no. 4, pp. 561-579, 2005

15.	Sushant Sinha and C. Siva Ram Murthy	Information Theoretic Approach to Traffic Adaptive WDM Networks, IEEE/ACM Trans. On Networking, vol. 13, no. 4, pp. 881-894, 2005.
16.	K. Sri Rama Murty and B. Yegnanarayana	Combining evidence from residual phase and MFCC features for speaker verification, IEEE Signal Processing Letters, vol.13, no.1, pp.52-56, January 2006.
17.	R. M. Muthukumar and D. Janakiram	YAMA: A Scalable Generational Garbage Collector for Java in Multiprocessor Systems, IEEE Transactions on Parallel and Distributed Systems, Vol 17, No.2, Feb-2006.
18.	A. Vijay Srinivas, M. Venkateswara Reddy, and D. Janakiram	Designing a Replication Service for Large Peer-to-Peer Data Grids, IEEE Distributed Systems Online, vol. 7, no. 3, 2006
19.	T. Bheemarjuna Reddy, I. Karthigeyan, B. S. Manoj and C. Siva Ram Murthy	Quality of Service Provisioning in Ad hoc Wireless Networks: A Survey of Issues and Solutions, Ad Hoc Networks, vol. 4, pp. 83-124, 2006.
20.	B. Venkata Ramana, B. S. Manoj and C. Siva Ram Murthy	AR-TCP: A Loss-Aware Adaptive Rate Based TCP for Ad hoc Wireless Networks, Journal of High Speed Networks, vol. 15, no. 1, pp. 53-72, 2006.
21.	B. S. Manoj, K. Jayanth Kumar, Christo Frank, and C. Siva Ram Murthy	On the Use of Multiple Hops in Next Generation Wireless Systems, ACM/Springer Wireless Networks, vol. 12, no. 2, pp. 199-221, 2006.
22.	A. Vijay Srinivas and D. Janakiram	Scaling a Shared Object Space to the Internet: Case Study of Virat To appear in Journal of Object Technology.
23.	D. Janakiram, R. Venkateswarlu, A. Vijay Srinivas and A. Uday Kumar	Soma: A Compositional Language for Distributed Systems To appear in ACM SIGPLAN Notices.
24.	S. Palanivel and B. Yegnanarayana	Multimodal person authentication using speech, face and visual speech, Computer Vision and Image Understanding, Elsevier Publication, accepted for publication.

In Proceedings of National Conference:

Sl.No	Name of Faculty	Title
1.	R. Deepak, T. A. Gonsalves and Hema A. Murthy	Network Security Management for a National ISP, Accepted National Communication Conference NCC-2005
2.	P. Manohar, Hema A. Murthy and T. A. Gonsalves	An Application Independent Multimodal Interface for the Computer, Proc. NCC '06 12th Nat'l Conf Commun, IIT Delhi, Jan 06, pp. 275-279

In Proceedings of International Conference:

Sl.No	Name of Faculty	Title
1.	V. Mythili, B. S. Manoj and C. Siva Ram Murthy	Performance of the Throughput Enhanced Wireless in Local Loop Architecture Using Multi-dimensional Markov Chains, in Proc. 11th European Wireless Conference, Nicosia, Cyprus, April 10-13, 2005.
2.	V. Suryakanth, Gangashetty, C. Chandra Sekhar and B. Yegnanarayana	Spotting Multilingual Consonant-Vowel Units of Speech Using Neural Networks, Proc. 3rd Int. Conf. Non-linear speech processing, Barcelona, Spain, Apr. 19-22, 2005, pp. 287-297
3.	V. Karthik, D. Srikrishna Satish and C. Chandra Sekhar,	Speaker change detection using support vector machine, Proc. 3rd Int. Conf. Non-linear speech processing, Barcelona, Spain, Apr. 19-22, 2005, pp. 130-136.
4.	B. Yegnanarayana, R. Kumara Swamy and S. R. Mahadeva Prasanna,	Separation of multispeaker speech using excitation information, Proc. 3rd Int. Conf. Non-linear speech processing, Barcelona, Spain, Apr. 19-22, 2005, pp. 11-18.
5.	D. Janakiram and A. Ananda Rao	Change Propagation Probability Matrix for Design Version Management In Proc. of the 2005 Oklahoma Symposium on Information Technology and Entrepreneurship, ITE'05, - April 2005, Oklahoma, USA.
6.	D. Janakiram and A. Ananda Rao	A Metrics Suite for Version Management, In Proc. of the IEEE International Conference on Information Technology: Coding and Computing, ITCC 2005, April 2005, Las Vegas, Nevada, USA.

7.	M. Saravanan, S. Raman and B. Ravindran	A Probabilistic Approach to Multi-Document Summarization for generating a tiled summary, in the Proceedings of the International Conference of Computational Intelligence and Multimedia Applications (April 2005)
8.	Praveen Jayachandran, Praveen Bhamidipati, and C. Siva Ram Murthy	On Using Forward Error Correction to Provide Protection in Optical Burst Switched Networks, in Proc. IEEE Workshop on High Performance Switching and Routing (HPSR), Hong Kong, May 12-14, 2005.
9.	Md. A. K. Sadiq and Deepak Khemani	A Case for Usage of Case Usage in Case-Based Reasoning. In Proceedings of 18th Int. FLAIRS Conf, Clearwater Beach, Florida, May 16-18, 2005.
10.	R Shyam Sundar Yadav & Deepak Khemani	An Oracle based Meta-Learner for ID3. In Proceedings of 18th Int. FLAIRS Conf, Clearwater Beach, Florida, May 16-18, 2005.
11.	R Kumara Swamy and S. V. Gangashetty	Neural Network Models for Categorization of Audio Data, in Proceedings of ICCNS-2005, Boston, p.104, - May 19-21 2005.
12.	S. Sriram, T. Bheemarjuna Reddy, B. S. Manoj and C. Siva Ram Murthy	On the End-to-end Call Acceptance and the Possibility of Deterministic QoS Guarantees in Ad hoc Wireless Networks, in Proc. 6th ACM International Symposium on Mobile Ad Hoc Networking and Computing (MobiHoc), Urbana-Champaign, USA, May, 25-28, 2005.
13.	R Gururaj and P Sreenivasa Kumar	Service Specification in a Value-added Broker Through XML. In the proceedings of International Association for Computer Information Systems (IACIS) Pacific Conference, Taipei, Taiwan, May, 2005.
14.	M. A. Maluk Mohamed, D. Janakiram and Mohit Chakraborty	Surrogate Object Model: A New Paradigm for Distributed Mobile Systems To appear in the proceedings of the 4th International Conference on Information Systems Technology and its Applications, ISTA 2005, May 2005, Massey University, Palmerston North, New Zealand.
15.	M.A. Maluk Mohamed and D. Janakiram	Service Composition Based Middleware Architecture for Mobile Grid To appear in the proceedings of the 2nd International Workshop on Ubiquitous Computing, in conjunction with the 7th International Conference on Enterprise Information Systems, IWUC 2005, May 2005, Miami, USA.
16.	Praveen Jayachandran, Praveen Bhamidipati, and C. Siva Ram Murthy	A First Step Towards Autonomic Optical Burst Switched Networks, in Proc. 2nd IEEE International Conference on Autonomic Computing (ICAC-05), Seattle, Washington, - June 13-16, 2005.
17.	D. Janakiram, N.V. Palankeswara Rao, A. Vijay Srinivas, and M. A. Maluk Mohamed	Sneha-Samuham: A Parallel Computing Model over Grids To appear in the proceedings of the 2005 International Conference on Grid Computing and Applications, GCA 2005, June 20-23, 2005, Las Vegas, USA.
18.	Sujatha R Upadhyaya, N. Saleena and P Sreenivasa Kumar	Knowledge Table Driven Ontology Enhancement, Proceedings of 2005 International Workshop on Description Logics - DL 2005, July, 2005, Edinburgh, Scotland UK.
19.	A. Ananda Rao and D. Janakiram	Semantics Based Design Change Propagation Probability Matrix To appear in the proceedings of IEEE International Conference on Information Reuse and Integration, August 15-17, 2005, Las Vegas, Nevada, USA.
20.	Sujatha R Upadhyaya, Saleena N, P Sreenivasa Kumar	Realising OWL individuals in XML Data. To appear in proceedings of WebKDD, Workshop on Knowledge Discovery in the web, to be held in conjunction with the 11th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining, Chicago US, Aug 21, 2005.
21.	D. Janakiram, R. Venkateswarlu and S. Nitin	COMiS: Component Oriented Middleware for Sensor Networks In the proceedings of 14 th IEEE Workshop on Local Area and Metropolitan Networks (LANMAN), September 2005, Chania, Crete, Greece.
22.	Noor Mohammad, Vikram Chandrasekhar, V. Muralidharan and V. Kamakoti	Reduced Triple Modular Redundancy for Tolerating SEUs in SRAM-based FPGAs", in the proceedings of NASA International Conference on Military Applications in Programmable Logic Devices (MAPLD), p 204, September 2005, USA.
23.	B. Venkata Ramana, B. S. Manoj, and C. Siva Ram Murthy	Learning- TCP: A Novel Learning Automata Based Reliable Transport Protocol for Ad hoc Wireless Networks, in Proc. BroadNets 2005: 2nd IEEE International Conference on Broadband Networks, Boston, USA, Oct.3-7, 2005.
24.	D. Janakiram and R. Venkateswarlu	Wireless Sensor Networks for Health Monitoring To appear in the proceedings of third IASTED International Conference on COMMUNICATIONS AND COMPUTER NETWORKS (CCN), October 2005, Marina del Rey, CA, USA.
25.	Praveen Bhamidipati, Praveen Jayachandran, & C. Siva Ram Murthy	On Providing Elastic QoS in Optical Burst Switched Networks, in Proc. BroadNets 2005: 2nd IEEE International Conference on Broadband Networks, Boston, USA, October 3-7, 2005.
26.	A. Vasudhara Reddy and S. V. Raghavan,	Architecture of Multi Channel Multi Database Voting System, Accepted for Publication in the Proceedings of 5th IFIP International Conference on E-Commerce, E-Business and E-Government, (I3E' 2005), ISBN: 0-387-28753-1, Springer-Verlag, October 28-30, 2005, Poznan, Poland.

27.	K Hima Prasad and P Sreenivasa Kumar	Efficient Indexing and Querying of XML data using Modified Pruffer Sequences. To appear in proceedings of 14th ACM Conference on Information and Knowledge Management(CIKM), Bremen, Germany, Oct 31st-Nov 5th, 2005.
28.	M. A. Maluk Mohamed, A. Vijay Srinivas, Mohit Chakraborty and D. Janakiram	A Object Based Model for Location and Availability Management in Distributed Mobile Systems. To appear in the proceedings of OTM 2005 Workshop on Context-Aware Mobile Systems (CAMS) in conjunction with On The Move Federated Conferences (OTM'05), 31 st Oct - 4 th Nov 2005 , Agia Napa, Cyprus.
29.	D. Janakiram, A V U Phanikumar, V. Adi Mallikarjuna Reddy and S. Priya	Distributed Collaboration for Event Detection in Wireless Sensor Networks In the Proceedings of 3 rd International Workshop on Middleware for Pervasive and Ad-Hoc Computing (MPAC05), A Workshop of Middleware 2005, November 28 th - December 2 nd , 2005, Grenoble, France.
30.	K. Uday Bhaskar, M. Prashanth, V. Kamakoti and M. Kailasnath	A Framework for Automatic Assembly Program Generator (A ² PG) for Functional Verification and Testing of Processor Cores, in the proceedings of the Asia Test Symposium (ATS), December 2005, Kolkata, India.
31.	A. Shahina	Self-Organizing Map for Estimation of Close-Speaking Microphone Speech from Throat Microphone Speech, in Proc. Ind. Int. Conf. Artificial Intelligence, (Pune, India), Dec. 2005.
32.	E. P. Vivek and N. Sudha	A High-Speed VLSI Array Architecture for Euclidean Metric-Based Hausdorff Distance Measures Between Images ", in the Proc. of 12th IEEE International Conference on High Performance Computing (LNCS 3769), Goa, India, pp. 180-180, December 2005.
33.	Leena Mary and B. Yegnanarayana	Consonant-vowel based features for language identification, in Proc. Int. Conf. Natural Language Processing (IIT Kanpur, India), pp.~103-106, Dec. 2005.
34.	E. P. Vivek and N. Sudha	Gray Hausdorff Distance Measures for Comparing Face Images, in the Proc. of Second Indian International Conference on Artificial Intelligence, Pune, India, pp. 3103-3114, Dec 2005.
35.	E. P. Vivek and N. Sudha	Robust Hausdorff Distance Measure for Face Recognition ", in the Proc. of 13th International Conference on Advance Computing and Communications, Coimbatore, India, Dec 2005.
36.	M. Dhanaraj, S. Jayashree, and C. Siva Ram Murthy	A Novel Battery Aware MAC Protocol for Minimizing Energy times Latency in Wireless Sensor Networks, in Proc. 12th International Conference on High Performance Computing (HiPC), Goa, December 18-21, 2005.
37.	Bhaya Gaurav Ravindra, B. S. Manoj, and C. Siva Ram Murthy	On the Power Optimization and Throughput Performance of Multihop Wireless Network Architectures, in Proc. 12th International Conference on High Performance Computing (HiPC), Goa, December 18-21, 2005.
38.	S. Archana, B. S. Manoj, and C. Siva Ram Murthy	A Novel Solution for Time Synchronization in Wireless Ad hoc and Sensor Networks, in Proc. 12th International Conference on High Performance Computing (HiPC), Goa, December 18-21, 2005.
39.	B. Venkata Ramana and C. Siva Ram Murthy	Learning-TCP: A Novel Learning Automata Based Congestion Window Updating Mechanism for Ad hoc Wireless Networks, in Proc.12th International Conference on High Performance Computing (HiPC), Goa, December 18-21, 2005.
40.	Delip Rao, Sachindra Joshi, Ganesh Ramakrishnan, Sreeram Balakrishnan & Ashwin Sreenivasan.	VisualRDR: a framework for creating, learning and maintaining ripple down rules for information extraction. To appear in proceedings of 12th International Conference on Management of Data (COMAD-2005b), Hyderabad, India, Dec 20-22, 2005
41.	K Hima Prasad, Ch Rajesh, and P Sreenivasa Kumar	Handling Updates in Sequence Based XML Query Processing. To appear in proceedings of 12th International Conference on Management of Data (COMAD-2005b), Hyderabad, India, Dec 20-22, 2005. (Received Best Paper Award)
42.	A Rajesh Kumar and P Sreenivasa Kumar	MQEB: Metadata-based Query Evaluation of Bi-labeled XML Data". To appear in proceedings of 12th International Conference on Management of Data (COMAD-2005b), Hyderabad, India, Dec 20-22, 2005 (Received Best Paper Award)
43.	D. Janakiram, M. Venkateswara Reddy, A. Vijay Srinivas, M. A. Maluk Mohamed, and S. Santosh Kumar	GDP: A Paradigm for Intertask Communication in Grid Computing through Distributed Pipes, In the proceedings of 2 nd International Conference on Distributed Computing & Internet Technology (ICDCIT 2005), 22 nd -24 th , December, 2005, Kalinga Institute of Industrial Technology, Bhubaneswar, India. Springer Link.
44.	S. Archana, B. S. Manoj and C. Siva Ram Murthy	A State-Space Search Approach for Optimizing Reliability and Cost of Execution in Distributed Sensor Networks, in Proc. 7th International Workshop on Distributed Computing (IWDC), Kharagpur, December 27-30, 2005.

45.	A Vijay Srinivas, D. Janakiram and M Venkateswara Reddy	Avalanche Dynamics in Grids: Indications of SOC or HOT? In the Proceedings of 2005 International Conference on Self-Organization and Adaptation of Multi-agent and Grid Systems (SOAS' 2005) to be held in Glasgow, Scotland, UK.
46.	Chitra Babu, Wenonah Jaques, and D. Janakiram	DynOCoLa: Enabling Dynamic Composition of Object Behaviour In the proceedings of 2nd International Workshop on Reflection, AOP and Meta-Data for Software Evolution (RAM-SE) at ECOOP 2005, Glasgow,U.K
47.	D. Janakiram and M. S Rajasree	A Framework for Design Patterns Composition To appear in the proceedings of 1st International Workshop on Building A System Using Patterns:Examine the Illustrious Claim at ECOOP 2005, Glasgow, U.K
48.	D. Janakiram and J. Rajesh	Design Patterns Induction from Multiple Versions of Software In the proceedings of 6th International Workshop on Object-Oriented Reengineering(WOOR) at ECOOP 2005, Glasgow, U.K
49.	D. Janakiram, Wenonah Jaques and Chitra Babu	A Novel Approach to Transactions in Wireless Sensor Networks In Proceedings of the First International Conference on Next Generation Wireless Systems, Dhaka, Bangladesh, January 2-4, 2006
50.	D. Janakiram, V. Adi Mallikarjuna Reddy and A. V. U. Phanikumar	Outlier Detection in Sensor Networks using Bayesian Belief Networks In Proceedings of 1 st International Workshop on Software for Sensor Networks (SensorWare), A Workshop of COMSWARE 2006, 8 January 2006, New Delhi, India.
51.	Vivek Garg, Vikram Chandrasekhar, Milagros Sashikánth and V. Kamakoti	An Area and Configuration-Bit Optimized CLB Architecture and Timing-Driven Packing for FPGAs. VLSI Design 2006: 507-510
52.	Kavish Seth, K. N. Viswajith, S. Srinivasan and V. Kamakoti	Ultra Folded High-Speed Architectures for Reed-Solomon Decoders. VLSI Design 2006: p 517-520

Distinguished Visitors to the Department:

Sl.No	Name of the visitor and Designation	Date of Visit	Purpose of visit
1.	Prof. K. Thulasiraman	June '05 to July '05	Gopalakrishnan Chair Professor
2.	Prof. Vijay V. Raghavan, Professor, University of Louisiana at Lafayette	1st June'05 & 3rd June'05	To deliver two Guest Lectures
3.	Mr. Matt Sigleman, Burning Glass Technologies, U.S.A	27th June'05	Courtesy visit
4.	Ms. Jo Nesbitt, Univ. of Southampton	27th June'05	To explore further avenues of collaboration between University of Southampton & IITM
5.	Dr. Ramesh Govindan University of Southern California USA	4th July '05	To deliver Guest Lecture
6.	Prof. Raghu Ramakrishnan, Univ. of Wisconsin-Madison, US	20th July '05	To deliver Guest Lecture
7.	Ashok K Agrawal Professor of Computer Science, Director, The MIND Lab, Univ. of Maryland, USA	Jul 29 th 2005	Interaction with students of the department.
8.	Rama Chellappa, Professor, Univ. of Maryland, USA	Aug 9 th 2005	To deliver a talk on "Watching humans"
9.	Dr. Ravi Cheruvu, CEO & Founder of Aparoksha, Bangalore	6th Sep '05	To deliver a talk
10.	Gautham Shroff, TCS, Delhi	26th Sep' 05	To deliver a talk
11.	German delegation headed by Prof. Jana Dittmann, Otto-von- Guericke University of Magdeburg, Germany	Nov 2005	Interaction with Prof. B.Yegnanarayana and members of the Speech and Vision Laboratory.
12.	Dr. Rajeev Rastogi, Exec. Director Bell Labs R&D Centre Bangalore	3.11.2005	To give a seminar on Network Management
13.	Prof. R. Chandrasekar University of Texas	9.11.2005	To give two talks
14.	Dr. P. Anandan Microsoft Research Labs Bangalore	11.11.2005.	To give a guest lecture

15.	Dr. Supratik Bhattacharyya Sprint Advanced Technology Laboratories, USA	2nd Dec '05	To deliver a Guest Lecture
16.	Dr. Srinivasan Parthasarathy Associate Professor Ohio State University	14th Dec '05	To deliver a Guest Lecture
17.	Dr. Hari Balakrishnan Associate Professor MIT Computer Science and Artificial Intelligence Lab	6th Jan '06	Department Seminar
18.	Dr. Kent Jones Whitworth University, Washington	9th Jan '06	Study Tour and to deliver two lectures
19.	Prof. Peter Struss Technical University, Munich, Germany	16th– 18th Jan '06	To present Series of Lectures
20.	Prof. Keith Bain St. Mary's University Novascotia, Canada & Nitendra Rajput IBM&IRL	17th Jan '06	For Discussion on use of Speech Technology in Class Rooms for augmenting Lecture Notes
21.	Dr. Mark Bregman, CTO, Symantec, USA	2nd Feb '06	To give a speech on "Protecting eBusiness in a Web 2.0 World"
22.	Prof. Tony Wasserman, Professor of Software Engineering Practice at Carnegie Mellon West and Executive Director of the Center for Open Source Investigation (COSI)	6th Feb '06	Department Seminar
23.	Dr. Raghu Krishnapuram Manager, Information Management IBM- IRL, Bangalore	27th Feb '06	To visit the department & to have a discussion with the research scholars
24.	Jacqueline Vaissiere, Professor, Laboratoire de Phonetique, Institut de Linguistique et de Phonetique Generales et Appliquees, Paris, France	Feb 2006	Interaction with Prof. B.Yegnanarayana and members of the Speech and Vision Laboratory.
25.	Christophe d'Alessandro Directeur de recherche, LIMSI- CNRS, Universite Paris Sud, Orsay, France	Feb 2006	Interaction with Prof. B.Yegnanarayana and members of the Speech and Vision Laboratory.
26.	Hynek Hermansky Professor, IDIAP, Martigny, Switzerland	Feb 2006	Interaction with Prof. B.Yegnanarayana and members of the Speech and Vision Laboratory.
27.	Prof. Krishna Gummidi Head Networked Systems group, Max Planck Institute for Software Systems, Germany	1st March '06	To deliver a talk on "Measurement-driven Analysis and Design of Internet-scale Systems"
28.	Srikanth Narayanan, Professor, University of Southern California, LA, USA	Mar 17 th 2006	To deliver a talk on "Toward Human-like Speech Processing: Machine Recognition and Synthesis of Expressive Communication"
29.	Delegation from Brunel University, West London, UK	20th March'06	To explore and identify the possibilities for collaborative links both at research and teaching levels and also joint course development.
30.	Prof. V.Sinha, Director, IIIT, Jaipur	20th March'06	To meet outgoing Ph.D Scholars

4.8 DEPARTMENT OF ELECTRICAL ENGINEERING

4.8.1 Introduction

The Department of Electrical Engineering encompasses Electrical, Electronics and Communication Engineering. The Department comprises of the following sections.

Communication Systems

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

Control and Instrumentation Systems

- Control and Robotics Laboratory
- Measurements and Instrumentation Laboratory
- Optical Networks Laboratory

Power Systems, Machines and Drives

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

Microelectronics and VLSI Design

- Microelectronics Laboratory
- Amorphous Semiconductor Devices Laboratory
- Digital Systems Design Laboratory
- FPGA Laboratory
- VLSI Laboratory

4.8.2 Academic Programmes

B.Tech. Degree in Electrical Engineering

Integrated M.Tech. Degree in Electrical Engineering

The Department offers an integrated undergraduate degree in Electrical Engineering that combines all aspects of power, control, instrumentation, electronics, communication, signal processing, and microelectronics engineering.

Five year integrated M.Tech. (Dual Degree) Programme is offered in three streams:

1. Communication Systems
2. Microelectronics and VLSI design
3. Power Systems and Power Electronics

M.Tech. Degree in Electrical Engineering

Three major streams of study are available at M.Tech. level

1. Communication Systems (EE1)
2. Power Systems and Instrumentations (EE2)
3. Microelectronics and VLSI design (EE3)

Areas of research for M.S. and Ph.D. Degree in Electrical Engineering

Amorphous Semiconductor Devices, Antennas, 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, Nano technology, Optical Communication, Power Electronics and Power Systems, Photonics, Semiconductor Devices, Robotics and VLSI.

New Courses introduced:

Sl. No.	Course No.	Title	Month & Year
1	EE636	Broadband Communication System	September 2005
2	EE546	Optical Engineering	September 2005

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	63	64	76	79	14	296
Integrated M.Tech.						
Communication Systems	17	16	13	12	17	75
Power Syst. & Power Electronics	10	17	09	10	-	46
Micro-Electronics & VLSI Design	17	19	12	10	16	76
M.Tech.						
Communication Systems	27	32	-	-	-	59
Power Syst. & Power Electronics	08	18	-	-	-	26
Micro-Electronics & VLSI Design	18	23	-	-	-	41
Control & Instrumentation Systems	-	20	-	-	-	20
M.Tech. (UOP)						
Digital Signal Processing	-	10	-	-	-	10
M.S.	12	38	37	25	-	112
Ph.D.	4	20	20	17	14	75
Total						836

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

Sl. No.	Name of the Student	Name of the Conference/ Seminar / Symposia	Date and Venue
1	Souvik Basu	International Conf. on Smart Structures and Systems (ISSS)	28.07.05, IISc., Bangalore
2	Vinoth Kumar	International Conference -IWPSD 2005	13.12.05, New Delhi
3	Arun Mathew		04.01.06, Delhi
4	Sachin Tyagi	International Conference on Optics and Optoelectronics	12.12.05, IRDE, Dehradun
5	Binsu Kailath	International Workshop on the Physics of Semiconductor Devices (IWPSD 2005)	Dec. 2005, New Delhi
6	A. P. Dileep	National Conference on Communications 2006	27.01.06, IIT Delhi
7	S. Sendil Ram Kumar		
8	Mudit Garg		
9	P. Rajalakshmi		
10	Bindu	IEEE Indicon 2005	Dec. 2005, IIT Madras

4.8.3 Faculty and their Specialization:

Name and Qualification	Major area of specialisation
Professors:	
S.Srinivasan, Ph.D.(IIT Madras) - Head	Digital Design, DSP Architecture and applications, VLSI Design, Semiconductor Devices
Bhaskar Ramamurthi, Ph.D.(California)	Digital Communication and Communication networks, Signal Processing
K.N. Bhat, Ph.D.(IIT Madras)	MEMS, Semiconductor Devices-Silicon and GaAs
David Koil Pillai, Ph.D.(Cal Tech)	Wireless communication and signal processing
V.Jagadeesh Kumar, Ph.D.(IIT Madras)	Measurements, Instrumentation
P.A.Janakiraman, Ph.D.(IIT Madras)	Robotics, Control Systems Instrumentation
A. Jhunjhunwala, Ph.D (Maine)	Communication Networks, Fibre optics, Surface Acoustic Wave Devices, VLSI, Semiconductor Devices
S. Karmalkar, Ph.D(IIT Madras)	VLSI, Semiconductor Devices
K.M.M.Prabhu, Ph.D.(IIT Madras)	Signal Processing
Associate Professors	
Amitava Dasgupta, Ph.D.(IIT Kharagpur)	Si and GaAs Devices, Technology and Simulation
R.Aravind, Ph.D.(Santa Barbara)	Image Processing and Compression
Devendra jaliha, Ph.D.(Duke)	Statistical Signal Processing
Enakshi Bhattacharya, Ph.D.(TIFR Bombay)	Semiconductor materials and Devices, MEMS, Biosensors
Nandita Dasgupta, Ph.D (IIT Madras)	Si and III-V, Semiconductor Devices, Tech, Simulation
K.Giridhar, Ph.D.(Santa Barbara)	Communication Systems and Signal Processing

Harishankar Ramachandran Ph.D (Berkley)
K.Sridharan, Ph.D (RPI, NY)

Electromagnetic Fields, Optical Networks
Robotics, Graphics, Web Programming

Assistant Professors

Andrew Thangaraj, Ph.D (GA Tech, Atlanta)

Error control coding, Information Theory,
communication systems

Anil Prabakar Ph.D (Carnegie Mellon)

Electromagnetic fields, Optical Networks

Balaji Srinivasan, Ph.D (Univ. of New Mexico)

Optical Commns., Electro magnetics, Optical
Components

V.Jayashankar Ph.D (Anna. Uni.)

Instrumentation and Measurement

Krishna Vasudevan, Ph.D.(IIT Madras)

Power Electronics

Mahesh Kumar, Ph.D (IIT Kanpur)

Power Electronic Applications to Power Systems

R. Manivasakam Ph.D (IIT Bombay)

Communication Networks

C.Mathiazhagan, Ph.D (Univ. California)

RF, Analog Circuits for Telematics

Nitin Chandrachoodan, Ph.D (Univ. of Maryland)

VLSI Design, Digital Systems Design, DSP
Implementation

Nagendra Krishnapura (Columbia University)

Mixed signal VLSI design

A.N. Rajagopalan Ph.D (IIT Bombay)

Image Processing and Computer Vision

C. S. Ramalingam Ph.D (Univ. Rhode Irland)

Digital Signal Processing, Speech Recognition and
Speech Coding

A. Ravishankar, (Carnegie Mellon)

VLSI Design

R.Sarathi, Ph.D.(IISc)

High voltage Engineering

Y. Shanthi Pavan, D.Sc(Univ. Columbia)

VLSI Design

Shanthi Bhattacharya, Ph.D (IIT Madras)

Applied Optics, Interferometry, Optical components

B. Srikrishna, Ph.D (Rice Univ, Texas)

Wireless communication, Information theory, Signal
Processing for Communication

K.S. Swarup Ph.D (IISc)

Power systems, ANN, Distribution Automation

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

Computer Architecture and Networks

Vinita Vasudeven, Ph.D (IIT Bombay)

CAD for VLSI, VLSI Design

T.J.Vitto, Ph.D (IIT Madras)

Semiconductor Devices, Analog Circuits

Visiting Professor:

S.R. Kannan Ph.D (IIT Madras)

High Voltage Engineering

Analog Devices Chair Professor:

Mani Subramanian

Communication

Senior Scientific Officer Grade-I:

T.V.Gopal, M.S (IIT Madras)

Measurements, Computer System Management

H.Renganathan, M.S(IIT Madras)

DSP Microprocessor Systems

Scientific Officer Grade-I:

K.Ponnuraju, Ph.D.(IIT Madras)

Solid State Electronic Devices, Semiconductor
Technology

K. Prabhakar Rao

Communication Systems

Instrumentation Engineer:

Jeyasudha Avudai Thangam

Electric Machines and Drives

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

Sl. No	Coordinator(s)	Title	Period
Workshop:			
1	Dr. Ashok Jhunjhunwala Dr. David Koilpillai	Indo-UK Workshop on Next Generation Communication Networks, IIT Madras	31.01.06 to 02.02.06
2	Dr. S. Karmalkar	Research methods and skills at SRM Engineering College	17.02.06
3	Dr. S. Srinivasan	ZOPP Workshop for Special manpower Development for VLSI Project of Department of Information Technology, IIT Madras	03.02.06 to 05.02.06
4	Dr. S.R. Kannan Dr. V. Jayashankar Dr. R. Sarathi	Condition monitoring of transformers, Indicon 2005, Dec. 2005	11.12.2005

Short term Course:			
1	Dr. T.G. Venkatesh	Developing Multimedia Applications for Deployment over Internet & Mobile Devices	20.06.05 to 24.06.05
2	Dr. V. Jayashankar	Modern Power Systems	05.07.05 to 08.07.05
3	Dr.. K.M.M. Prabhu	Digital Signal Processing", under the Continuing Education Program and Sponsored by the ISRO-IITM Space Technology Cell was organized by the department	29.08.05 to 03.09.05
4	Dr. Krishna Vasudevan	CEP programme on "Power Electronics and Drives", Department of Electrical Engineering, IIT Madras	02.02.06 to 10.02.06
5	Dr. S. Karmalkar	Research Methodology, NIT Jalandhar	17-06-05 to 24-06-05
6	P.A. Janakiraman	Robotics and Vision	Nov. 2005 (20days)
7	P.A. Janakiraman	Control Systems Design course	One week, March 2006
Symposia:			
1	Dr. S. Srinivasan, Dr. Nandita Dasgupta	Recent Trends in Microelectronics & MEMS	02.07.05
Conference:			
1	Dr. S. Srinivasan Dr. V. Jagadeeshkumar	Indicon-2005- An International Conference	11-13 th Dec. 2005

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. Balaji Srinivasan	International Workshop on Photonics	CGCRI, Kolkata	08.12.05
2	Dr. Anil Prabhakar	Indo-Japan Workshop on Novel GMR Materials	IISc, Bangalore	30.01.06 to 01.02.06
Conference:				
3	Dr. V. Jagadeesh Kumar	IEEE Instrumentation and Measurement Technology Conference, IMTC 2005	IEEE	17.05.05 to 19.05.05
4	Dr. Amitava Das Gupta	International Conference on Materials for Advanced Technologies	Singapore	03-07-05 to 08-07-05
5	Dr. Nandita Das Gupta	International Conference on Materials for Advanced Technologies	Singapore	03-07-05 to 08-07-05
6	Dr. V. Jayashankar	IPST 2005	Montreal, Canada	19-06-05 to 23-06-05
7	Dr. K. Giridhar	Wireless World Research Forum (WWRF-15)	Paris, France	8-12-05 & 9-12-05
8	Dr. Ashok Jhunjunwala	Internet Wireless Summit	AHLBORG, Denmark	18-09-05 to 22-09-05
9	Dr. Ashok Jhunjunwala	IBM's Global Innovation Outlook 2.0 (GIO) Conference on "Future of the Enterprise"	IBM Global Innovation, New Delhi	14-09-05 to 15-09-05
12	Dr. Sarathi.R	CEIDP-2006	Nashville, Tennessee, USA	16-10-05 to 19-10-05
13	Dr. Anil Prabhakar	50th Magnetism and Magnetic Materials Conf. 2005	San Jose, CA, USA	30-10-05 to 03-11-05
14	Dr. Shanti Bhattacharya	International Conference on Optics and Opto-electronics	IRDE, Dehradun	12-12-05 to 15-12-05
15	Dr. Anil Prabhakar	Intl. Conf. on Optics and Optoelectronics	IRDE, Dehradun	12-12-05 to 15-12-05
16	Dr. Enakshi Bhattacharya	International Workshop on Physics of Semiconductor Devices IWPSD 2005	NPL, Delhi	13-12-05 to 17-12-05
17	Dr. Balaji Srinivasan	International Conference on Optoelectronics and Lasers	IRDE, Dehradun	12-12-05 to 15-12-05

18	Dr. Ashok Jhunjunwala	Wimax Forum: IEEE WirelessMAN 802.16, India Broadband Wireless Summit 2006,	New Delhi	08-01-06 to 09-01-06
19	Dr. B. Srikrishna	National Conference on Communications 2006	IIT Delhi	27-01-06 to 29-01-06
20	Dr. David Koilpillai	National Conference on Communications 2006	IIT Delhi	27-01-06 to 29-01-06
21	Dr. David Koilpillai	IEEE International Conference on TENCON 2005	Melbourne, Australia	21.11.05 to 24.11.05
22	Dr. Mahesh Kumar	IEEE International Conference on TENCON 2005	Melbourne, Australia	21.11.05 to 24.11.05
23	Dr. Nitin Chandrachoodan Dr. Nagendra Krishnapura Dr. S. Srinivasan	V DAT 2005	VLSI Society of India, Bangalore	11-08-05 to 13-08-05
24	Dr. R. Sarathi	Hybrid Nano materials for future industries	Japan	3-5 th Feb. 2006
Meeting:				
1	Dr. David Koilpillai	Indo-American Frontiers of Engg. Meeting	Washington DC, USA	16.06.05 to 17-06-05
2	Dr. Enakshi Bhattacharya	Indo-Canadian Technical Summit, Delhi	Shastri Indo-Canadian Institute	21.09.05 to 22-09-05
3	Dr. Balaji.S	Polymers for Photonics	Min. of Informn. Technology	09-11-05
4	Dr. K. Giridhar	WWI Symposium	Paris, France	06.12.05 to 07-12-05
Symposia:				
1	Dr. Enakshi Bhattacharya	SPIE International Symposium on MOEMS-MEMS 2006	San Jose, California, USA	21-01-06 to 27-01-06
2	Dr. Ashok Jhunjunwala	---	DST, New Delhi	24-01-06
3	Dr. Nandita Das Gupta	DAE-BRNS 3 rd National Symposium on Pulsed Laser Deposition of Thin Films and Nanostructured Materials (PLD-2005)	S. V. University, Tirupati	06-11-05 to 08-11-05

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Date	Venue
1	Dr. K. N. Bhat	Micromachined Piezo-resistive Pressure Sensors and Related Technology	02-04-05	Invited Talk in the one day Workshop on Smart Sensors and Applications, held in the Amrita School of Engineering, Bangalore
2	Dr. Ashok Jhunjunwala	Women Entrepreneurship for Rural Internet Kiosks.	10-04-05	Special Conference on an overview of year of Scientific Awareness Activities at University of Madras
3	Dr. Ashok Jhunjunwala	Session chaired on "Emerging Scenario of Patents' Protection, Valuation and Commercialisation"	27-04-05	3rd National Seminar at National Research Development Corporation, Chennai
4	Dr. Ashok Jhunjunwala	Technology Business Incubation Experiences and Insights of TeNET.	29-04-05	Two-day training programme for Business Incubator Managers organized by TREC-STEP and JSS- STEP Noida at JSS STEP
5	Dr. Ashok Jhunjunwala	Can India Overcome its Digital Divide	13-05-05	Conference at UNESCO, France
6	Dr. Shanthi Pavan	Continuous-time Integrated Analog Filters - When, Why and How	13-05-05	National Workshop on Challenges in VLSI, Dhirubhai Ambani Institute of Information and Communication Technology, Gandhinagar

7	Dr. Ashok Jhunjunwala	Rural Transformation Panel	22-05-05	Pan-IIT Conference, Washington DC, USA
8	Dr. Ashok Jhunjunwala	Towards Doubling the Rural GDP in India using Information and Communications Technology	23-05-05	World Bank, USA
9	Dr. Shanti Bhattacharya	MEMS Technology for Optical Networking Components	23-06-05	Faculty Development Programme, Department of ECE, Anna University, Guindy
10	Dr. Anil Prabhakar	Optical Amplifiers	24-06-05	Anna University; College of Engineering
11	Dr. Ashok Jhunjunwala	Bringing Technology to Rural Areas	03-06-05	VIA Technologies, Taiwan
12	Dr. Ashok Jhunjunwala	Innovations in Rural Telecommunication Technologies: what can Indonesia learn from India?	06-06-05	Worldbank, Indonesia (Jakarta)
13	Dr. Ashok Jhunjunwala	The Next Wave of Opportunities for India	16-06-05	Innovation Summit by CII, Bangalore
14	Dr. R. Sarathi	Nanocomposite materials	02.9.05	Calcutta
15	Dr. Ashok Jhunjunwala	Embedded Systems & Security - Indian Imperatives	29-06-05	Seminar at Ministry of Defence, New Delhi
16	Dr. V. Jagadeesh Kumar	Energy Efficiency Issues in Electrical Utilities	13-06-05	The Madras Chamber of Commerce and Industry
17	Dr. V. Jagadeesh Kumar	Optical Sensors	24-06-05	Sudharshan Engineering College, Thiruchirapalli
18	Dr. V. Jagadeesh Kumar	Condition Monitoring of Induction Motors	25-06-05	PSG Tech, Coimbatore
19	Dr. S. Karmalkar	Research Skills, Widebandgap Electronic Devices, and MEMS/Microfluidic devices	25-07-05	John F. Welch R&D center of General Electric, Bangalore
20	Dr. Ashok Jhunjunwala	Providing Commercial Internet Connections in Rural India	26-07-05	National Institute of Advanced Studies, IISc Campus, Bangalore
21	Dr. Ashok Jhunjunwala	Task Force on Connectivity	12-07-05	Second Convention of the National Alliance Mission 2007: Every Village a Knowledge Centre, New Delhi
22	Dr. Ashok Jhunjunwala	The Role of IT Networking in establishing Rural-Urban Connectivity for healthcare	16-07-05	Conference on Medicine & IT at IC & SR, IITMadras
23	Dr. Ashok Jhunjunwala	Public Private partnership in the Telecom Sector	29-07-05	Workshop on "Public Private Partnership" at Lal Bahadur Shastri National Academy of Administration, Mussoorie
24	Dr. Anil Prabhakar	Determination of Young's modulus from MEMS cantilever beams	29-07-05	IMEC, Leuven, Belgium
25	Dr. Ashok Jhunjunwala	Policy Issues For Knowledge Societies	10-08-05	International Conference on Human Centred Sustainable Development Paradigm at Chennai Trade Centre, Chennai
26	Dr. Balaji Srinivasan	Introduction to Optical Communications	09-09-05	St. Joseph's Engineering College
27	Dr. Ashok Jhunjunwala	Building Billion Dollar Telecom Product Companies from India & Component Industry	09-09-05	International Exhibition & Conference at ELCOMP INDIA 2005, New Delhi

28	Dr. S. Karmalkar	A 2 hour talk 'Research Skills' in a workshop on Research Methodologies for Engineering Teachers	03-09-05	Ramakrishna Engineering College, Coimbatore
29	Dr. S. Karmalkar	A 45 minute talk on "Time management - the art of doing the right things and doing things right" to all I B.Tech. Students	04-09-05	CLT, IIT Madras
30	Dr. Shanti Bhattacharya	Introduction to Optical MEMS	16-09-05	Analog Devices Inc., Bangalore
31	Dr. Ashok Jhunjunwala	The Next Wave Telecom Opportunities in India	20-09-05	Global Venture Capital Summit, Silicon Valley Bank, Bangalore
32	Dr. Ashok Jhunjunwala	"Technologies to serve Rural India"	22-09-05	Conference of Institute for International Research, New Delhi
33	Dr. Ashok Jhunjunwala	VoIP: the techno - economics	16-09-05	VoIP Program for Infosys at IIT Madras, Chennai - 36
34	Dr.V.JagadeeshKumar	Online condition monitoring of induction motors	01-10-05	Annamalai University
35	Dr.V.JagadeeshKumar	Optical sensors for non-invasive diagnostics	01-10-05	Annamalai University
36	Dr.Balaji Srinivasan	Fiber Optic Devices and Components	08-10-05	Thiagarajar College of Engineering, Madurai.
37	Dr.S.Karmalkar	Device modeling - the art of making approximations	31-10-05	Elec. Engg. Dept., IIT Kanpur
38	Dr.S.Karmalkar	Research skills	31-10-05	Elec. Engg. Dept., IIT Kanpur
39	Dr.Ashok Jhunjunwala	"Wireless & Development"	23-10-05	At International Union of Radio Science (URSI) on Rural Communication for Developing countries at New Delhi
40	Dr.Ashok Jhunjunwala	"Providing Commercial Internet Connections in Rural India"	26-10-05	At National Institute of Advanced Studies (NIAS) on Transferring Technology to Society at Bangalore
41	Dr.AshokJhunjunwala	"Strengthening IITM and India"	05-10-05	At IIT Alumni Get-together meeting at Sunnyvale, USA
42	Dr.Bhaskar Ramamurthi	Broadband Wireless Technology For Rural India	24-10-05	International Union of Radio Science (URSI), General Assembly, New Delhi
43	Dr. Ashok Jhunjunwala	The ICT Boom: Myth and Reality	10-11-05	World Science Forum, Budapest, Hungary
44	Dr. Ashok Jhunjunwala	Empowering Rural India - Challenges	14-11-05	World Summit for the Information Society (WSIS), Tunis.
45	Dr. Balaji Srinivasan	Fiber Bragg Grating-Based Sensors	02-12-05	National Society of Instrumentation Conference, CUSAT, Cochin
46	Dr. S. Karmalkar	1. Device modeling - the art of making approximations	28-11-05	IEEE AP/ED Bombay Chapter
47	Dr. S. Karmalkar	2. Research skills	28-11-05	IEEE AP/ED Bombay Chapter
48	Dr. Ashok Jhunjunwala	Leveraging India as India Stands Up	12-12-05	International Conference at Indicon 2005 at IC&SR, IIT Madras
49	Dr. Ashok Jhunjunwala	"Empowering Rural India: The Challenges Ahead"	06-12-05	The Microsoft Government Leaders Forum - Asia, New Delhi.
50	Dr. Ashok Jhunjunwala	Connectivity Technologies, Economics & Policy	05-01-06	93rd Indian Science Congress organised by The National Alliance for Mission 2007: Every Village a Knowledge Centre at Hyderabad

51	Dr. Ashok Jhunjunwala	Empowering Rural India - Challenges and Opportunities	05-01-06	JNANDHARA, State Bank Institute of Information and Communication Management, Hyderabad
52	Dr. Ashok Jhunjunwala	Academy Industry Partnership - The TeNeT Experience in driving dreams for India	06-01-06	93rd Indian Science Congress organised by Integrated Rural Development, Science and Technology at Hyderabad
53	Dr. David Koilpillai	Cellular Evolution Beyond 3G	29-01-06	IIT Delhi (Invited Lecture at the National Conference on Communications 2006)
54	Dr. Balaji Srinivasan	Optical Communications	21-01-06	Elite School of Optometry, Chennai
55	Dr. Ashok Jhunjunwala	Telecom Technologies for Next Expansion	09-01-06	COMMSWARE Conference at New Delhi
56	Dr. Ashok Jhunjunwala	"Wireless Broadband for India"	11-01-06	Techvista Event organised by Microsoft at Bangalore
57	Dr. Ashok Jhunjunwala	"Strengthening the Case for Collaborative R&D in Electronics"	24-01-06	International Conference on Challenges & Opportunities in Electronics Manufacturing at Indo-German Business Forum Program at New Delhi
58	Dr. Ashok Jhunjunwala	Technopreneurship in Academia & Industry in the session on Innovation and Incubation	24-01-06	International Conference by DST at New Delhi
59	Dr. Ashok Jhunjunwala	Industry Academia Partnership TeNeT Experience	21-01-06	Culture of Innovation Symposium, University of Hyderabad, Hyderabad
60	Dr. Enakshi Bhattacharya	Stiction Force Estimation from Electrical and Optical Measurements on Cantilever Beams	27-01-06	Electrical Engineering Department, Stanford University
61	Dr. Ashok Jhunjunwala	"Leveraging India"	31-01-06	Indo-UK Workshop on Next Generation Communication Networks at IC&SR, IIT Madras
62	Dr. Ashok Jhunjunwala	Session Chaired by Dr. Ashok Jhunjunwala on "Funding Mechanisms in Support of UK-India NGN Research"	31-01-06	Indo-UK workshop, IC&SR, IIT Madras
63	Dr. Bhaskar Ramamurthi	"Physical Layer Research"	01-02-06	Indo-UK Workshop on Next Generation Communication Networks, IC&SR, IIT Madras
64	Dr. Bhaskar Ramamurthi	"Perspectives on PHY challenges"	01-02-06	Indo-UK Workshop on Next Generation Communication Networks, IC&SR, IIT Madras
65	Dr. Ashok Jhunjunwala	Low Cost Connectivity Initiative in India	13-02-06	Computing In High Energy and Nuclear Physics organised by TIFR, Mumbai
66	Dr. Ashok Jhunjunwala	Leveraging India as India Stands up through Innovations in Technologies, Business Models & Policies	12-02-06	10th Annual Chief Financial Officers' Roundtable on Transforming Technologies, Goa
67	Dr. Ashok Jhunjunwala	"Reaching the Un-reached: Innovations & Policies accelerating India's March"	20-02-06	Conference on "Joint Roundtable on Communications Policy" at Goa
68	Dr. Ashok Jhunjunwala	"Leveraging India as India Stands Up"	28-02-06	Infosys Technologies Limited, Chennai
69	Dr. Enakshi Bhattacharya	'MEMS activity at IIT Madras	26-01-06	Maxim Integrated Products
70	Dr. Ashok Jhunjunwala	Leveraging India as India stands up	03-03-06	CSIR, Delhi
71	Dr.S. Mani Subramaniam	Current trends in network management	05-03-06	Wipro

72	Dr.Ashok JhunJhunwala	Banking towards rural empowerment : Challenges and opportunities	06-03-06	College of Agricultural Banking, Pune
73	Dr.Ashok JhunJhunwala	Reaching the un-reached: Accelerating India's March	16-03-06	Indian Merchant Chamber of Commerce, Bombay

Visits abroad by faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of visit
1	Dr. Shanthi Pavan	Japan	22-05-05 to 28-05-05	Attend and present paper at ISCAS 2005, Kobe
2	Dr. V. Jagadeesh Kumar	Canada	16-05-05 to 21-05-05	IEEE IMTC05 Conference
3	Dr. Anil Prabhakar	France	04-07-05 to 18-07-05	Indo-French collaboration on Quantum Key Distribution
4	Dr.Andrew Thangaraj	France	16-05-05 to 01-08-05	Summer faculty at Georgia Tech Lorraine (Metz), the European campus of Georgia Tech (USA)
5	Dr. A.N. Rajagopalan	France	16.05.05 to 29.07.05	Indo-French collaboration on quantum key distribution
6	Dr.Andrew Thangaraj	France	20-07-05 to 03-08-05	Conference
7	Dr. Anil Prabhakar	USA	29-10-05 to 08-11-05	Conference
8	Dr. Ashok JhunJhunwala	Budapest, Hungary and Tunis	09-11-05 to 19-11-05	World Science Forum Programme
9	Dr. R. Sarathi	USA	24-11-05 to 28-11-05	Visiting Researcher
10	Dr. David Koilpillai	Australia	21-11-05 to 21-11-05	Presentation on wireless research at IIT Madras
11	Dr. David Koilpillai	Australia	25-11-05	Presentation on wireless research at IIT Madras
12	Dr. Enakshi Bhattacharya	USA	21-01-06 to 26-01-06	conference
13	Dr. Enakshi Bhattacharya	USA	27-01-06 to 27-01-06	conference
14	Dr. Enakshi Bhattacharya	USA	26-01-06 to 26-01-06	Presentation ADN meeting at Maxim Integrated Products
15	Dr. Enakshi Bhattacharya	France	16-11-05 to 29-07-05	Indo-French collaboration on quantum key distribution
16	Dr. R. Sarathi	Japan	1.02.06 to 06.02.06	HNM2006 conference
17	Dr. Ashok JhunJhunwala	Paris	11.03.06 to 15.03.06	UNESCO Review meeting

Honours and Awards obtained:

Sl. No.	Name of faculty/student	Name of Award	Awarded by	Awarded for	Date of award
1	Dr. Bhaskar Ramamurthi	National Award 2005	Technology Development, New Delhi	Successful Commercialization of Indigenous Access	11-05-05
2	Dr. Ashok JhunJhunwala	IETE Gowri Memorial Award	Institution of Electronics and Telecommunication Engineers	"Drivers of Telecom in India", INSA, New Delhi	23-09-05
3	Dr. Ashok JhunJhunwala	Jawaharlal Nehru Birth Centenary Lecture for the year 2006	INSA, New Delhi	---	27-09-05
4	Dr. Ashok JhunJhunwala	For the sake of honor award	Rotary club of Chennai	Working towards taking technology to rural areas	13-03-06

4.8.4 Research and Consultancy

Sponsored Research Projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1	Dr. Ashok Jhunjhunwala	Rural Weather Monitoring System	DST	45.7
2	Dr. Andrew Thangaraj	Quantum Key Distribution: Implementation and Testing	DST	23.59
3	Dr. Enakshi Bhattacharya	MEMS Composite Porous Silicon/Silicon Cantilevers for Ultrasensitive Biosensing Applications	DST	6.79
4	Dr. Harishankar Ramachandran	Optical Networking Project	Alumni Association	45.0
5	Dr. Jagadeesh Kumar V	Modernization of Instrument Transformer Testing Laboratory	MHRD	18.50
6	Dr. Jayashankar V	Hardware Development for Precision Sampling Based Measuring Systems	MHRD	25.0
7	Dr. Rajagopalan A N	Development of a Vision System for Computing Depth Map of Very Small Objects from Defocused Images	MHRD	15.0
8	Dr. Ramalingam C S	A Multimodal Interface Enabled Office Suite	DST	49.01
9	Dr. Sarathi. R	Development of Plasma Sintering Test Facility and Characterization of Sintered Nano Aluminium Particles	MHRD	18.00
10	Dr. Sarathi R	Sterilization of Liquid Foods by Pulsed Electric Field	Dept. of Biotechnology	18.81
11	Dr. Shanthi Pavan	Modernization Grant for VLSI Activity	Silicon Laboratories Inc.	4.35
12	Dr. Srinivasan S	Special Manpower Development Programme for VLSI Design and Related Software (SMDP-II)	DIT	90.27
13	Dr. Shanti Bhattacharya	Development of Beam Shaping Diffractive Optics for Varied Applications	New Faculty Scheme	5.00

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1	Dr. Jagadeesh Kumar V	Frequency response analysis test on 20MVA transformers	Indo Tech Transformers Limited	2.2
2	Dr. R. Sarathi	Impulse voltage withstand study and testing of power transformers	Indo Tech Transformers Limited	15
3	Dr. R. Sarathi	Impulse voltage withstand study and testing of power transformers	Andrew Yule & Company Ltd.,	14
4	Dr. Nagendra Krishnapura	Analog IC design & training	Nulife Semiconductor (India) Pvt. Ltd.,	7.3
5	Dr. Shanthi Pavan	Low power analog-to-digital converters	Texas Instruments (India) Pvt. Ltd.	16.9
6	Dr. Vinitha Vasudevan	Retainer Consultancy	New Break India Pvt. Ltd	0.33
7	Dr. Karmalkar S	Development of a power MOSFET	Bharat Electronics Ltd.,	5.0
8	Dr. Nandita Das Gupta	Design of MEMS system for remote sensing of pressure	HCL Technologies Ltd.,	5.06
9	Dr. Rajagopalan A N	Super resolution imaging	KLA Tencor Software India Pvt Ltd	13.5

10	Dr. Shanthi Pavan	Analog circuit design and training	Nulife Semiconductor (India) Pvt. Ltd.,	6.91
11	Dr. Krishna Vasudevan	Investigation of induction motor performance under pulsating load conditions	Fenner (India) Limited	0.3

Research Publications:

Total No. of papers published in Refereed International Journals	:	46
Total No. of papers published in Refereed National Journal	:	01
Total No. of papers presented in National Conferences	:	04
Total No. of papers presented in International conferences	:	41

In Refereed International Journals:

1	Dr. K. Sridharan	VLSI-efficient schemes for high-speed construction of tangent graph	Robotics and Autonomous Systems Journal (Elsevier), Vol.51, No.4, Pages 248-260	Jun. 2005	Mr. S.K. Lam, Mr. T. Srikanthan
2	Dr. K. Sridharan	The design of a hardware accelerator for real-time complete visibility graph construction and efficient FPGA implementation	IEEE Transactions on Industrial Electronics, Vol. 52, No. 4, Aug. 2005, pp. 1185-1187	Aug. 2005	Mr. K. Sridharan, Mr. T.K. Priya
3	Dr. B. Srikrishna	A Sub-optimal Joint Subcarrier and Power Allocation Algorithm for Multiuser OFDM	IEEE Communications Letters	Aug. 2005	Mr. Chandrashekar, Mr. Mohanram
4	Dr. K. M. M. Prabhu	Robust Watermarking Technique for Digital Audio	IJECE Journal, pp. 11-17, Vol. 4, No. 1, Winter-Spring 2005	Aug. 2005	Mr. S. R. Aedudodla
5	Dr. Ashok Jhunjhunwala	Rural Connectivity in India	In Communications CSI Magazine	Sep. 2005	Prof. Ashok Jhunjhunwala & Ms. Sangamitra Ramachandran
6	Dr. Enakshi Bhattacharya	Stiction Force Estimation from Detachment Length and Electrostatic Measurements on Cantilever Beams	Proc. of SPIE Vol. 6111, pp 611101 – 1-611101-14	Jan. 2006	Mr. Souvik Basu & Dr. Anil Prabhakar
7	Dr. Enakshi Bhattacharya	Solid State Potentiometric Sensor for the Estimation of Tributyrin and Urea	Sensors and Actuators B 107 (2005) 418 - 423	May 2005	Mr. I. Basu, Mr. R.V. Subramanian, Mr. A. Mathew, Mr. A. M. Kayastha, Dr. A. Chadha
8	Dr. Enakshi Bhattacharya	Effect of Porous Silicon Formation on Stiction in Surface Micromachined MEMS Structures	Phys. Stat. Sol (a) 202	Jun. 2005	Ms. L. Helen Anitha Rani, Mr. U. Venu Babu, Mr. P.R.S. Rao, Dr. K.N. Bhat & Mr. J. Martin
9	Dr. Sri Krishna. B	Exploiting Hopping Pilots for Parametric Channel estimation in OFDM Systems	IEEE Signal Processing Letters, vol. 12, No. 11, pp. 737-740,	Nov. 2005	M. R. Raghavendra & Mr. K. Giridhar
10	Dr. Amitava Dasgupta	Unified Analytical Model of HEMTs for Analog and Digital applications"	IEE Proceedings: Ckts. Dev. & Sys., Vol. 152, Issue 5, pp.425- 432	Oct-2005	Mr. V.J. Vijaykrishna, Mr. S. Vaishnav, Dr. Nandita DasGupta
11	Dr. S. Srinivasan	Architecturally efficient FFT pruning algorithm	Electronics Letters Vol 41, No.23,	Nov. 2005	Mr. S. Singh

12	Dr. S. Karmalkar	A Unified Compact Model of Electrical and Thermal 3-D Spreading Resistance Between Eccentric Rectangular and Circular Contacts	IEEE Electron Device Lett., vol. 26, No. 12, pp. 909-912	Dec-2005	Mr. Vishnu Mohan P. Mr. Presenna Kumar
13	Dr. S. Karmalkar	Field-Plate Engineering for Heterostructure Field Effect Transistors	IEEE Trans. Electron Devices, vol. 52, no. 12, pp. 2534-2540	Dec. 2005	Mr.M. S. Shur, Mr.G. Simin and Mr. M. A. Khan
14	Dr. Shanthi Pavan	Nonidealities in Traveling Wave and Transversal FIR Filters Operating at Microwave Frequencies	IEEE Trans. On circuits and systems-I Vol. 53, No. 1, Jan. 2006	Jan-2006	Mr.Shankar Shivappa
15	Dr. K.M.M. Prabhu	Signal denoising techniques for partial discharge measurements	IEEE Trans. On Dielectrics and Electrical Insulation, Vol.12, No.6, pp.1182-1191	Dec. 2005	Mr. S. Sriram, Mr. S. Nitin & Mr. M.J. Bastians
16	Dr. K. M. M. Prabhu	Estimation of frequency offset using warped discrete fourier transform	European Journal of signal processing, Vol.86, pp.250-256,	Jan.2 006	Mr. V. Ramji
17	Dr. K. Sridharan	A parallel algorithm, architecture and FPGA realization for landmark determination and map construction in a planar unknown environment,	Parallel Computing Journal, Elsevier, Vol. 32, No. 3, pp. 205-221	Mar.2 006	Mr. P. Rajesh Kumar, Dr. S. Srinivasan
18	Dr. S. Karmalkar	On Resolution of the Mechanism for Reverse Gate Leakage in AlGaIn / GaN HEMTs	IEEE Electron Device Lett., vol. 28	Feb.2 006	Mr. Naresh Satyan & Mr. D.Mahaveer Sathaiya
19	Dr. Anil Prabhakar	Current induced bistability in giant magnetoresistive multilayer thin films	J. Appl. Physics	Feb.2 006	
20	Dr. Enakshi Bhattacharya	Effect of Doping Concentration on the Grain Boundary Trap Density and Threshold Voltage of Polycrystalline SOI MOSFETs	Microelectronics Engineering 83(2)	Feb.2 006	Mr. R. Joseph Daniel Dr. K. N. Bhat
21	Dr. Amitava Das Gupta	"Study of Gate Leakage Current in Symmetric Double Gate MOSFETs with High-k/Stacked Dielectrics"	Thin Solid Films, Vol. 504, Issue 1-2, pp. 317-320	Feb.2 006	Mr.P. Nagaraju
22	Dr. Nandita Das Gupta	"Study of pinholes in Ultrathin SiO ₂ by C-AFM Technique"	Thin Solid Films, Vol.504, Issue 1/2, pp. 11-14	Feb.2 006	Mr. Vaibhav G.Marathe, Mr. Yordan Stefanov
23	Dr. Nandita Das Gupta	Effect of Oxidation Temperature on the Quality and Reliability of Ultrathin Gate Oxide	Thin Solid Films, Vol.504, Issue 1/2, pp. 126-128	Feb.2 006	Mr. Vaibhav G.Marathe, Mr. Naresh Chandani
24	Dr. R. Sarathi	Partial Discharge Activity in Gas Insulated System under Composite Voltage	IEEE Trans. On Power Delivery	Jan 2006	Vishal Dubey Y.G.Srinivasa
25	Dr. R. Sarathi	Investigation of Tracking Phenomena in Outdoor Polymeric Insulation Material Under DC voltages Using Wavelets	IEEE Trans. On Power Delivery	Jan 2006	S. Chandrasekar and N. Yoshimura
26	Dr. R. Sarathi	Investigation of surface condition of outdoor insulation material using wavelets	IEEE Trans. On Power Delivery	Jan 2006	S. Chandrasekar and N. Yoshimura

27	Dr. R. Sarathi	Generation of nano aluminium nitride particle using wire explosion technique	Synthesis and Reactivity in Inorganic, organic and Metal-organic Nanometals	Jan 2006	T.K. Sindhu, S.R. Chakravarthi, R. Jayaganthan
28	Dr. K. S. Swarup	Object modeling of balanced and unbalanced distribution systems for power flow analysis	Electric Power Components and Systems.	Feb. 2006	Mr. M. P. Selvan
29	Dr. K. S. Swarup	Modeling and analysis of unbalanced distribution system using object-oriented methodology	Electric Power Systems. Research	March . 2006	Mr. M. P. Selvan
30	Dr. K. S. Swarup	Dynamic Topology Processing in a radial distribution system",	IEEE Proceedings Part C -Generation, Transmission and Distribution,	March . 2006	Mr. M. P. Selvan
31	Dr. K. S. Swarup	Economic Dispatch with line flow constraints using Particle Swarm Optimization	International Journal of Electrical Power and Energy Systems	Feb. 2006	Mr. Rohit Kumar P
32	Dr. K. Sridharan	A parallel algorithm, architecture and FPGA realization for high speed determination of the complete visibility graph for convex objects	Microprocessors and Microsystems	Feb. 2006	Ms.T.K. Priya
33	Dr. Vinita Vasudevan	A new technique for on-chip error estimation and reconfiguration of current-steering digital-to-analog converters	IEEE Transactions on-Circuits and Systems	Nov-2005	Mr. K.P.S. Rafeeqe
34	Dr. Vinita Vasudevan	Rate-distortion estimation for fast JPEG2000 compression at low bit-rates	Electronics Letters : Vol 41 Issue 1	Jan-2005	Dr.S.Srinivasan Mr.Vikram
35	Dr. V.Jayashankar	Simulation of faults during Impulse tests	Power Delivery, IEEE Transactions on Vol. 20	Jan-2005	Dr.S.Usa Dr.K.Udayakumar Mr. A..Palani
36	Dr. V.Jayashankar	Fuzzy logic based sensitivity assessment for winding deformation detection	Proceedings of the 2005 IEEE Mid-Summer Workshop	June - 2005	Ms.Santhi
37	Dr.A.N.Rajagopalan	Background learning for robust face recognition with PCA in the presence of clutter	Image processing, IEEE Transactions on Vol.14, Issue 6	June-2006	Mr. R.Chellappa Mr. N.TKoterba
38	Dr.A.N.Rajagopalan	Image estimation in film-grain noise	Signal Processing Letters, IEEE Vol.12 Issue 3	March -2005	Mr.Sadhar
39	Dr. K.Gridhar	Exploiting hopping pilots for parametric channel estimation in OFDM systems	Signal Processing Letters, IEEE Vol.12 Issue 11	Nov-2005	Mr.M.R.Raghavendra Mr.S.Bhashyam
40	Dr. K.Gridhar	Closed-loop transmit diversity schemes for five and six transmit antennas	Signal Processing Letters, IEEE Vol.12 Issue 2	Feb-2005	Dr.D.Jalihal Mr.J.K.Milleth
41	Dr. K. Gridhar	Improving channel estimation in OFDM systems for sparse multipath channels	Signal Processing Letters, IEEE Vol.12 Issue 1	Jan-2005	Mr.M.R.Raghavendra

42	R. Manivasakan	Multimedia-MAC protocol: its performance analysis and applications for WDM networks	IEEE Trans. On communications	March 2006	Lixin Wang; Hamdi, M.; Tsang, D.H.K
43	Krishna Vasudevan	A Novel Hysterisis Switching Strategy for Harmonic Compensation'	International Journal of Energy Technology and Policy	March 2006	M. Nanda Kumar
44	Krishna Vasudevan	A New Transformerless Series Hybrid Active Power Filter (TL-SHAPF) Topology'	International Journal of Energy Technology and Policy	Jan 2006	N. Raghavan, T. Ellinger, U. Grossman, L. Petzoldt K.S.Swarup
45	Krishna Vasudevan	Low Pass to Bandpass Transformed PI Control Strategy for Series Hybrid Active Power Filter'	Electric Power Systems Research	Dec. 2005	N. Raghavan, T. Ellinger, U. Grossman, L. Petzoldt K.S.Swarup
46	Krishna Vasudevan	Bi-Directional Real and Recative Power Control using Constant Frequency Hysterisis Control with Reduced Losses'	Electric Power Systems Research	Dec. 2005	M. Nandakumar

In Refereed National Journals:

1	Dr. Ashok Jhunjunwala	Role of Wireless Technologies in Connecting Rural India	In Indian Journal of Radio & Space Physics	Oct. 2005	Dr. Ashok Jhunjunwala and Ms. Sangamitra Ramachan
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In Proceedings of National Conferences:

1	Dr. David Koilpillai	Methods for Reducing Residual ISI in RAKE Receiver for DS-CDMA Downlink	Proceedings of the National Conference on Communications 2006, IIT Delhi	Jan-2006	Mr.S.Sendil Ram Kumar Mr.M. Garg
2	Dr. B. Srikrishna	Subband Leverl Adaptation for Bit-Interleaved Coded OFDM	Proceedings of the Nation Conference on Communications 2006	Jan. 2006	Mr.A. P. Dileep
3	Dr. David Koilpillai	Adaptive Channel Estimation Exploiting Pilot Diversity with SINR Estimation for WCDMA Downlink Receivers	Proceedings of the National Conference on Communications 2006, IIT Delhi	Jan. 2006	Mr.M. Venkateswara Rao
4	Dr. David Koilpillai	A Novel SINR Estimation Scheme for WCDMA Receivers	Proceedings of the National Conference on Communications 2006, IIT Delhi	Jan. 2006	Mr.M. Venkateswara Rao

In Proceedings of International Conferences:

1	Dr. Anil Prabhakar	Effects of nonlinear distortion on transition shift measurements	Intl. Conf. on Magnetism	Apr. 2005	Mr. A. Thangaraj, Mr. M. Manickam & Mr. E. Louis
2	Dr. Balaji Srinivasan	Optical Coherence Tomography - A Low Cost, High Resolution Imaging for Medical Applications	National Conference on Emerging Trends in Biomedical Instrumentation	Apr. 2005	Mr. A. Thomas, Mr. B. Srinivasan, Mr. S. Ganesan

3	Dr. Shanthi Pavan	Analysis of Transversal and Traveling wave analog adaptive equalizers	International Symposium on Circuits and Systems, Kobe, Japan	May 2005	Mr. Shankar Shivappa
4	Dr. V.Jagadeesh Kumar	Switched Capacitor Signal Conditioning for Differential Capacitive Sensors	Proceedings of IMTC05	May 2005	Mr. Bobby George
5	Dr. P. A. Janaki Raman	PSPICE Simulation of Electronically commutated DC motor	IEEE Indicon Annual Conference, IIT Kharagpur	---	Mr. Saritha.B
6	Dr. P. A. Janaki Raman	Serial to parallel conversion of Pulse rate signals using Binary Rate	IEEE Indicon Annual Conference, IIT Kharagpur	---	Mr. Anupama S
7	Dr. P. A. Janaki Raman	Digital differential analyzer using CPLD's	ISNG, (Information System next generation), Las Vegas, USA	---	Mr. Venkatesh J, Mr. Sivaranjani K, Mr. NRLK Prasad
8	Dr. K.N. Bhat	Virtual-double-gate operation in conventional SOI CMOS Technology	IEEE Indicon 2005, IIT Madras	Dec. 2005	Dr. Amitava Dasgupta Ms. N. Lakshmi & Ms. B. Bindu
9	Dr. Enakshi Bhattacharya	Estimation of Young's Modulus in Surface Micromachined Cantilever Beams	Proc. of ISSS 2005, International Conference on Smart Materials Structures and Systems	Aug. 2005	Mr. Souvik Basu, K. Mr. Sudhon, L Helen Mr. Anitha Rani, Anil
10	Dr. R. Aravind	A Subcarrier Allocation Igorithm for OFDMA using Buffer and Channel State Information	Proc. of the IEEE Vehicular Tech-nology Confe-rence (Fall 2005), Dallas, Texas, USA.	Sep. 2005	Mr. P. Parag & Mr. B. Srikrishna
11	Dr.MaheshKumar	A Study of Control Algorithms for Load Compensation under Unbalanced and Distorted Voltages	Int.Conf. Proceedings,CERA IIT Roorkee Sept. 28 Oct. 01, 2005,	Oct. 2005	Mr. Linash P. K. & Mr. K. Karthikeyan
12	Dr. Anil Prabhakar	Current induced bistability in giant magneto-resistive multilayer thin films	Proc. of 50 th Conf on Magnetism and Magnetic Matl	Oct. 2005	Dr.Anil Prabhakar
13	Dr. Anil Prabhakar	Guiding Center Approximation to Gyroscopic Motion in Micromagnetics	Proc. of 50th Conf on Magnetism and Magnetic Materials	Oct. 2005	Dr.A. Prabhakar, Mr. N. Ranvah
14	Dr.MaheshKumar	A Novel Three-Phase Active Power Filter Control	IEEE TENCON, Melbourne Australia	Nov. 2005	Mr.K. Karthikeyan
15	Dr.SriKrishna.B	Power Control for Multi-Antenna Gaussian Channels with Delayed Feedback	Proc. of the 39 th Asilomar Conf. on Signals, Systems and Computers, California, USA	Nov. 2005	Mr. Devdutt Marathe
16	Dr. Shanti Bhattacharya	Design of Beam shaping diffractive Optical elements for improving fibre optic-coupling	ICOL Conference, Dehradun	Dec. 2005	---
17	Dr. Enakshi Bhattacharya	Design of Variable Optical Attenuators on SOI wafers	Proc. of Int. Conf. on Optics & Optoelectronics-ICOL 2005	Dec-2005	Mr. S. Tyagi & Dr. A. Prabhakar
18	Dr. Anil Prabhakar	Development of broadband Erbium doped fiber ASE source	Proc. ICOL 2005	Dec. 2005	Dr.Hari Ramachandran

19	Dr. Enakshi Bhattacharya	Fabrication of High Sensitivity Pressure Sensor Based on Porous Silicon	IWPSD-2005, Vol 1, Delhi, pp 620-624	Dec. 2005	Mr. L.Sujatha, Mr. V. Vinoth Kumar
20	Dr. Enakshi Bhattacharya	Sensitive Silicon and Porous Silicon Triglyceride Biosensors	IWPSD-2005, Vol 1 Delhi, pp 562-564	Dec-2005	Mr.Arun Mathew, Mr.Ganesh Pandian, Mr.Anju Chadha
21	Dr. Enakshi Bhattacharya	Polycrystalline Silicon on Insulator (PSOI) for MEMS Applications	IWPSD-2005, Vol 1 Delhi, pp 509-514	Dec. 2005	Dr. K.N.Bhat, Mr.R.Joseph & Mr. Daniel
22	Dr. Enakshi Bhattacharya	Modeling of Resistivity and Temperature Coefficient of Resistivity of Heavily Doped Polysilicon	IWPSD-2005, Vol 2 Delhi, pp 1003-1012	Dec. 2005	Ms. Manjula S.R., Mr. Teweldebhran K
23	Dr. Balaji Srinivasan	Development of a 42dB Dynamic Range OTDR	ICOL 2005, Dehradun	Dec. 2005	Mr.Venkatesh V, Mr.Senthill R, Mr.Anil P, Mr.Nitin C
24	Dr. Balaji Srinivasan	Fabry-Perot Cavities Based on Fiber Bragg Gratings	ICOL 2005, Dehradun	Dec. 2005	Mr.Gopakumar VT, Mr.Madhav KV, Mr.Asokan
25	Dr. Amitava Dasgupta	Non-classical silicon devices for nano-CMOS technology	International Conf. on MEMS & Semiconductor Nano-Technology, IIT Kharagpur	Dec. 2005	Ms. B. Bindu, Ms. P.V. Nagaraju, Mr. D.S. Havaladar & Dr. Nandita Dasgupta
26	Dr. Nandita Dasgupta	Electrical characterization of Al/SiO ₂ -TiO ₂ /Strained Si/Relaxed SiGe MTOS capacitors	International Conf. on MEMS & Semiconductor Nano-Technology, IIT Kharagpur	Dec. 2005	Dr. Amitava Dasgupta, Dr. Shanthi Bhattacharya, Ms. Binsu J. Kailath, Mr. Mc Carthy, Mr. B.M. Armstrong, Mr. H.S. Gamble, Ms. Pankaj Misra & Ms. L.M. Kukreja
27	Dr. David Koilpillai	Equivalence of the linear symbol-level MMSE and the Generalized RAKE	TENCON 2005, Melbourne, Australia	Nov. 2005	Mr. Girish Redekar
28	Dr. R. Sarathi	Identification of partial discharges in GIS under composite voltages	IASTED, USA	Oct. 2005	Mr.V. Dubey Dr.Y.G. Srinivasa
29	Dr. R. Sarathi	Identification of incipient discharges in GIS using AE technique	CEIDP 2005	Oct. 2005	Mr.V. Dubey Dr.Y.G. Srinivasa
30	Dr. R. Sarathi	Understanding the breakdown characteristics of LN ₂ under different voltage profiles	CEIDP 2005	Oct. 2005	Mr.R.K.Sahu Dr.M.K. Pradhan
31	Dr. K. S. Swarup	Optimal Capacitor Allocation in Radial Distribution Systems under APDRP	IEEE INDICON 2005, IIT MADRAS	Dec. 2005	Mr. Samir Azim
32	Dr. K. S. Swarup	Visualization for Power Systems Operation for Economic Energy Interchange in Power Pools	IEEE INDICON 2005, IIT MADRAS	Dec. 2005	Mr. Ashish Vashisht

33	Dr. K. S. Swarup	Performance of UPFC on System Behavior Under Fault Conditions	IEEE INDICON 2005, IIT MADRAS	Dec. 2005	Mr. Deepak, Mr. G. S. Ilango; Ms. C.Nagamani
34	P.A.Janakiraman	Digital Differential analyser using CPLD's	International Conference on Information Systems: New Generation	Dec. 2005	Mr.Sivaranjanii.K, Mr.Venkatesh.J
35	Dr. Vinita Vasudevan	Simulation of the effects of timing jitter in track-and-hold and sample-and-hold circuits	Design Automation Conference, 2005 Proceedings	2005	
36	Dr. V.Jayashankar	On Minimizing the Fluctuations in the Power Generated from a Wave Energy Plant	Electric Machines and Drives, IEEE International Conference	May-2005	Mr. S.Muthukumar Mr.S.Kakaumanu Mr.S.Sriram Mr.R. Dasai Mr.A.A.S.Baber
37	Dr.V.Jayashankar	Energy storage considerations for a Stand-alone Wave Energy Plant	Electric Machines and Drives,2005 IEEE international Conference	May-2005	Mr.Muthukumar Mr.K.Sandeep Mr.S.Sriram
38	R. Manivasakan	Performance of parallel scheduling algorithms under correlated traffic	ICACT 2005	Feb. 2005	Taparia, A.; Garg, K
39	Thangaraj, A	On achieving capacity on the wire tap channel using LDPC codes	International Symposium on Information Theory	Sept 2005	Dihidar. S Calderbank, A.R McLaughlin, S.W Merolla J.-M
40	Thangaraj, A	A low-complexity soft-decision decoder for extended BCH and RS-like codes	International Symposium on Information Theory	Sept. 2005	Therattil, F
41	Thangaraj, A	Linear-Time Decodable Secrecy Codes for Binary Erasure Wiretap Channels	43 rd Annual conf. on comm. Control and computing.	Sept. 2005	S. Dihidar, A. Thangaraj, S.W. McLaughlin, and A.R. Calderbank

Distinguished Visitors to the Department:

Sl. No.	Visitor Name & Designation	Affiliation	Date	Venue	Purpose of visit
1	Deepak Divan, Professor	Georgia Tech University, Atlanta, USA	22-04-05	ICSR Hall 3	Interaction with faculty & students
2	Prof SP Thiyagarajan, Vice Chancellor	Madras University	07-04-05	Dept. of Electrical Engineering, IIT Madras	Official Meeting
3	Prof. Sahasrabudhey, Director	DAIICT, Ahemadabad	09-04-05	Dept. of Electrical Engineering, IIT Madras	Official Meeting
4	Prof. Rajeev Sangal, Director	IIIT Hyderabad	09-04-05	Dept. of Electrical Engineering, IIT Madras	Official Meeting
5	Prof. V. Sinha, Director	LNM Institute, Jaipur	09-04-05	Dept. of Electrical Engineering, IIT Madras	Official Meeting
6	Mr. P.J. Nayak, Chairman & Managing Director	UTI Bank, Mumbai	22-04-05	Dept. of Electrical Engineering, IIT Madras	Official Meeting
7	Hariharan, Country Manager	Nokia Research, China	10-05-05	CSD 320	To initiate research collaboration with Nokia via
8	Mr. Hariharan, Country Manager	Nokia Research, China	10-05-05	CSD 320	To initiate research collaboration with Nokia via
9	Mr. Ray Stata, Chairman	Analog Devices, USA	21-06-05	Dept. of EE, IIT Madras	Official Meeting

10	Dr Jayasimha Prasad, Lecturer, Maxim Sanjose	IEEE Electron Devices Society	1) 25.08.05 2) 26.08.05	Dept. of Electrical Engineering	delivered two seminar talk on 1) Si-Ge Hetrojunction Bipolar technology & applications 2) Microwave characterization of transistors
11	1. Mr. Yogesh Raj, Chief Research Officer 2. Mr. Shailesh B, Research Scholar 3. Mr. Rupesh D Shrestha Research Scholar	Nepal Engineering College, Katmandu, Nepal	17-10-05	Department of Electrical Engineering	To know about our academic programmes and research activities
12	Prof. Paul Ziemann, Head, Solid State Physics,	University of Ulm, Germany	22-10-05	Microelectronics Lab.	Delivered a lecture on the Use of Gold nanoparticles for nanoscale lithography
13	Dr. Sathyenthra Kumar, Director (R&D)	DANA Corporation, USA	29-11-05	High Voltage Lab.	Delivered a lecture on Microwave centering of materials
14	Prof. Ozdemir Gol, Professor	University of South Australia	06-12-05	Dept. of Electrical Engineering	Informal discussion with students and faculty
15	Dr. Gene Frantz, TI Principal, Fellow & Business Development Manager	Texas Instruments	02-12-05	Dept. of Electrical Engineering	Gave Seminar on 3rd Wave of DSPs
16	Dr. Mohan Yegnashankaran Senior VP	National Semiconductor Corp, USA	16-12-05	Dept. of Electrical Engineering	Discussion with VLSI faculty
17	Dr. M.J. Bastiaans, Professor	Eindhoven Univ. of Tech., Eindhoven, The Netherlands	19.12.05 to 22.12.05	Dept. of Electrical Engineering	Gave Seminar to faculty & students and had technical discussions in Elec. Engg. Dept.
18	Prof. Sharadha, Professor	University of Western Australia	08-02-06	ESB 244	Seminar talk
19	Matthieu Bloch, Graduate student	Georgia Institute of Technology	10-02-06	Optics lab, CeWIT Lab	Research collaboration with Dr. A Thangaraj & Dr. Anil Prabhakar
20	Dr. Matthieu Bloch, Graduate student	Georgia Institute of Technology	28-02-06	Elec. Engg. Dept.	Interaction with faculty
21	Dr. H. L. Hartnagel, Professor, Fellow IEEE	Technical University, Darmstadt, Germany	14-02-06	Elec. Engg. Dept.	Gave Seminar on "Terahertz Signal Generation by Optical mixing LT-III-V MBE and Antenna Technology on the semiconductor

4.8.5 Other activities:

Date	Other activities
02-05-05	Other Activities Dr. Jhunjhunwala had a meeting with the Prime Minister of India regarding "Scientific Advisory Council" on 30.04.05 at, Bangalore.
02-05-05	Other Activities Dr. Jhunjhunwala had a meeting with the Prime Minister of India regarding "Scientific Advisory Council" on 30.04.05 at, Bangalore.

07-05-05	The internships for the third year B.Tech/DD students (EE) was done as a coordinated effort between EE department and the Placement Office with 100% success. More than 70 students who wanted help in placement were placed.
01-06-05	Dr. Jhunjhunwala had a meeting with the Prime Minister of India regarding "Scientific Advisory Council" on 01.06.05 at, Pune.
11.06.05	Awarded a patent: Patent Number 6,842,555 Method & Apparatus for optical switching with same side input and outputs inventors: Shanthi Bhattacharya and Jeff Swift.
13.06.05	Dr. Nagendra Krishnapura has joined as Assistant Professor
16-08-05	Dr. Shanthi Bhattacharya has been awarded a Patent No. 6 931 170B2 by the USPTO (US Patent Trade Office) for "Fiber attached optical devices with in-plane micro-machined mirrors". This patent has a number of inventors.
10-09-05	An Off-campus brainstorming meeting-cum-workshop was conducted on 10 th September 2005 for the technical and non-teaching staff of the department. Issues concerning the staff and the dept. were discussed.
03-09-05	A workshop on CDMA 2000 was organized on 3 rd and 4 th of September by the students as part of the Electrical Engineering Association activities. Speakers from Qualcomm, Inc. spoke on various aspects of CDMA 2000 including the physical layer, network architecture. The event was attended by more than 120 students from other colleges & 30 industry participants.
17-10-05	Ms. Swetha Hanuraj and Mr. Abhinav Jain, IV B.Tech. Students of our Department have been adjudged at the best outgoing interns for the lab in which they worked in GE India Technology Centre, Bangalore. They each received a certificate & a cash prize of Rs.1000/-.
12-11-05	A one-day off-campus retreat of Department Faculty was conducted to discuss long term goals of the Department, thrust areas of Research and Development, Faculty-student interaction, curriculum related matters etc.
11-13 th Dec. 2005	Department of Electrical Engineering, IIT Madras jointly with Madras Section of IEEE organized a three-day Conference, INDICON 2005 between 11 th and 13 th December 2005. Many faculty members of the department were involved in the program committee, organizing committee as well as giving tutorials, invited talks and chairing sessions.
25-02-06	Electrical Engg. Association hosted a workshop by members of Indian Linux Users Group (Chennai) on "GNU/Linux for Embedded Systems and VLSI". The 3 hour workshop was free of charge and open to all.

4.9 DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

4.9.1 Introduction:

The Department of Humanities and Social Sciences has existed from 1959, when the Institute was established. This was in tune with the recommendations of the Niranjana Sarkar Commission which designed the format of the IITs. In 1969, the Department introduced two Postgraduate Programmes (M.Tech) one each in Industrial Engineering and in Industrial Management. The Industrial Engineering Programme was merged with the Industrial Management Programme in 1981. The Department started an MBA programme replacing the M.Tech (IM) programme from the Academic year July 2001. In 2004, the Department of Humanities and Social Sciences was bifurcated and a new Department of Management Studies was created. The present Department of Humanities and Social Sciences continues to offer research programmes (Ph.D) in the various disciplines of Humanities and Social Sciences (and a masters' level research programme (MS)). The major areas in the Department are teaching and research:

Undergraduate courses in Humanities and Social Sciences.

M.S. Programme in Applied Economics, Applied Sociology, Business History, Environmental Management.

Ph.D Programme in British, American, Commonwealth Literature New Literatures in English, Linguistics, Sociolinguistics, Psycholinguistics, English Language Teaching (ELT), German Studies. Modern Indian History, Socio-Economic and Cultural Developments, Economics, Sociology, Science and Technology Policy Studies, Environment and Natural Resources Policy, Development Studies.

4.9.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	HS 867	Social and Political Reconstruction of Europe since 1945
2.	HS 868	Modern Political Thought
3.	HS 869	European political thought since 1945
4.	HS 870	Key concepts in Political sciences
5.	HS 871	The making of Modern Europe
6.	HS 872	German for the Researcher in the Humanities
7.	HS 876	Science, Technology and Ideas of National Development
8.	HS 877	English Language Teaching

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
Ph.D.	3	12	10	4	6	35

Names of Student/Scholar who attended Conferences/Workshops/Seminars and Symposia Abroad/in India:

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conference/Seminar / Symposia	Venue and Date
Conference/Seminar/Workshop:				
1.	Malini V.Shankar	Workshop: "Solid Waste Management and Water Pollution"	International Conference on Environment and Development- Developing Countries Perspective	JNU, New Delhi, 7 th - 8 th April 2005.
2.	Nalin Kumar C.	Paper Presentation: "SPS, Agricultural Exports and Development The State of the Debate"	International Conference on Environment and Development Developing Countries Perspective	JNU, New Delhi, 7 th - 8 th April 2005.
		Workshop: "Using Internet for Social Science Research"	Using Internet for Social Science Research conducted by Centre for Development Studies Trivandrum	Techno Park, Trivandrum, 28 th - 31 st March 2006.

3.	Pushkala Lakshmi Ratan	Participated in a Workshop	Workshop: Presentation of First Progress Report	Sandee Research Training, 20 th - 26 th July 2005.
4.	Geetha K.A.	Participated in a Workshop	"Theory / Praxis course"	IIT Guwahati, 18.6.2005 - 19.7.2005.
5.	Sunitha. S	Participation	Summer Research Conference in Finance	Indian School of Business, Hyderabad, 7 th - 9 th Aug. 2005.
		Workshop: "Using Internet for Social Science Research"	Using Internet for Social Science Research conducted by Centre for Development Studies Trivandrum	Techno Park, Trivandrum, 28 th - 31 st Mar. 2006.
6.	Prabheesh K.	Paper Presentation: "Determinants of Demand for Foreign Exchange Reserves for India".	Fifth Consortium of students in Management Research (COSMAR), International Conference held at Department of Management studies	Indian Institute of Science, Bangalore, 22 nd - 24 th Sept. 2005.
7.	Ramaswamy S.	Paper presentation: "Schlüsselkonzepte in Rudolf Kassners Philosophischer Anthropologie"	Symposium for German Studies in Indien 2005	New Delhi. 3 rd - 14 th Oct. 2005,
8.	Kanthimathi K.	Paper presentation: "Code Mixing and Language Cognition"	Platinum Jubilee International Conference of the Linguistic Society of India	University of Hyderabad, Hyderabad. 6 th - 8 th Dec. 2005.
9.	Rafia Kazim	Workshop: "What does the future hold?"	Education and Religion in India	Delhi School of Economics, New Delhi. 8 th - 31 st Dec. 2005.
10.	B. Eswara Rao	Paper presentation: "The written and the oral in early Tamil Society"	66 th Indian History Congress, Visva-bharati	Visva-Bharati, Santhiniketan, 26 th Jan - 8 th Feb. 2006.
11.	V. Rajesh	Paper presentation: "Notions of purity and pollution: Western medicine and its negotiations with the social body"	66 th Indian History Congress, Visva-bharati	Visva-Bharati, Santhiniketan 26 th Jan. - 8 th Feb. 2006.
12.	Sunitha. S & Prof. Malathy Duraisamy	Paper presentation: "Trends in Public Financing Technical Education in Kerala"	International Education Meet Sponsored by Kerala State Govt.	Hotel Le Meridian, Kochi. 4 th - 7 th Feb. 2006,
13.	Evangeline Sabina R.	Participation	(ELTAI) 37 th Conference	Ethiraj College for Women 10 th & 11 th Feb. 2006.
14.	Hannah Sanala Mohan	Participation	(ELTAI) 37 th Conference	Ethiraj College for Women 10 th & 11 th Feb. 2006.
15.	Lenin C.C	Participation: "National Seminar on Language, Culture and Social Identities"	National Seminar, organized by Univ. of Madras and Sponsored by IIAs, Shimla.	Department of Philosophy, University of Madras 6 th - 8 th , March 2006,
		Participation: "National Seminar on Philosophical Challenges to post Modernization"	National Seminar Sponsored by IIAs, Shimla.	Department of Philosophy, University of Hyderabad. 28 th - 30 th March 2006,

16.	Rekha G. Menon	Participation: "National Seminar on Language, Culture and Social Identities"	National Seminar, organized by Univ. of Madras and Sponsored by IIAs, Shimla.	Department of Philosophy, University of Madras. 6 th – 8 th , March 2006.
		Participation: "National Seminar on Philosophical Challenges to post Modernization"	National Seminar Sponsored by IIAs, Shimla.	Department of Philosophy, University of Hyderabad. 28 th - 30 th March 2006.

4.9.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization
Professors:	
V. R. Muraleedharan, Ph.D. (IIT Madras) [Head]	Health Economics, Public Policy, History of Healthcare in South India
Shreesh Chaudhary, Ph.D. (CIEFL Hyderabad)	Theoretical Linguistics, ELT & Need based courses in English
Evangeline Manickam, Ph.D. (Madras)	American Literature, English/ French
Malathy Duraisamy. Ph.D. (Madras)	Applied Economics, Econometrics, Labour Economics, Economics of Social Sector, Science and Technology
B. Subramanian, Ph.D. (Karnataka)	German Studies, Political Philosophy
Assistant Professors:	
Devaki Reddy, Ph.D. (JNU, New Delhi)	English, Sociolinguistics, ELT
S. Mohan, M. A. (Madras)	English, Science Fiction, Technical Report Writing, Business Communication, Indian Writing in English
Prema Rajagopalan, Ph.D. (IIT Kanpur)	Sociology of Science and Technology, Development, Women in Science and Technology
D. Veeraraghavan, Ph. D. (IIT Madras)	Social and Economic History, Labour movements
K. Srilata, Ph.D. (Central Univ., Hyderabad)	African Literature, Cultural Studies, Creative Writing.
John Bosco Lourdasamy, D.Phil (Oxon)	History of Science, Science, Technology and Society
Milind Brahme, Ph.D. (JNU, New Delhi)	German Studies, Comparative Literature and Modern Marati Literature
Debhasis Acharya, Ph.D. (Univ. of Hyderabad)	Macro and Monetary Economics, International Trade and Finance
N. Sreekumar, Ph.D. (Univ. of Hyderabad.)	Philosophy of Language, Hermeneutics, Indian Philosophy
Umakant Dash, Ph.D. (IIT Kanpur)	Energy Economics
Swarnalatha, Ph.D (Univ. of Madras)	Eco Philosophy, American Literature
Jyotirmaya Tripathy, Ph.D (IIT, Kharagpur)	Literary Theory, American Studies, Cultural Studies
Suresh Babu, Ph.D (JNU, New Delhi)	Industrial Economics, Applied Macro Economics
DAAD Visiting Faculty:	
Ms. Bettina Dinter	German

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

Sl. No.	Coordinator(s)	Title	Period
Symposia:			
1	Dr. N.Sreekumar	Symposium on Indian Aesthetics, in connection with the International Philosophy Day Celebrations, sponsored by ICPR, New Delhi	18 th Nov. 2005.
Workshop:			
1.	Prof. V.R. Muraleedharan	Organized a Workshop along with CMC Vellore and National Network of Organ Sharing "Human Organ Transplantation Policy: Challenges and Opportunities"	18 th Feb. 2006.
2.	Dr. Debashis Acharya	ECCH Case Method Workshop	29 th March –31st March 2006.

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.	Prof. V.R. Muraleedharan	"Tamil Nadu Equitable Growth Initiatives"	State Planning Commission, TN	18 th May 2005
		"Strategic Issues & Challenges in Health Management"	I.I.M Ahmedabad	24 th – 26 th Nov. 2005
		"Public- Private Partnership in Health Services"	University of Delhi in collaboration with Institute of Social Studies	22 nd & 23 rd Feb. 2006
		"Conducted a Workshop on Health Sector"	Orissa Government	24 th Feb. 2006
2.	Prof. D. Malathy	"Tamil Nadu Equitable Growth Initiatives"	State Planning Commission, TN	18.5.2005
3.	Dr. S. Devaki Reddy	"Incineration and Solid Waste Management"	IIT Madras	29 th – 30 th April 2005.
Seminar:				
1.	Prof. V.R. Muraleedharan	"Health and Nutrition in India"	Delhi School of Economics	24 th March 2006
2.	Dr. Milind Brahme	"The Canon of Austrian Literature in non-German speaking Countries"	University of Vienna, Austria	26 th – 29 th May 2005
		"International Werfel Scholars"	University of Vienna, Austria	Jun. to Dec. 2005 (one seminar session every month)
3.	Dr. N. Sreekumar	Critical Dimensions Of Western Philosophy.	Department of Philosophy, Govt. Brennen College, Thalassery, Kannur Dist. Kerala	29 th & 30 th June 2005.
		"Culture, language and Social Identities"	University of Madras	6 th - 8 th March 2006.
		"Philosophical Challenges to Postmodernism"	University of Hyderabad	28 th - 29 th March 2006.
Conference:				
1.	Dr. Prema Rajagopalan	XXXI All India Sociological Conference	Indian Sociological Society, Jammu	25 th – 27 th Oct. 2005

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1	Prof. V.R. Muraleedharan	"Improving Women's and Girl's Health in India"	United Nations University (Tokyo), Chennai - 3 rd Oct. 2005
		"Private Public partnership in Indian health care sector"	Annamalai University, Chidambaram - 30 th Jan. 2006
2.	Prof. B. Subramanian	Foundation Weimar Classics and Art Collections, "Wieland's Political Philosophy under the influence of Classical Liberalism".	Weimar, Germany 24 th May 2005
		"The Charkha of Technology and the Chakra of Politics, Gandhi's Hind Swaraj and the dialogue with Science and Technology in India".	Dept. of Philosophy, University of Dresden, 11 th June 2005
		"Alexander von Humboldt as Natural Scientist, Global versus Regional Ontologies".	Dept. of Physics, University of Oldenburg, 28 th June 2005,
		"The Technology Assessment Manual of the VDI, Traditional Knowledge Structures and Lessons in Policy Advocacy".	Dept. of Politics, Hochschule Bremen, 27 th June 2005.
		Inaugural Address on "The Politics of Shakespeare – The Problem of Power and its Articulation".	Dept. of English, Queen Mary's College, Madras, 3 rd Oct. 2005.

3.	Dr. S. Devaki Reddy	"Teaching Communication skills"	Vellammal Engineering College, Chennai, 30 th Aug. 2005.
4.	Dr. K. Srilata	"Creative Writing and Curriculum Development"	Stella Maris College, Chennai, 6 th Dec. 2005.
5.	Dr. Debhasis Acharya	"Bayssian VAR"	RBI Staff College, Chennai, 14 th Oct. 2005.
6.	Dr. John Bosco Lourdasamy	"J.C. Bose as a model of a global and Indian scientist"	International Union of Radio Science (URSI), Vigyan Bhavan, New Delhi, 23 rd Oct. 2005
7.	Dr. N.Sreekumar	"On The Politics of Difference and the Significant Other"	Government College, Thalasserry, Kannur Dist. Kerala, 18-3-2006
		"Phenomenology and Existentialism" (Series of Lectures for UGC)	EM ² RC, Anna University, Chennai, for the UGC Countrywide Classroom Programme August 2005- ongoing
8.	Dr. Milind Brahme	On Hermann Broch's novel "Die Verzauberung"	University of Klagenfurt, Austria, 22-11-2005

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Prof. V.R. Muraleedharan & Dr. Umakant Dash	London Health Policy Unit, London School of Hygiene and Tropical Medicine, UK	3 rd - 8 th July 2005.	Participated in the First annual meeting of a "Research Consortium",
	Prof. V.R. Muraleedharan and Dr Umakant Dash	International Health Economics Association, Barcelona Spain	11 th - 14 th July 2005.	Participated in the Fifth Conference of the International Health.
2.	Prof. V.R. Muraleedharan	Osaka City University, Japan	9 th -11 th Dec. 2005	Epidemic Diseases, Environmental Changes and Global Governance in the Historical Perspective.
3.	Prof. Evangeline Manickam	Youngstown, Ohio, USA	14 th June -17 th June 2005.	Participated in the 17th International Conference on Humour Studies
4.	Prof. D. Malathy	U.S.A Washington D.C	18 th -24 th Feb. 2006	Participated in the Annual HIV Prevention & Trials Network (HPTN) Meeting 2006
5.	Prof. B. Subramanian	Weimar, Germany	19 th May -21 st May 2005.	Participated as Member of International Goethe Society in International Congress, Weimar
		Berlin, Germany	30 th June 2005	Invited to participate in the Alexander von Humboldt-Foundation Round Table Conference
6.	Dr. S. Devaki Reddy	14 th World Congress of Applied Linguistics Univ. of Wisconsin, U.S.A.	24 th -29 th July 2005	Presented a paper and chaired a session.
7.	Dr. K. Srilata	International Conference on: "Arts and Humanities" Honolulu, Hawaii, U.S.A.	11 th -14 th Jan. 2006	Presented a Paper
8.	Dr. Umakant Dash	United Kingdom	4 th -7 th July 2005, 14 th -16 th July 2005	CREHS Consortium Meeting (Research Project)
		Spain	8 th - 13 th July 2005	To attend 5th IHEA Conference (International Health Economics Association)
		United Kingdom	26 th - 30 th Nov. 2005	CREHS Consortium Meeting (Research Project)
		South Africa	20 th - 25 th March 2006	CREHS Consortium Meeting (Research Project)

9.	Dr. Milind Brahme	Austria	May to December 2005	Franz Werfel Fellowship of the Austrian Government
10.	Dr. Debashis Acharya	Wits water University, Johannesburg, RSA.		Centre for Health Policy

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. B. Subramanian	Alexander von Humboldt-Foundation	Fellow-at-Large	2004
		International Rilke Society Berne		Since 1981
		International Goethe Society Weimar		Since 2005
		International Association for Germanic Studies Sorbonne/Paris		Since 1985
2.	Dr. Milind Brahme	Austrian Academic Exchange	Franz Werfel Fellowship (Post – doctoral research)	2005
ISTE/CSI & others:				
1.	Prof. Shreesh Chaudhary	Indian Institute of Advanced Study, Simla.	Visiting Fellow	2005
2.	Prof. B. Subramanian	Goethe Society of India	Vice-President	Elected 2003
3.	Dr Milind Brahme	Goethe Society of India	Joint Secretary	2005

4.9.4 Design and Development Activities:

Dr. S. Devaki Reddy. Made an Audio CD and Workbook in English, for IIT Madras

4.9.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lacs)	Co-ordinators
1.	Five-year research grant to a Consortium of seven Research Institutions from different countries to conduct research on Health Systems, Economics and Financing.	2006 - 2010	The Dept. for International Development (DFID, UK)	74.26	Coordinator from India: Prof. V.R. Muraleedharan, Dr. Umakant Dash, Dr. Debshasis Acharya

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1.	Prof. D. Malathy	Enrolment & retention of Girls in Elementary Education in Tamil Nadu: A Study of Two Districts.	SSA Tamil Nadu	1.5 Lacs
2.	Dr. Debashis Acharya	Public Perception of Security Industry: Centre.	Security Analysis, Chennai	1 Lacs

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

1. Prof. B. Subramanian. Fellow of the Foundation Weimar Classics and Art Collections (SWKK) May-Jul 2005.
2. Prof. B. Subramanian. Visiting Professor, Dept. of Philosophy, University of Dresden, June 2005.
3. Prof. B. Subramanian. Mentored four students of Political Management of Hochschule Bremen through their compulsory semester abroad program.
4. Prof B. Subramanian Lectured at Hochschule Bremen.
5. Prof. B. Subramanian. Dept. of Philosophy, University of Dresden, One Block Course on Philosophy of Technology.

Journal Editorial Boards:

Sl. No.	Name of faculty	Level	Journal
1.	Prof. B. Subramanian	Editorial Board,	Goethe Society of India (since 1997)
2.	Dr. Milind Brahme	Editorial Board	Yearbook of the Goethe Society of India

Research Publications:

Total No. of papers published in Refereed National Journal	:	08
Total No. of papers published in Refereed International Journals	:	05
Total No. of papers presented in National Conferences	:	15
Total No. of papers presented in International conferences	:	09

In Refereed National Journals:

1. Prof. S.C. Chaudhary. " Foreigner's Language and Foreign Languages in India", in Journal of English and Foreign Languages, No.34, Dec.2004, pp: 57-84.
2. Dr K. Sriyata " What Creative Writing is not: Some theoretical and Pedagogical Issues", in Journal of English and Foreign Languages, No.34, Dec.2004, pp: 1-11.
3. Dr. S. Devaki Reddy. (2005). Measuring a Learner's Progress in Language Learning. Journal of English and Foreign Languages, Number 35, June 2005, 1-8.
4. Dr. S. Devaki Reddy. (2005). Using a Dictionary to the Hilt. The Journal of English Language Teaching (India), Vol.43, No.4, 3-7.
5. Dr. S. Devaki Reddy & K. Kanthimathi. (2005). Code Mixing as a Indicator of the Dominant Status of English. IJOAL, Vol.31, No.1, 13-19.
6. Dr. UmaKant Dash. "The Demand for Medical Care in Rural India: A Case Study of Rajasthan", Icfai Journal of Applied Economics, Vol. IV, No.5, pp 63-82, 2005.
7. Dr. Umakant Dash, Internalization of Indian Food Retailing Sector", The Journal of Indian Management & Strategy, Vol 10, No.3, July-Sept 2005, pp 15-22. (Co-author Mridula Mishra).
8. Dr. N. Sreekumar. "Development and the Management of Knowledge: A Philosophical Appraisal", in Studies in Humanities and Social Sciences, Vol. XII, No. 1, Summer 2005.

In Refereed International Journals:

1. Prof. D. Malathy. & S.N. Rajesh Raj. ." Structure, Employment and Productivity Growth: Evidence from the Unorganised Manufacturing sector in India-1984/5 to 1994/5", Journal of International Business and Entrepreneurship, Vol.II, No.1, 2005.
2. Prof. V.R. Muraleedharan, Mr. S. Ram Prasad and Mr. Stephen Jan, "The trade in human organs in Tamil Nadu: the anatomy of regulatory failure" in Health Economics, Policy and Law (2006) 1: 41-57.
3. Prof. B. Subramanian. Wielands "Agathon" und die Anfänge der politischen Philosophie in Deutschland, in: Wieland-Studien V, ed. Klaus Manger and Wieland-Archiv Biberach, Heidelberg 2005, pp.111–126.
4. Prof. B. Subramanian. Zwischen Mass und Masslosigkeit, Zur physiognomischen Kulturphilosophie Rudolf Kassners, in: German Studies in India, Aktuelle Beiträge aus der indischen Germanistik, ed. Dorothea Jecht and Shaswati Mazumdar, Munich 2006, pp. 251-264.
5. Dr. Milind Brahme: Seekers of Truth. In: German Studies in India, Aktuelle Beiträge aus der indischen Germanistik, ed. Dorothea Jecht and Shaswati Mazumdar, Munich 2006.

National Conferences:

1. Prof. V.R. Muraleedharan. "Role of Private Sector in Health Care: the Experience of the National TB Control Programme in India", Strategic Issues & Challenges in Health Management I.I.M Ahmedabad, 24th- 26th November 2005.
2. Prof. S.C. Chaudhary. "Dynamics of Language in Times of Globalization", National Conference on Language and Globalization: Issues, Feb. 7-8 2006, Aligarh Muslim University, Aligarh.
3. Prof. S.C. Chaudhary. "Hindi, Urdu or Hindustani: Road to a National Language for India", Conference on Linguistics of Contemporary Hindi and Urdu, Mar. 29-31,2006, Aligarh Muslim University, Aligarh.
4. Prof B. Subramnainan UGC sponsored National Seminar on "Eco-Textuality and its Textual Echoes", jointly organized by Periyar Foundation Thekkady and St.Thomas College, Pala at Periyar Foundation, Thekkady; Inaugural Address: " The Charkha of Technology and the Chakra of Politics, Towards a New

Brihadaranyakaa" (1.3.06) and Key-Note Address: "Edmund Burke and Schiller on Aesthetics as Predictive Political Art" (2.3.06) 1.3. to 3.3.06.

5. Dr. Prema Rajagopalan." Future of Sociology in IITs and IIMs: Trends, Prospectus and Possibilities". I.I.T Bombay, 12th - 13th November.
6. Dr. S. Devaki Reddy. "Interpreting a Text: the word and the World" at the National Seminar on Text and Context, University of Mumbai, 16-18 November 2005.
7. Dr. Milind Brahme: On Hermann Broch's exile in the USA. Paper presented at the national seminar on "Europe exiled in America: Collaboration or Confrontation between Cultures", organized by Viswabharati, Santiniketan, West Bengal; 11 to 13 November 2005.
8. Dr. N. Sreekumar. "On Post-Nietzschean Philosophy", National Seminar on CRITICAL DIMENSIONS OF WESTERN PHILOSOPHY, organized by the Department of Philosophy, Govt. Brennen College, Thalassery, Kannur Dist. Kerala on 29th and 30th June, 2005.
9. Dr. N. Sreekumar. " Identity Politics and Democratic Politics" National Seminar on LANGUAGE, CULTURE AND SOCIAL IDENTITIES, organized by the Department of Philosophy, University of Madras, during 6th to 8th, March, 2006.
10. Dr. N. Sreekumar "Postmodern Discontents of Liberal Democracy", National Seminar on PHILOSOPHICAL CHALLENGES OF POSTMODERNISM, jointly organized by the Department of Philosophy, University of Hyderabad and Indian Institute of Advanced Study, Shimla, during 28th to 30th March 2006.
11. Prof. D. Malathy. & S.Sunitha: "Technical Education in Kerala: Issues and Concerns" in Proceedings of the National Seminar on Technical Manpower Planning in India, Vol II, 2005.
12. Prof. D. Malathy. & S. N. Rajesh Raj. "Employment, Investment and Valued Added in the Unorganised Manufacturing sector in the Pre and Post – Reform Period: An Analysis of Indian States", Proceedings of the Fourth Development conference of Southern ICSSR Institutions, March 2005.
13. Dr. S. Devaki Reddy. (2005). Discourse Analysis and Effective Technical Communication. Communicating at Work - Shifting Paradigms and Emerging Trends, Delhi: Jain Brothers, 95-108.
14. Dr. N. Sreekumar. "Rorty on Reason", Pradhan, R.C, (Ed) Language and Mind, New Delhi, Decent Books, 2005.
15. Dr. Milind Brahme. On Hermann Broch's exile in the USA. Paper presented at the national seminar on "Europe exiled in America: Collaboration or Confrontation between Cultures", organized by Viswabharati, Santiniketan, West Bengal; 11 to 13 November 2005. (Publication awaited)

International conferences:

1. Prof. V.R. Muraleedharan. "Role of NGOs in the implementation of the Revised National TB Control Programme in Tamil Nadu & Kerala", International Health Economics Association, Barcelona Spain, 11th to 14th July 2005.
2. Prof. V.R. Muraleedharan. "Regulatory failure: the case of Transplantation of Human Organs Act in India". International Health Economics Association, Barcelona Spain, 11th to 14th July 2005.
3. Prof. V.R. Muraleedharan. "Epidemic Diseases, Environmental Changes and Global Governance in the Historical Perspective", Osaka City University, Japan, 9th-11th December 2005
4. Prof. B. Subramanian. "International Conference on "Friedrich Schiller, the underestimated theoretician at Weimar; Schiller's Letters on Aesthetic Education as the Mirror of the Enlightened Prince", 23.6.05 to 25.6.05
5. Prof. B. Subramanian. XI. Congress of the International Association for Germanic Studies (IVG) held at the University of Sorbonne, Paris; Paper: "What has Benares to do with Paris? – Raja Rao's Topophilic Response to Rilke's Malte), Section 26: Paris as Cultural Metropolis, 26.8. - 4.9.05
6. Prof. B. Subramanian. Colloquium on German Studies in India jointly organized by the Dept. of German Studies, Free University of Berlin, DAAD and Alexander von Humboldt-Foundation, at Free University of Berlin, Paper: "Auch eine schöne Jejend...die indische Germanistik" ("Yet another nice place...German Studies in India"), 23.8.05.
7. Dr. UmaKanth Dash. International Seminar on "Strategic Issues and Challenges in Health Management" organized at IIM Ahmedabad during 24th -26th Nov 2005.
8. Dr. Milind Brahme. On Hermann Broch's Novel "Die Verzauberung", at the seminar of international Werfel Scholars at the University of Vienna; 07 December 2005.
9. Dr. N. Sreekumar. "On Ecological Consciousness: Beyond Deep Ecology", at the Joint International Seminar on "Bioethics" (Under the Auspices of UNESCO and EUBIOS ETHICS INSTITUTE), organised by the University of Madras, the Tamilnadu Dr. MGR Medical University, and the UNESCO during 26-27 January, 2006

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Prof. K.S.Radhakrishnan, Vice Chancellor, Sree Sankaracharya University of Sanskrit, Kalady, Kerala	18.11.2005	Inaugurate and Deliver Talk on "Indian Aesthetics: A Philosophical Appraisal of Natyasastra" at the "International Philosophy Day" on November 18, 2006"
2.	Prof. Jean-Claude Guedon, University of Montreal (Historian of Science & a Professor of Comparative Literature)	24.2.2006	"What can Open Access do to Science and Scholarship?"

4.9.6 Other Activities:

- Prof. V.R. Muraleedharan was made a member of the Ethics Committee of the Tuberculosis Research Centre, Chennai.
- Prof. V.R. Muraleedharan has been nominated as a member of the Board of Studies – MBA (Hospital and Health Systems Management) in Sri. Ramachandra Medical College and Research Institute, Chennai.
- Dr. N. Sreekumar has been nominated to the Board of Studies (Philosophy) of Kannur University, Kerala.
- Dr. Umakant Dash. PhD Guidance-"Performance Analysis of Retailing Sector in India in the Emerging Competitive Environment" by Mridula S Mishra on 4th Mar 2006 at Birla Institute of Technology & Sciences, Pilani.
- Dr. Milind Brahme mentored/guided a student from the Technical University of Chemnitz, Germany, in her fieldwork for a Masters' Thesis on student language at IIT Madras. March – April 2005.
- The refurbished Computer Facility Room (HSB 337, formerly known as Language Lab) was inaugurated by Prof. Bhaskar Ramamurthy, Dean (Planning) on 29.3.2006.

Research and Discussion Forum

- Dr Milind Brahme, delivered a speech on "Aesthetic Education and Kitsch", 8.4.2005.
- Mr Sashi Kumar, Chairman, "Media Media Development Foundation, Chennai "Delivered a Lecture on "The Ecology of the Mass Media" 10.08.2005.
- Prof. Shreesh Chaudhary, spoke on "Bihar: A Continuing Saga of Neglect", 21.10. 2005.
- Dr. V. Suresh, High Court Lawyer, Secretary PUCL, Advisor to Supreme Court on Food Security, Delivered a speech on" Human Rights: Changing Concepts in the 21st Century", 20.1.2006.
- Dr. Prof. Ashok Jhunjunwala. Department of Electrical Engineering, IIT Madras, spoke on "ICT and Rural Development ", 17.2.2006.
- Dr. A.R. Venkatachalapathy, Associate Professor, Madras Institute of Development Studies, Delivered a talk on "In the Tracks of the Mahatma: The making of a Documentary ", 31.3.2006.

4.10 DEPARTMENT OF MANAGEMENT STUDIES

4.10.1 Introduction:

The Department of Management Studies was established in April 2004 with its initial faculty consisting of those who taught Industrial Engineering and Management in the Department of Humanities and Social Sciences. On 2nd February 2006, the Department moved into its new premises, which were provided by the Institute, to facilitate intensifying, increasing and diversifying its teaching programmes, research, and other academic 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 ample indication of this. The young MBA Programme of the Department, commenced in July 2001, has quickly earned a fine reputation for its unique, business-relevant curriculum. The nature of summer and career placements offered to the students by globally and nationally reputed companies is a clear indication of the growing stature of the programme and the attention it is receiving.

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, and honours in their organizations. 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 uphold the core values of the Department while working for realizing its vision.

In the short time since its formation, the Department has thoroughly revised its MBA programme curriculum, expanded its research activities, relaunched 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 during the academic year 2005-06.

4.10.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	MS 761	Micro Finance
2.	MS 762	Finance and Sustainable Development
3.	MS 771	Consumer Analysis – I
4.	MS 772	Consumer analysis – II
5.	MS 685	Software Estimation – Methods and Models
6.	MS 621	Business Models
7.	MS 622	Competitive Intelligence & Strategies

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.B.A.	67	45	-	-	-	112
MS	2	7	2	6	2	19
Ph.D.	1	12	16	11	15	55
Total	70	64	18	17	17	186

Names of Students/Scholars who attended Conferences/Seminars and Symposia Abroad/India:

Sl.No	Name of the student	Programme	Name of the Conference / Seminar/Symposia	Date & Venue
1.	R. Venkatesh	International Conference	The Information Resources Management Association (IRMA)	May 2005, San Diego, USA
2.	Mayuri Duggirala	Seminar Talk	'Total Quality Management in Health Care'	June, 2005 - Madurai
3.	Lata Dyaram	Seminar Talk	'Team Heterogeneity and its relationship with work outcomes'	July 2005
4.	Sony Thomas	Seminar Talk	"Dynamic Interaction and Causal Relationship among Spot Market Volatility, Hedging, Speculation and Arbitrage : Evidence from Indian Futures Market"	July 2005

5.	Manish Kumar	Paper Presentation	6th International Conference on Operations and Quantitative Management - Indian Institute of Management, Indore	August 05 - Indore
6.	A. Suhanya	Paper Presentation	National Conference on Global Competitiveness, "Innovation in Performance Management Systems : A Balanced Approach"	March , 2006 – Indian Institute of Management, Kozhikode
7.	Manish Kumar (with Dr. M. Thenmozhi)	2 nd Research Conference on India's Financial System by IFMR/Goa Institute of Management	"Forecasting Stock Index Return and Trading Strategy Using Hybrid ARIMA-Neural Network Model"	July , 2005 - Cidade De, Goa
8.	T. Godwin (with Dr Ram Gopalan and Prof. T.T. Narendran)	1 st International Conference on Transportation Logistics: T-LOG2005, National University of Singapore	"A Petri Net Based Simulation Model for Strategic Planning Of Freight Train Operations"	July , 20005 - Singapore
9..	Manish Kumar	Paper Presentation	6 th International Conference on Operations and Quantitative Management	August 05 - Indian Institute of Management, Indore
10..	Manish Kumar	COSMAR-05	International Conference of the 5 th Consortium of Students in Management Research (COSMAR-05)	September , 2005 Dept . of Management Studies, Indian Institute of Science, Bangalore
11.	S. Radha	COSMAR-05	International Conference of the 5 th Consortium of Students in Management Research (COSMAR-05)	September, 2005 Dept . of Management Studies, Indian Institute of Science, Bangalore
12.	Neera Katwal	COSMAR-05	International Conference of the 5 th Consortium of Students in Management Research (COSMAR-05)	September , 2005 Dept . of Management Studies, Indian Institute of Science, Bangalore
13.	P. Arun Prasad,	International Conference	'International Academy of Business and Economics 2005 (IABE 2005)	October 2005 – Las Vegas, USA
14.	Lata Dyaram	International Conference	'International Academy of Business and Economics 2005 (IABE 2005)	October 2005 – Los Vegas, USA
15.	Chandra Sunil Kumar, (with Dr. T T Narendran)	9 th Annual International Conference	The Society of Operations Management	December 2005 - Central University, Pondicherry.
16.	S. Suresh, (with Dr M Thenmozhi and Dr P Vijayaraghavan).	9 th Capital Markets Conference	Indian Institute of Capital Markets, Mumbai.	December 2005 - Mumbai.
17.	Manish Kumar, Ph D Scholar Guide : Dr M Thenmozhi.	9 th Capital Markets Conference	Indian Institute of Capital Markets, Mumbai.	December 2005 - Mumbai.
18.	Sharad Panwar, MS Scholar Guide: Dr R Madhumathi.	9 th Capital Markets Conference	Indian Institute of Capital Markets, Mumbai.	December 2005 - Mumbai.

19.	Madhuri Malhotra Guide(s) : Dr M Thenmozhi and Dr. G. Arunkumar.	International Conference on Business Finance	ICFAI Business School, Hyderabad and Philadelphia University, USA	December 2005. Hyderabad.
20..	S. Suresh, Ph D Scholar Guide(s) : Dr M Thenmozhi and Dr. P Vijayaraghavan.	International Conference on Business Finance	ICFAI Business School, Hyderabad and Philadelphia University, USA	December 2005. Hyderabad.
21.	Lawrence Harold Guide : Dr. M. Thenmozhi.	International Conference on Business Finance	ICFAI Business School, Hyderabad and Philadelphia University, USA	December 2005 - Hyderabad.
22.	Sudhir Ryan Daniel Guide: Prof. C. Rajendran	Annual Conference	Operations Research Society of India , at IISc, Bangalore (MN Gopalan Prize for Best Ph D Thesis)	December 2005 - Bangalore
23	V. Vijayalakshmi, Ph.D. Scholar	International Conference	International HR Confluence 2006 – Enabling Execution – Global Agenda (Paper titled “Emotional Contagion and Team Effectiveness: A Conceptual Framework”)	February , 2006 – IISc Bangalore
24	J. Suresh, MS Scholar	National Conference	National Conference on Design for Product Lifecycle (Paper titled “Study of Product Lifecycle Management Soft- ware Implementation in Industry”	February 2006 - BITS, Pilani
25	Mrs. Lakshmi Kumar, Ph. D. (Ext.)	42 nd Annual Conference	Indian Econometric Society (TIES) – presented a paper “Total Factor Productivity Growth in Indian Banking : Innovation Vs. Catch-up Effect”	January , 2006 – Punjab School of Economics, Guru Nanak Dev University, Amritsar

4.10.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization

Professor:

L.S. Ganesh, (Head]	Systems Thinking and Applications, Project Management, Technology and Knowledge Management
Anantharaman R N Jayachandran S	Organizational Behaviour, Human Resources Management, Industrial Relations Marketing Management
Kamalanabhan T J	Industrial Psychology, Organizational Behaviour, Human Resources Management
Narendran T T	Operations Management, Cellular Manufacturing, Logistics and Supply Chain Management
Rajendran C Srinivasan G	Production and Operations Management, Scheduling, Computer Simulation Operations Research, Supply Chain Management, Cellular Manufacturing
Vijayaraghavan P (TTK Chair Professor)	Strategic Marketing, Brand Management, Advertising and Sales Promotion

Associate Professor:

Thenmozhi M	Financial Management, Strategic Management, Computational Finance
Ramasubramanian G	Customer Relationship Management, Service Operations, Logistics and Supply Chain Management

Assistant Professor:

Arun Kumar G	Market Mocostructures, IPOs, Joint ventures and multinational business
Bharadwaj S	Consumer Behaviour, International Marketing, Brand Management
Madhmathi R	Financial Management and Accounting, Working Capital Management, Forex Research
Sanghamitra B	Organizational Behaviour, Human resources Management

Thillai Rajan A.

Financial Management and Corporate Finance, Venture Capital and Entrepreneurial Finance, Infrastructure and Project Finance, Business Strategy of Technology Enterprises

Visiting Faculty:

Raghunathan S

Information Systems, IT Security, It Economics

Prakash Sai L.

Strategic Management, Business Models, IT Outsourcing and IT Strategic Planning Technology Management

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.	T.J. Kamalanabhan & M. Thenmozhi	Skill-cum-Technology Upgradation Programme	"Strategy Formulation and Change Management"	July, 2005, Department of Management Studies, IIT Madras
2.	Sanghamitra Bhattacharyya	Management Development Programme (for MRF Ltd)	"Developing Thought Leaders for Tomorrow"	November, 2005, Department of Management Studies, IIT Madras

3.	T J Kamalanabhan and L Prakash Sai.	Short-term Course	"Skills and Competencies of Successful Entrepreneurs"	December 2005, Dept. of Management Studies, IIT Madras
4.	T.J. Kamalanabhan	Short Term Programme	'Skill Building for Textile Entrepreneurs'	March 2006, Dept. of Management Studies, IIT Madras
5.	L. S. Ganesh	Seminar	"Infrastructure Management"	March 2006 - 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
Conference:				
1.	Sanghamitra Bhattacharyya	"Entrepreneurship Case Teaching"	Indian School of Business, Hyderabad	April, 2005
2.	R. Madhumathi	"Project and Infrastructure Finance"	The Institute for Financial Management and Research, Chennai	April 2005
3.	G. Arun Kumar	"Project and Infrastructure Finance"	The Institute for Financial Management and Research	April 2005 – Chennai
4.	R. Madhumathi	"Risk Return Analysis of Infrastructure Projects in India"	NEBBA International Conference	Southern University, Connecticut, USA - June 2005
5.	G. Arun Kumar	"Creative Entrepreneurship: Value Creation" –	Asian Productivity Organization	July 2005 - Taipei, Republic of China
6.	M. Thenmozhi, G. Arun Kumar	Sixth International Conference on Operations and Quantitative Management	Indian Institute of Management, Indore.	August, 2005. Indore
7.	C Rajendran	IX Annual Conference	Society of Operations Management. Pondichery	December 2005. - Pondichery
8.	G Srinivasan	IX Annual Conference	Society of Operations Management. Pondichery	December 2005 - Pondichery
9.	C. Rajendran	Annual Conference	Operations Research Society of India (ICORD). I I Sc, Bangalore	December 2005. – Bangalore
10.	G. Arun Kumar	Conference	Beyster Institute, University of California, San Diego	December 2005 – San Diego, USA

Special Lectures delivered by the faculty in other institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	T.T. Narendran (invited technical presentation)	"Transport Modeling Research at IIT Madras" at a Workshop on 'Rail Related Modeling Simulation & Research'	Long Range Decision Support Systems Group (Railway Board), Vadodara – April, 2005
2.	L. S. Ganesh and G. Srinivasan	Workshop on "Institutional Planning and Development" offered to teachers	Peeveeyes School, Nilambur, Kerala. June 2005
3.	L. S. Ganesh	Workshop on "Projects for School Development" offered to teachers	Vanavani School, IIT Madras. June, 2005
4.	M. Thenmozhi	"Working Capital Management and Debt Securitization" delivered for a Training Programme on "Finance for Non-Profit Making Organizations"	Anna Institute of Management, Chennai. - June , 2005
5.	T. T. Narendran	Invited Lecture on 'Future of Supply Chain Management'	TVS Logistics Limited, Chennai – August 2005
6.	L.S. Ganesh	"Why Technology needs to be managed ?"	Tata Consultancy Services, Chennai – August 2005
7.	L.S. Ganesh	"Systems Thinking and Problem Solving"	iGATE, Chennai – August 2005
8.	P. Vijayaraghavan	"Qualitative Research in Retailing" under the aegis of The Madras Psychology Society Endowment Lectures 2005-06	Department of Psychology, University of Madras. September, 2005.
9.	L. S. Ganesh	"The Researcher's Journey"	AICTE-sponsored National Workshop, Adhiaman College of Engineering, Hosur. - Oct., 2005.
10.	L. S. Ganesh	Keynote Address on "Developing Strategic Competencies for Innovation" to the DSIR's 19th National Conference on R&D in Industry	FICCI Auditorium, New Delhi - November., 2005.
11.	T. J. Kamalanabhan	Keynote address on "Entrepreneurship Research in the Indian Context" at the International Conference on "Business Management & Entrepreneurship Advancement"	Kuala Lumpur, Malaysia – January , 2006
12.	L. S. Ganesh	Keynote Address on "Technology Forecasting for Globalization" in the National Conference on Technology Forecasting	Coimbatore Institute of Technology, - Jan 2006
13.	T. T. Narendran	Invited Lecture – Workshop on Research Methodology for teachers of Engineering Colleges all over Kerala	College of Engineering, Trivandrum, Jan 2006
14.	T. J. Kamalanabhan	Invited Lecture – Workshop on Research Methodology for teachers of Engineering Colleges all over Kerala	College of Engineering, Trivandrum, Jan 2006
15.	R. Madhumathi	"Valuation Issues in Infrastructure Funding" at the National Seminar on Infrastructure Finance, The prime Mover for Vision 2020	IFCAI Business School, Chennai – January 2006
16.	L.S. Ganesh and L. Prakash Sai	"Technology, Business Models and Competitiveness"	Lakshmi Machine Works, Coimbatore – February 2006
17.	L.S. Ganesh	Keynote Address : National Seminar on Intellectual Capital.	GSS Jain College, Chennai – February 2006
18.	T.J. Kamalanabhan	'Human Resources Management'	Indo American College, Cheyyar, Vellore – February 2006
19.	L.S. Ganesh	"Introduction to Knowledge Management"	H A L, Bangalore –March, 2006
20.	R. Madhumathi	"WTO and Services"	PG and Research – Department of Economics, AM Jain College, Meenambakkam, Chennai-Mar 2006

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	G. Arun Kumar	Taipei, Republic of China	July 2005	Study Meeting : "Creative Entrepreneurship : Value Creation" – Asian Productivity Organization
2.	G. Srinivasan	Government of Sri Lanka	July 2005	Delivered two lectures on "Quality in Education" for Principals and Teachers, at the invitation of the Ministry of Education
3.	G. Arun Kumar	U S A	March, 2006	10th Annual Conference on "Strengthening the Fabric - Building capacity for Innovation and Entrepreneurship", held at Oregon, USA
4.	Sanghamitra Bhattacharyya	U S A	March, 2006	"Curriculum Development Workshop" for Technology Entrepreneurship Education, organized by Intel Higher Education and University of California, USA

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	C. Rajendran and R. N. Anantharaman	Citation for "TOP 50 MOST DOWNLOADED ARTICLES" across all disciplines and fields for three consecutive years - since the beginning of 2003 upto 2005	Emerald Literati Network	Their research paper, "The Relationship between Service Quality and Customer Satisfaction – a factor Specific Approach", published in the Journal of Services Marketing, Vol.16 No.4, 2002	October 2005

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	L.S. Ganesh	"Sustainability and Human Settlements"	SAGE Publications	(with Dr. Koshy Varghese and Dr. M. Monto)
2.	Debashish Ghosh	"The Voyage of Excellence – The Ascent of 21 Women Leaders of India Inc."	New Delhi	----

4.10.4 Research and Consultancy:

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1.	C. Rajendran & G. Srinivasan	Production Planning & Forecasting for cutting tools business	Tools	1.25

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1.	C. Rajendran	Automating self-tuning of a local search based dynamic scheduler implementation for mobile resources	Software	0.6

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

The University of Kalsruhe and Technical University of Munich under DAAD Student Exchange Programme.

Journal Editorial Boards:

Sl. No.	Name of faculty	Level	Journal
1.	T. T. Narendran	Member, Editorial Board	International Journal of Industrial and Systems Engineering - Interscience Publishers, Geneva
2.	C. Rajendran	Member of the Editorial Board	International Journal of Agile Systems and Management by Interscience Publishers, Geneva

Research Publications:

Total No. of papers published in Refereed National Journals ... 3
 Total No. of papers published in Refereed International Journals ... 9

In Refereed National Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	Lata Dyaram, Research Scholar	"Unearthed: The Other Side of Group Cohesiveness"	The Journal of Social Sciences, New Delhi – Vol. 10, Number 3	T.J. Kamalanabhan
2.	Mukesh Kumar Barua Research Scholar	"Integration of ERP CRM Systems in Supply Chain Management"	SRM Management Digest – Vol. 3 – Page 21	P. Vijayaraghavan and T.T. Narendran
3.	Lata Dyaram, Research Scholar	"HR Profession in Transition"	The ICFAI Journal of Organizational Behaviour – Vol. IV – No.2	T.J. Kamalanabhan

In Refereed International Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	K. Ganesh	"CLOSE: a heuristic to solve a precedence-constrained traveling salesman problem with delivery and pickup"	International Journal of Services Operations Management, 2005, Vol. 1, No.4 pp. 320 – 343.	T.T. Narendran
2.	K. Ganesh	"Optimization of Continuous-time Production Planning using Hybrid Genetic Algorithms and Simulated Annealing"	International Journal of Advanced Manufacturing Technology, UK – Vol.26 Page 148-154, 2005	-----
3.	TJ Kamalanabhan	'A Study of Life Situation Antecedence, Personality and Motivational Patters of Small Scale Women Entrepreneurs'	International Journal of Applied Entrepreneurship, Vol.2 – Issue 1, by the International Management Journals, U.K.	
4.	C. Rajendran	"A fast ant-colony algorithm for single-machine scheduling to minimize the sum of weighted tardiness of jobs"	Journal of the Operational Research Society, Vol. 56, No. 8, 947-953 (2005).	Holthaus, O.
5.	C. Rajendran	"A simulation study of dynamic order-up-to policies in a supply chain with non-stationary demand and information sharing"	International Journal of Advanced Manufacturing Technology, Vol. 25, 1029-1045 (2005).	A.M. Reddy
6.	C. Rajendran	"A multi-objective simulated-annealing algorithm for scheduling in flowshops to minimize the makespan and total flowtime of jobs"	European Journal of Operational Research, Vol. 167, 772-795 (2005).	Varadarajan, T.K
7.	C. Rajendran	"Scheduling in dynamic assembly job-shops to minimize the sum of weighted earliness, weighted tardiness and weighted flowtime of jobs"	Computers & Industrial Engineering, Vol. 49, 463-503 (2005).	Thiagarajan, S.,

8.	C. Rajendran	"A multi-objective genetic algorithm for scheduling in flow shops to minimize the makespan and total flowtime of jobs"	International Journal of Advanced Manufacturing Technology, Vol. 27, 804-815 (2006).	Pasupathy, T., and Suresh, R.K
9.	C. Rajendran	"An ant-colony optimization algorithm for minimizing the completion-time variance of jobs in flowshops"	International Journal of Production Economics, Vol. 101, 259-272 (2006).	Y. Gajpal

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Ms Mythili Chandrasekar, Vice President (Account Planning), J. Walter Thomson India	April 2nd, 2005	Talk on 'Strategic Planning in Advertising' to MBA and Ph D Scholars.
2.	Mr. T. Chandramohan, CEO, Bharat Planet Consultancy Services	April 5th, 2005	Interacting with students of MBA and Research Scholars on 'e-Business Strategies'
3.	Mr. R. Seshadri, Director, TAKE Solutions, Chennai	April 5th, 2005	Guest Lecture on "Demystifying VAT" for MBA students and Research Scholars
4.	Mr. Badri Seshadri, Founder of CRICINFO	April 14, 2005	Guest Lecture on 'e-Business Strategy'
5.	Mr. B. Santhanam, CEO & M.D., Saint Gobain Glass India Ltd	April 15, 2005	Interacted with MBA/Research Scholars for the programme 'CEO CONNECT' organized by the Department
6.	Prof. Gabrielle Abermann and team, Salzburg University, Austria	8th August, 2005	Academic Co-operation between two Institutions.
7.	Mr. Gautam Mahajan (Distinguished Alumni Award nominee)	11th August, 2005	Seminar to MBA students and Research Scholars
8.	Mr. C. K. Ranganathan Chairman and Managing Director, Cavin Kare Limited, Chennai	12th August, 2005	Invited to CEO CONNECT for MBA Students.
9.	Mr. Abhay Gupte, Managing Director, EDS Technologies, Tidel Park, Chennai	16th September 2005	To deliver lecture at 'CEO CONNECT' Programme for MBA Students.
10.	Mr. Subrata Mitra, Managing Partner, Erasmic Incubation Fund, Bangalore	Nov 2005	Interaction with students and faculty
11.	Mr Mike Walker, Chief Technology Officer & Executive Vice President, @Road, Fremont, USA	Nov 2005	Interaction with students and faculty
12.	Mr. Horst Draudt, Director (Asia & Middle East) Transportation, Dornier Consulting, Abu Dhabi, UAE	Nov 2005	Interaction with students and faculty members
13.	Mr. Tim Cloonan, Head of Marketing, CollabNet, USA	Nov 2005	Guest lecture for MBA students and research scholars
14.	Mr. Ranganathan Vijayaraghavan, Lead Consultant, Enterprises Intelligence Lab, Satyam Computer Services Ltd, Chennai	Nov 2005	Discussions with faculty members for mutual co-operation in academic/ research areas
15.	3-Member senior management delegation from Tata Consultancy Services, Mr. D.P. Nambiar (Head, HR Sourcing), Mr Satish Varma (Head, Insurance Solutions Centre) and Mr K. Ganesan (Senior General Manager – HR)	Nov 2005	Discussions with faculty members for mutual co-operation in academic/ research areas
16.	Dr. Renu Bapna, Scientist, Technology Development Board, Ministry of Science and Technology, New Delhi	Nov 2005	Discussions with Faculty and students of MS (Entrepreneurship) on entrepreneurship initiatives between IITM and the Ministry.
17.	Mr Woon-Yong Lee, Director/ India Institute and Professor, College of Foreign Languages & Business, Youngsan University, Yangson, Korea and team.	14 Dec 2005	Interaction with students and faculty

18.	Professor Ramayya Krishnan, Heinz School of Public Policy and Management, Carnegie Mellon University (an IIT Madras Alumnus)	20 Dec 2005	Interaction with students and faculty
19.	Team from Colgate-Palmolive, Corning, BT, Wal-Mart, etc. from Tuck School of Business, Dartmouth, USA	16th January 2006	Visiting IIT Madras under Global Leadership 2020 Programme
20.	Mr. B. Muthuraman, Managing Director, Tata Steel	20th January 2006	Delivered a lecture at "CEO Connect" organized by MBA Students
21.	Mr. Anantha Agasthya, Dean – HAL Management Academy, Bangalore	24th January 2006	Interaction with faculty and Research Scholars
22.	Dr. Surinder Kapur, Chairman & Managing Director, Sona Group, New Delhi	9th February 2006	Delivered a lecture at "CEO Connect" organized by MBA Students
23.	Team from the Ministries of Civil Service Training, Finance, Commerce, Agriculture of the Govts. of Afganisthan, Barbados, Kenya, Peru and Russia.	15th February 2006	Interaction with faculty and Research Scholars

4.10.5 Other Activities:

1. Prof. L.S. Ganesh was invited to serve as the Chairman of the meeting of the National-level Selection Committee (Management) to recommend teacher-researchers in India for the award of Fulbright scholarships 2006.
2. Prof. C. Rajendran and Prof. R. N. Anantharaman received a citation from Emerald Literati Network stating that their research paper, "The Relationship between Service Quality and Customer Satisfaction – a factor Specific Approach", published in the Journal of Services Marketing, Vol.16 No.4, 2002, has remained in the "TOP 50 MOST DOWNLOADED ARTICLES" across all disciplines and fields for three consecutive years. In fact, the paper has been in the TOP 10 since the beginning of 2003.
3. Prof. T. T. Narendran has been invited to serve as an 'Independent Director' on the Board of Directors of M/s California Software Co Ltd (CALSOFT), Chennai, effective 30th September 2005.
4. Mr Debashish Ghosh, MBA student (Class of 2005) has written a book titled 'The Voyage of Excellence – The Ascent of 21 Women Leaders of India Inc.' which has a special Foreword by Mr N R Narayana Murthy of Infosys, apart from glowing reviews by acclaimed Press and leading Corporate Captains.
5. Small Industries Management Assistants Programme (SIMAP) conducted by the department, in association with SIDBI, IEMA, TANSTIA-FNF commenced on 16th May 2005 for 14 weeks.
6. K. Balaraju, M.S. (Entrepreneurship) Scholar, won the First Prize in *The Innovation Challenge* at the e-SUMMIT '05 Organized by The e-Cell of IIT Bombay during October 22 – 23, 2005.
7. Professor S. Jayachandran has been chosen for the Bharat Jyoti Award instituted by the India International Friendship Society (IIFS), New Delhi. The awards ceremony will be held in January 2006 in Hyderabad.
8. MBA Students (Class of 2007) Mr.Vivek Kurup and Mr.Teja Pratap were the Runners-up in the Debate and Mr.Prashant Janawade, Mr.Aviral Gupta and Mr.Srivatsan were semi-finalists in the Business Event 'ACUMEN 2005' organized by Tata Consultancy Services – Business Today at Indian Institute of Management, Bangalore.
9. Professor L. S. Ganesh was invited to serve as a judge in IDEAS 2005, the Annual National Industrial Innovation Competition held by Bharat Petroleum Corporation Limited.
10. MBA Students ((Krishna Sricharan (2006 Batch), Prashant Janawade (2007 Batch) – Runners-up won a cash prize of Rs.30,000 at the Chennai Regional Round of "Tata Crucible Quiz 2006" organized by Tata Sons on 08/02/06. Sujeet Joshi and Praveen Kakkan (of 2007 Batch) - 4th Position

4.11 DEPARTMENT OF MATHEMATICS

4.11.1 Introduction:

The Department of Mathematics was established in 1959 along with the Institute. It offers M.Sc. programme in Mathematics, M.Tech. programme 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 major areas of research of the department are:

- | | |
|--|---|
| <ol style="list-style-type: none"> 1. Algebra and its applications 2. Applied Probability 3. Approximation Theory 4. Computational Fluid Dynamics 5. Continuum Mechanics 6. Coding Theory 7. Complex Analysis 8. Data Networks 9. Differential Equations 10. Inverse and Ill- Posed problems 11. Fluid Mechanics 12. Functional Analysis 13. Fuzzy Sets and Systems 14. Graph Theory and Combinatorics | <ol style="list-style-type: none"> 15. Harmonic Analysis 16. Inventory and Reliability 17. Mathematical logic & Applications 18. Mathematical Modelling 19. Mathematical Physics 20. Nonlinear Analysis 21. Numerical Analysis 22. Operations Research 23. Operator Theory 24. Queueing Theory 25. Statistical Quality Control 26. Stochastic Processes and their applications 27. Theoretical Computer Science 28. Wavelets and their applications |
|--|---|

4.11.2. Academic Programmes:

New Courses Introduced:

S.No.	Course No.	Title
1.	MA105	Calculus (for dual degree in ED)
2.	MA106	Solutions of Ordinary differential Equations

New Discipline Introduced: Minor Stream in "Theoretical Computer Science

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.	32	32	-	-	-	64
M.Tech.	9	6	2	-	-	17
Ph.D.	2	9	16	10	13	50
Total	43	47	18	10	13	131

Names of Students/Scholars who attended Conferences/Workshops/Seminars and Symposia abroad/India:

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conference/Seminar/ Symposia	Date and Venue
Conferences :				
1.	Mr.P. Ravi Shankar	Ph.D	Conference on "Topics in Functional and Numerical Analysis"	December 7-9,2005 IIT Bombay
2.	Mr. G. Ramesh			
3.	Mr. D. Sukumar			
4.	Mr. D. Venku Naidu	Ph.D	Conference on "Recent Advances in Operator Theory and Operator Algebras III"	December 12-22, 2005 ISI Bangalore & IISc. Bangalore
5.	Mr. Bappaditya Bhowmik	Ph.D	International Conference on "Geometric Function Theory, Special Functions and Application" (ICGFT)	January 2 – 5, 2006 Pondicherry
6.	Mr. Vasudevarao Allu			
7.	Mr. Swadesh Kumar Sahoo			
8.	Dr. P. Vasundhra	PDF		

Seminars :				
1.	Mr. Moon Kumar Chetry	Ph.D.	National Seminar on Recent Trends Developments in Mathematics and its Applications (RDMA – 2005)	Jan. 20 -22, 2005 University of North Bengal, Darjeeling West Bengal-734 430
Workshops:				
1.	Mr. R.S. Selvaraj	Ph.D.	Refresher Course in Mathematics – Cryptology	May 2 – 14, 2005, Cochin University of Science and Technology, Cochin, Kerala
2.	Mr. Moon Kumar Chetry		Workshop on " Scientific Computation, Numerical Analysis and Applications"	June 4 – 15, 2005 Indian Institute of Science, Bangalore
3.	Mr. K. Selvanayagam		"Instructional School on Computational PDEs"	June 5-24, 2005 Department of Mathematics, IIT Bombay, Powai, Mumbai
4.	Mr. Manoj Kumar Yadav		Summer School on "Stochastic Processes"	July 4 – 16, 2005 Indian Statistical Institute, Bangalore
5.	Mr. V.B. Surya Prasath		Workshop on "Perspectives in Mathematics" on the occasion of Platinum Jubilee of the National Academy of Science"	September 30-October 1, 2005 Allahabad
6.	Mr. R. Sudhesh		9 th discussion meeting on "Harmonic Analysis"	October 17-20, 2005 HRI, Allahabad
7.	Mr. Swadesh Kumar Sahoo		First National Workshop on "Techniques in Applied Mathematics"	October 18-28,2005 University of Calcutta, Calcutta
8.	S. Sivananathan		"Algebra and Coding Theory"	Npvenber 21- December 8, 2005 I.I.Sc. Bangalore
9.	Mr. Venku Naidu Dogga		Instructional Workshop on "Convex Analysis, Optimization and Applications"	December 5-21,2005 IIT Kanpur
10.	Mr. E. Natarajan		"Workshop on Annual Foundation School – I"	December 5-31,2005 Bhaskarcharya Pratishthana, Pune
11.	Mr. R. Raj Kumar		National Workshop on "Decomposition of Graphs and Product Graphs"	January 3 – 7, 2006 Annamalai University Annamalai Nagar
12.	Mr. A. Chandra Shekaran		National Workshop on "Matrices and Applications"	January 5 – 12, 2006 Indian Statistical Institute, Hyderabad
13.	Mr. S. Suresh Kumar		Golden Jubilee Workshop and Conference on "Analysis and Applications"	March 14 – 23, 2006 Indian Institute of Science, Bangalore
14.	Mr. V.B. Surya Prasath			
15.	Ms. R. Indhumathi			
16.	Ms. S. Lavanya			
17.	Mr. K. Paramasivam			
18.	Mr. Kurmayya Tamminana			
19.	Mr. V. Murugan			
20.	Mr. V. Antony Vijesh			
21.	Mr. Sachindranath Jayaraman			
22.	Mr. A. Chandrashekaran			
23.	Mr. Vasudevarao Allu			
24.	Mr. Jitendriya Swain			
25.	Mr. Venku Naidu Dogga			
26.	Mr. P. Ravi Shankar			

27.	Mr. S. Sivananthan	Ph.D.	Golden Jubilee Workshop and Conference on "Analysis and Applications"	March 14 – 23, 2006 Indian Institute of Science, Bangalore
28.	Ms. R. Indhumathi		International Instructional Workshop on "Convexity in Discrete structures"	March 21 – 31, 2006
29.	Ms. S. Lavanya			Kovalam, Trivandrum, Kerala

4.11.3. Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization

Professors:

A. Avudainayagam, Ph.D. (IIT Madras)
S. A. Choudum, Ph.D. (IIT Madras) [Head]
S. Kalpakam, Ph.D. (IIT Madras)

Fluid Mechanics, Wavelet applications
Graph Theory, Combinatorics and Discrete Mathematics
Applied Probability and Stochastic Processes, Operations Research

S. H. Kulkarni, Ph.D. (IIT Bombay)
P. R. Parthasarathy, Ph.D. (Annamalai)

Functional Analysis and Numerical Analysis
Applied Probability and Stochastic Models, Mathematical Ecology, Operations Research

P. V. Subrahmanyam, Ph.D. (IIT Madras)
M. Thamban Nair, Ph.D. (IIT Bombay)
PDF (Univ. Grenoble)

Analysis, Fuzzy sets, Functional Equations
Spectral Approximation, Operator Equations, Inverse and Ill-posed Equations

R. Usha, Ph.D. (IIT Madras)
P. Veeramani, Ph.D. (IIT Bombay)

Fluid Mechanics
Fixed Point Theorems and their Applications to Problems in Optimization and Best Approximation, Fuzzy Set Theory

Arindama Singh, Ph.D. (IIT Kanpur)
S. G. Kamath, Ph.D. (IIT Delhi)
S. Ponnusamy, Ph.D. (IIT Kanpur)

Logic, Numerical Analysis
Mathematical Physics
Complex Analysis, Function Spaces, Special functions and Conformal Geometry

R. Rama, Ph.D. (Anna University)
Satyajit Roy, Ph.D. (IISc. Bangalore)
S. Sundar, Ph.D. (IIT Madras)

Automata Theory / Natural computing
Connective Heat and Mass Transfer, Boundary Layer Theory
Computational Fluid Dynamics, Mathematical Modeling, Numerics for Partial Differential Equations

V. Vetrivel, Ph.D. (IIT Madras)

Non-Smooth Optimization, Fixed Point Theory

Associate Professors:

Y.V.S.S. Sanyasiraju, Ph.D. (IIT Madras)

Computational Fluid Dynamics

Asst. Professors:

A.V. Jayanthan, Ph.D. (IIT Bombay)
R. Radha, Ph.D. (IMSC)
K.C. Sivakumar, Ph.D. (IIT Madras)
Ch. Srinivasa Rao, Ph.D. (IISc. Bangalore)
W.B. Vasantha, Ph.D. (Ramanujan Institute for Advanced study in Mathematics, Chennai)

Commutative Algebra and Algebraic Combinatorics
Harmonic Analysis, Wavelets
Functional Analysis and Mathematical Programming
Non-linear Differential Equations
Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra

Visiting Faculty:

Prof. Jayaraman Sethuraman, Ph.D. (ISI)
Senior Scientific Officer (Gr.I):
Dr. K. Swaminathan, Ph.D. (Agra Univ., Agra)

Mathematics of Image Analysis, Bayesian Nonparametrics
Fluid Dynamics, Ship Hydrodynamics, 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	S. Ponnusamy	International Conference on "Geometric Function Theory, Special Functions and Applications" (ICGFT)	January 2 – 5, 2006 Pondichery
Symposia:			
1	Dr. K.C. Sivakumar Organising Secretary	National Symposium on Mathematical Methods and Applications 2005	December 22, 2005
Workshop:			
1.	P.V. Subrahmanyam	Fundamentals of Fuzzy set Theory at Stella Maris college and Forum for Inter disciplinary Maths	August 5 – 6, 2005
2.	S. Ponnusamy Co-organised by: Chennai Mathematical Institute Chennai	International Workshop on "Quasiconformal Mappings and their Applications"	December 27, 2005- January 01, 2006
Short-term Course:			
1.	R. Rama, (MA) & Kamala Krithivasan, (CS)	QIP Short term Training Programme on "Research Trends in Formal Language Theory and Automata"	September 26- October 9, 2005
2.	R. Rama, (MA) & Kamala Krithivasan (CS) Jointly organized by the Dept. of Mathematics and Dept. of Computer Science & Engg.	Research Level Group Discussion on "Natural Computing " (Sponsored by Cardmath, DST India)	November 21-27, 2005
3.	Y. V. S. S. Sanyasi Raju, (MA) & E. G. Tulapurkara, (AE)	CEP short term course on "Comprehensive course on CFD"	June 13 – 25, 2005

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.	P.R. Parthasarathy	"Applied birth and death Models"	Sri Venkateswara College of Engineering, Sriperumbudur	January 20, 2006
		"Continued fractions"	Queen Mary's College, Chennai	January 24, 2006
2.	A.V. Jayanthan	Workshop on Commutative Algebra	Institute of Mathematics, Hanoi, Vietnam	December 26 – 30, 2005
Seminar:				
1.	S.H. Kulkarni	National Seminar on Spectral Theory of Operators and Wavelet Analysis	N.S.S. College Ottapalam (Kerala)	March 17 – 18, 2006
Symposia:				
1.	Y.V.S.S. Sanyasi Raju	National Symposium on Scientific computing with Application to Partial Differential Equations (NSSCAPDE'05)	IIT Kanpur	November 20-22, 2005
Conference :				
1.	S.H. Kulkarni	International Conference on Topics in Functional and Numerical Analysis	(TOFNA-05) IIT Bombay	December 7-9, 2005
		International Conference on "Operator theory and operator algebras"	IISc.Bangalore	December 19 – 22, 2005
2.	P.R. Parthasarathy	"Exact transient solution of state-dependent discrete queues"	Government Arts College, Coimbatore	January 6 – 7, 2006
		"Exact transient solution of state – dependent queues"	University of Pune Pune	January 8 – 10, 2006

3.	P.V. Subrahmanyam	"A generalized version of Newton's method and its application"	"International Conference on Geometric Function Theory, Special Functions and Application"(ICGFT)	January 2 – 5, 2006
		"Fuzzy analysis: A new approach"	National Conference on "Analysis and its Applications" Banaras Hindu University Varanasi	January 20 – 23, 2006
4.	M. Thamban Nair	"On improving error estimates for Tikhonov regularization using unbounded operators"	International conference on "Topics in functional and Numerical Analysis" (TOFNA – 2005) IIT Bombay	December 7 – 9, 2005
		On regularization of non-linear ill-posed equations	Golden Jubilee Conference on Analysis and Applications IISc. Bangalore	December 20-23, 2005
5.	P. Veeramani	"On fixed point theorems for non-expansive mappings"	International conference on "Topics in functional and Numerical Analysis" (TOFNA – 2005) IIT Bombay	December 7 – 9, 2005
6.	Arindama Singh	"Mapcode Computability" Eighth international Conference on Information Technology" (CIT – 2005)	Institute of Physics Bhubaneswar	December 20-23, 2005
7.	S. Ponnusamy	75 th Annual Session of the National Academy of sciences, India	Allahabad	December 8-9, 2005
8.	Y.V.S.S. Sanyasi Raju	"Higher order compact and semi-compact schemes for 2D viscous incompressible Navier-stokes equations"	ISTAM 2005 I.I.T. Kharagpur	December 14-17, 2005
9.	A. V. Jayanthan	International Conference on Commutative Algebra	Institute of Mathematics, Hanoi, Vietnam	January 3 – 6, 2006
10.	R. Radha	Hardy's inequalities,	International Conference on Operator Theory and Operator Algebra IISc Bangalore	December 19-22
11.	K.C. Sivakumar	Positive operators and a class of optimization spaces	International Conference on "Operations Research Applications in Infrastructure Development" IISc. Bangalore	December 27-29, 2005

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Delivered at	Date
1.	S.A. Choudum	Issues involved in the Design of Interconnection Network	Meenakshi College for Women (Autonomous), Chennai	September 16, 2005
		Characterization of hypercubes and embeddings	Department of Future Studies, University of Kerala, Trivandrum	March 23 – 24, 2006
2.	S. Kalpakam	Perishable Inventory System under Modified Base-Stock Policy	Presidency college, Chennai	December 16, 2005
3.	S. Kalpakam	Advanced Techniques & Applied Mathematics	Meenakshi College for Women (Autonomous), Chennai	September 15, 2005
		Applied Stochastic Processes	Presidency College, Chennai	December 15-17, 2005.

4.	S.H. Kulkarni	Uniform norms on real algebras	IIT Bombay	December 9, 2005
		Condition spectrum of an element in a Banach algebra	IISc. Bangalore	December 19, 2005
		Condition spectrum and some of its properties	Cochin University of Science and Technology	March 16, 2006
		An elementary proof of a characterization of polynomials	Vivekananda College, Chennai	March 29, 2006
5.	P.R. Parthasarathy	Birth-Death Processes	Vrije University, Amsterdam	June 7, 2005
		Queueing Systems	Technical University of Delft	June 8, 2005
		Industrial Mathematics	SRM Engineering College, Chennai	August 14, 2005
		Stochastic Models of Carcinogenesis & Queueing Models	Presidency College Chennai	September 19, 2005
		Queueing models in industry	GKM College of Engineering	September 30, 2005
		Applied Birth Death Models	Mailam Engineering College, Mailam	November 28, 2005
		A Fluid Queue Fed by an On-Off Source	IEEE Conference, Chennai	December 12, 2005
		Industrial Mathematics	Presidency College	December 15, 2005
		Stochastic models of Cancer	Loyola College, Chennai	February 13, 2006
		Birth and Death Processes	Department of Statistics University of Kolkatta Calcutta	March 2 – 3, 2006
		State-dependent queues	Coimbatore Institute of Technology, Coimbatore	March 10, 2006
		State-dependent Birth and Death Processes	P.S.G. College of Technology, Coimbatore	March 10, 2006
		Industrial Mathematics	Department of Mathematics Loyala College, Chennai	March 14, 2006
		Exact transient solution of a state-dependent queueing system	University of Kerala Trivandrum	March 16 – 18, 2006
6.	P.V. Subrahmanyam	Fuzzy logic	Stella Maris College, (Autonomous), Chennai National Workshop on Fundamentals of Fuzzy Set Theory	August 5, 2005
7.	M. Thamban Nair	Functional and numerical analysis	International Conference, IIT Bombay	December 7 – 9, 2005
		Analysis and applications	Golden Jubilee Conference, IISc Bangalore	December 20 - 23, 2005
8.	R. Usha	Role of mathematical modelling in Industry	Meenakshi College for Women, Chennai	September 15, 2005
9.	P. Veeramani	On fixed point theorems in fuzzy metric spaces	Mar Atthanasius College, Kothamangalam, Kerala	July 1 – 2, 2005
		Cyclic contraction and fixed point theorems	Kandaswami Kandar's college, Velur (Namakkal)	August 22, 2005
		Zorn's Lemma and its applications to fixed point theorems	Periyar University, Salem	October 10, 2005
10.	P. Veeramani	Fuzzy mathematics and its applications	Dept. of Mathematics Alagappa University, Karaikudi	February 17, 2006
		National Conference on Recent Advances in Analysis and its Applications	Department of Mathematics, IISc Bangalore	March 20 – 23, 2006

11.	Arindama Singh	Mapcode computability	Griffith University, Australia	Nov. 20, 2005
		Completeness & Compactness in Propositional Logic	IIT Bombay	January 3 – 6, 2006
12.	S. Ponnusamy	Cauchy-Riemann equations and its importance	Kaamadhenu Arts and Science College, Sathyamangalam, TN	October 14, 2005
		Difference between basic concepts in real and complex analysis	PKR Arts College for Women, Gobichettipalayam, TN	October 14, 2005
		Liouville's theorem hypergeometric functions	Gobi Arts & Science College, Gobichettipalayam	Oct. 15, 2005 October 16, 2005
		Riemann mapping theorem	Theivanai Ammal College for Women, Villupuram	November 23, 2005
		Mathematical analysis	Dept. of Mathematics PSG College of Arts and Science	February 22 – 24, 2006
13.	V. Vetrivel	Non-smooth calculus and Proximal Bundle Methods	B.M. Birla Science and Technology Centre, Jaipur	March 3 – 4, 2006
14.	Y.V.S.S. Sanyasi Raju	Golden Jubilee Congress of Indian Society of Theoretical and Applied Mechanics (ISTAM)	IIT Kharagpur	December 14 – 17, 2005
		Scientific Computing with Application to Partial Differential Equations	IIT Kanpur, (NSSCAPDE'05)	November 19-21, 2005
15.	R. Radha	Non uniform sampling problem	Harish Chandra Research Institute, Allahabad	October 17-20, 2005
		Multipliers for sobolev spaces	The Institute of Mathematical Sciences, Chennai	November 24, 2005
		Characterization of multipliers	Sree Kerala Verma College, Thrissur UGC-National Seminar on Modern Trends in Analysis	January 5 – 7, 2006

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1.	P.R. Parthasarathy	Germany	May 9 – July 22, 2005	Alexander Von Humboldt Fellowship for Research Collaboration
		Sweden	May 22 – 26, 2005	Presented a paper "Exact Transient Solution of a State-dependent Birth and Death Process"
		Netherlands	June 2005	To give Invited Lectures
2.	P.V.Subrahmanyam	Germany	September 5-10, 2005	To visit Universities in Hagen for academic discussions
		Greece	September 16-20, 2005	To Present a paper at "International Conference in Numerical Analysis and Applied Mathematics 2005 (ICNAAM 2005)"
3.	Dr. Arindama Singh	Australia	October 10 – December 6, 2005	Research assignment at Macquarie University, Sydney
4.	Dr. S. Ponnusamy	University of Turku, FINLAND	May 25 – July 27, 2005	Professional Visit
5.	Dr. Satyajit Roy	San Francisco, USA.	July 17 – 22, 2005	To present a paper at "ASME 2005 Summer Heat Transfer Conference"

6.	Dr. S. Sundar	Magdeburg University and Kaiserslautern University, GERMANY	May 9 – July 22, 2005	Research work under German Academic exchange service (DAAD)
7.	Dr. A.V. Jayanthan	Vietnam	December 26, 2005- January 6, 2006	To participate in the Winter School and International Conference on "Commutative Algebra" at Institute of Mathematics, Hanoi.

Honours and Awards obtained:

S.No	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
1.	Prof. P.R. Parthasarathy & R.B. Lenin	Jacob Wolfowitz	American Journal of Mathematical and Management Sciences for 2005	Best article in "New Advances and Applications"	February, 2006
2.	Dr.K.V. Vijayashree (Guide : Prof.P.R. Parthasarathy)	ORSI	Indian Institute of Science, Bangalore	Best Ph.D. Thesis	December 27-29
3.	Dr. Arindama Singh & M.K. Raut	Amiya K Pujari IT award	CIT 2005	Best paper in CIT 2005	December 20 -23, 2005
4.	Prof. Jayaraman Sethuraman (Visiting Faculty under Fulbright Scheme)	C.R. and Bhargavi Rao Award	Department of Statistics, Pensilvania State University, U.S.A.	Outstanding & sustained contribution in the field of Statistics	June 4, 2005

Books/Monographs authored or co-authored:

Sl.No.	Name of Faculty	Title	Publisher	Author/Co-author
1.	Dr. S. Ponnusamy	"Foundations of Complex Analysis" (Second Enlarged Edition)	Alpha Science international Publications, U.K. (International Edition) Narosa Publishing House (National Edition)	Author

4.11.4 Research and Consultancy:

Sponsored Research Projects:

SL. No.	Title	Period	Funding Agency	Amount (Rs.in lacs)	Co-ordinators
1.	Parameter Estimation and Inverse Solution of Non-Linear Heat Conducting Problems	3 years	ISRO-IIT(M) Cell	11.08	Dr. T. S. Prasanna Kumar (MM) and Prof. A. Avudainayagam
2.	Embeddable Properties of graphs and interconnection networks	2 ½ years	DST	12.41	Prof. S. A. Choudum
3.	A Numerical Study of multiple Jets with particulate suspension	2 years	ISRO-IIT(M) Cell	7.82	Prof. R. Usha and Prof. E. G. Tulapurkara (AE)
4.	Mathematical Aspects of Parallel Computing	3 years	DST	11.11	Dr. R. Rama Prof. Kamala Krithivasan(CS)
5.	Mathematics of Distributed Systems	2 years	DST	10.00	Dr. R. Rama, Dr. Arindama Singh and Prof. Kamala Krithivasan(CS)

6.	Non-uniform Single/Multiple Slot Injection (Suction into Water Boundary Layer Flows)	3 years	CSIR	5.16	Dr. Satyajit Roy, MA Dr. Tanmay Basak, CH
7.	Knowledge Based Systems for Spatial Databases and GIS	4 years	ISRO-IIT, Madras	10.62	Dr. S. Sundar and Dr. K. M. M. Rao (NRSA, Hyderabad)
8.	Non-smooth calculus and Bundle Methods	3 years	DST	5.05	Dr. V. Vetrivel
9.	Studies in Numerical Harmonic Analysis	3 years	DAE	4.85	Dr. R. Radha and Prof. S. H. Kulkarni
New Faculty Scheme:					
1.	Hilbert-Kunz Multiplicity of Ideals and their Blowup Algebras	2 years	ICSR, IIT Madras	5.00	Dr. A.V. Jayanthan
2.	Wavelets in Signal and Image Processing	3 years	ICSR, IIT Madras	4.50	Dr. R. Radha
3.	Numerical Solutions of Infinite Linear Programs	3 years	ICSR, IIT Madras	4.70	Dr. K. C. Sivakumar
4.	A Study of Generalized Burgers Equations	3 years	ICSR, IIT Madras	4.30	Dr. Ch. Srinivasa Rao

Exchange programme with other Universities:

Sl. No.	Programme Name	Name of University	Name of the student	Name of Guide
1.	DAAD Sandwich- M.Tech	TU-Darmstadt, Germany	Mr. Mayukh Gayen	Prof. P.R. Parthasarathy
2.	DAAD Sandwich- Ph.D.	TU-Darmstadt, Germany	Mr. Maddu Shankar	Prof. S. Sundar
3.	DAAD Sandwich -Ph.D..	TU-Darmstadt, Germany	Mr. K. Selvanayagam	Prof. V. Vetrivel

Journal Editorial Boards:

Sl.No.	Name of Faculty	Level	Journal
1.	Prof. S. H. Kulkarni	Guest Editor	Journal of Analysis, Vol. 12
2.	Prof. P.R. Parthasarathy	Advisory Editor	Journal of Statistics & Management Systems
		Advisory Editor	Journal of Information and Optimization Sciences
		Regional Editor	Statistical Theory and Methods Abstracts
		Associate Editor	Journal of Applied Statistical Sciences International Journal of Computer Mathematics American Journal of Mathematics & Management Sciences Pure & Applied Matematika Sciences Journal of Decision & Matematika Sciences Assam Statistical Review
3.	Prof. P.V. Subrahmanyam	Editor	Journal of Analysis
			Journal of Differential Equations & Dynamical Systems
			Journal of Functional Analysis & Approximation Theory
4.	Dr. V. Vetrivel	Member of Editorial Board	Journal of Functional Analysis and Approximation Theory

Research Publications:

Total No. of papers published in Refereed National Journals	...	08
Total No. of papers published in Refereed International Journals	...	26
Total No. of papers published in Proceedings of National Conferences	...	07
Total No. of papers published in Proceedings of International Conferences	...	09

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 K.C. Sivakumar	Three Types of Operator Monotonicity	Journal of Analysis, 12, 153-163 (2004)
2.	P.V. Subrahmanyam,	Dame Mary Lucy Cartwright (1900-1998) A Versatile Analyst	Mathematics News letter, 14, 118 – 120, 2005
3.	M. Thamban Nair	Eigen-Pairs of Perturbed Matrices	Journal of Analysis, 12, 171-181 (2004)
4.	R. Rama and K. Lakshmanan	Internal Contextual grammar versus natural languages	Combinatorial and Computational Math. Narosa Pub., 88-102, 2004
5.	S. Sundar	A recursive packed algorithm for Cholesky factorization of tridiagonal and penta diagonal matrix	Journal of Indian Academy of Mathematics, 27, PP.193-200, 2005
6.	R. Radha and S. Thangavelu	Multipliers for Hermite and Laguerre Sobolev Spaces	Journal of Analysis, 12, 183-191 (2004)
7.	K. Kamaraj and K.C. Sivakumar	Spectral theorem for normal matrices in an indefinite inner product space	Journal of Analysis 12, 143 – 152, (2004)
8.	K. Kamaraj, K. Ramanathan and K.C. Sivakumar	Indefinite Product of Matrices and Applications to Indefinite Inner Product Spaces	Journal of Analysis, 12, 135-142 (2004)

In Refereed International Journals:

Sl. No	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S. Kalpakam and S. Shanthi	A modified (S – 1, S) Perishable system under Renewal Demands in	Quantitative Unternehmensführung (Eds) Marion Steven, Susanne Sonntag, Physica – Verlag, pp.247 – 260, (2005)
2.	S.H. Kulkarni, M.T. Nair and M.N.N. Namboodiri	An elementary proof for a characterization of* - isomorphisms	Proceedings Amer.Math.Soc. 134, No.1, 229-234, (2006)
	S.H. Kulkarni and D.Sukumar	Gleason-Kahane-Zelazko theorem for spectrally bounded algebra	International Journal Math. Math.Sci. 15 (2005), 2447-2460, (2005)
	R. Balasubramanian, S.H. Kulkarni and R.Radha	Solution of a tridiagonal operator equation	Linear Algebra and its Applications 414, 389-405, (2006)
3.	P.R. Parthasarathy, K.V. Vijayashree and B. Sericola	Fluid queues driven by a birth and death process suggested by chain sequence	Journal of Applied Mathematics and Stochastic Analysis, 143-158 (2005)
	P.R. Parthasarathy	Hypergeometric functions and birth-death process	Mathematical Science, 30, 98-111 (2005)
	P.R. Parthasarathy and K. Dietz	Exact representations for tumour incidence for some density-dependent models	International Journal of Maths, Mathematical Science, 2655-2667 (2005)
	B. Sericola, P.R. Parthasarathy and K.V. Vijayashree	Exact transient solution of an M/M/1 driven fluid queue	International Journal of Computing Maths, 82, No.6, 659-671 (2005)
4.	P.R. Parthasarathy and R. Sudhesh	The overflow process from a state-dependent queue	International Journal of Computing Maths, 82, 1073-1093 (2005)
		A formula for the coefficients of orthogonal polynomials from the three-term recurrence relations	Applied Mathematics Letters, 19, 1340-1346 (2006)
		Exact transient solution of state-dependent birth-death processes	Journal of Applied Mathematics and Stochastic Analysis, 1-16 (2006)

5.	P.V. Subrahmanyam and V. Murugan	Existence of solutions for equations involving iterated functional series	Fixed Point Theory and Applications 2005:2, 219-232, (2005)
6.	M. Thamban Nair and Shinelal	Finite dimensional realization of mollifier method for compact operator equations	Mathematics of Computation, 74, 1281-1290, (2005)
7.	M. Thamban Nair, Sergei Pereverzyev and Ulrich Tautenhahn	Regularization in Hilbert scales for under general smoothing conditions	Inverse Problems, 12, 1851-1869, (2005)
8.	R. Usha, R. Ravindran and B. Uma	Dynamics and Stability of a thin liquid film on a heated rotating disk film with variable viscosity	Physics of Fluids, 17, 102 – 103 , (1 – 10), (2005)
9.	R. Usha, R. Ravindran and B. Uma	Dynamics of thin film with temperature dependent viscosity on a rotating disk	Acta Mechanica, 179, 25 – 39, (2005)
10.	R. Usha, R. Ravindran and B. Uma	Numerical Study of a thin liquid film on a disk under nonuniform rotation-thermo capillary effects	Fluid Dynamics Research, 37, 154 – 172 (2005)
11.	I. Mohammed Rizwan Sadiq and R. Usha	Linear stability in a thin viscoelastic liquid film on an inclined non-uniformly heated wall.	International Journal of Engineering Science, 43, 1435 – 1449, (2005)
12.	K. Ganesan and P. Veeramani	On Arithmetic operations of Internal members	International Journal of Uncertainty, Fuzziness and knowledge based systems, 13(6), 619-631, (2005)
13.	A. Anthony Eldred, W.A. Kirk and P. Veeramani	Proximal normal structure and relatively non expansive mappings	Studia Mathematica, 171 (3), 2005, 283-293, (2005)
14.	Tanmay Basak, Satyajit Roy, T. Paul and I. Pop	Natural convection in a square cavity filled with porous medium: Effects of various thermal boundary conditions	INT J HEAT MASS TRAN, 49, 1430-1441, (2006)
15.	Prabal Dutta, D. Anilkumar, Satyajit Roy and N.C. Mahanti	Effect of Non-uniform slot injection (suction) on a forced flow over a slender cylinder	INT J HEAT MASS TRANS (Published online 26 January, 2006)
16.	Satyajit Roy and Tanmay Basak	Finite element analysis of natural convection flows in a square cavity with non-uniformly heated wall(s)	INT J ENG SCI, 43, 668-680, (2005)
17.	S. Sundar, Satyajit Roy and M. Junk	understanding the porosity dependence of heat flux through glass fibre insulation	Mathematical and Computer Modeling, 43, 485-492, (2006)
18.	R. Balaji, T. Parthasarathy, D.S. Raman and V. Vetrivel	Lipschitz Continuity of the solution map in semi definite linear complementarity problems	Mathematics of Operations Research, 30 No.2, 462 – 471 (2005)
19.	R. Balaji, T. Parthasarathy, D.S. Raman and V. Vetrivel	On the Lipschitz Continuity of the Solution Map in Semidefinite Linear Complementarity Problems	Mathematics of Operations Research, Vol.30, No.2, 462-471, (2005)
20.	A. V. Jayanthan, Verma J.K.	Hilbert coefficients and depth of fiber cones. Fiber cones of ideals with almost minimal multiplicity.	J.Pure Appl. Algebra 201, No. 1-3, 97-115, (2005) Nagoya Math.J. 177, 155 – 179, (2005)
21.	Conca, A., De Negri, E., Jayanthan. A. V., Rossi, M.E	Graded rings associated with contracted ideals.	J. Algebra 284, No.2, 593 – 626, (2005)
22.	R.Balasubramanian and R. Radha	Hardy-type inequalities for Hermite expansions	Journal of inequalities in pure and applied Mathematics, 6(no.1), 1-9 (2005)
23.	R. Radha and G.V. Deepa	Wavelets in a finite dimensional vector space and decomposition of a signal	International journal for pure and applied Mathematics, 21(no1), 63-78 (2005)
24.	R.Balasubramanian, S.H. Kulkarni and R. Radha	Solution of a tri diagonal operator equation	Linear algebra and its applications, 414, 389-405(2006)

25.	K.C. Sivakumar	Generalized inverses of an invertible infinite matrix	Linear Multilinear Algebra, 54, No.2, 113 – 122, 2006
26.	K.C. Sivakumar	K.C. Moore-Penrose inverse of an invertible infinite matrix	Linear Multilinear Algebra, 54, No.1, 71 – 77, 2006

In Proceedings of National Conferences:

1. Parthasarathy, P.R. and Vijayashree, K.V., Fluid Queues driven by birth and death processes, *Proceedings of the WKMS 2004, Narosa*, 200-228 (2005).
2. P.R. Parthasarathy and R. Sudhesh, An Exact Solution of a Markovian Multiprocessor System, *Proc. of ICCES'05, India*, 918-923 (2005).
3. P.R. Parthasarathy and R. Sudhesh, Transient Analysis of Multiprocessor Systems, *Proc. of IEEE INDICON 2005, India*, 276-279 (2005).
4. P.R. Parthasarathy and K.V. Vijayashree, A Fluid Queue Fed by an On-Off sources, *Proc. of IEEE INDICON 2005, India*, 396-398 (2005).
5. S. Jeyabharathi, R. Bhaskaran and R. Rama, 'L-Systems Applications to Space Filling Curves', *Conference of International Academy of Physical Sciences, University of Allahabad, December 2004*.
6. Bhaskar Subramanyam, A. and Sundar, S., Parallel BiCGSTAB with Latency Hiding, *Proceedings of the WKMS 2004, Narosa*, 328-335, (2005).
7. Mohan Kumar, S., Sundar, S. and Vetrivel, V., Navier Stokes – Brinkmann Model for incompressible Flow over a Porous Layer, *Proceeding of the WKMS 2004, Narosa*, 283-293 (2005).

In Proceedings of International Conferences:

1. P.V. Subrahmanyam and V. Antony Vijesh, A note on a Quasi – Newton Method, "International Conference on Numerical Analysis and Applied Mathematics", 2005, Wiley – VCH, Extended Abstracts 570 – 572.
2. Arindama Singh, Mapcode Computability, *CIT 2005 Proceedings*, pp.125-130.
3. M.K. Raut and Arindama Singh, An algorithm for computing prime implicates in first order Logic, *CIT 2005 Proceedings*, pp.147-151.
4. M. Mahajan, R. Rama and S. Vijayakumar, 'Towards Constructing Optimal Strip Move Sequences', *Proceedings of the 10th International computing and Combinatorics Conferences (COCOON), LNCS 3106*, pp.33-42, Springer-Verlag, 2004.
5. Satyajit Roy and Tanmay Basak, Natural convection inside a square cavity heated from below and symmetrically cooled at both sides; Effects of various Dirichlet boundary conditions at the bottom wall, *Proceedings of ASME Summer Heat Transfer Conference*, Paper No. HT2005-72353, pp.1-9, 2005.
6. D. Anilkumar and Satyajit Roy, Non-similar solution of an unsteady mixed convection flow on a moving slender cylinder. *Third MIT conference Proceedings on "Computational Fluid and Solid Mechanics"*, Elsevier Publications, pp.566-571, 2005.
7. S. Sundar, D. Srikanth and M.S. Shanmugam, "A new predictive classifier for improved performance in data mining; Object oriented design and implementation", *Proceedings of the International Conference on Industrial Mathematics*, pp.491-514, Narosa, 2006.
8. R. Balaji, T. Parthasarathy and V. Vetrivel, On the Lipschitzian GUS – Property of Linear Maps in Semidefinite Linear Complementarity Problems in "Operations Research with Economic and Industrial Applications: Emerging Trends", Eds, S.R. Mohan and S.K. Neogy, Anamaya Publishers, New Delhi, Chapter 13, 181-187, 2005.
9. Sanyasiraju, YVSS and Chandhini, G., Grid free scheme for steady convection diffusion equation using multi-quadratics, *Proceedings of Fortyninth congress of ISTAM*, pp.164-170 (2004).

Distinguished Visitors to the Department:

Sl.No	Name of the visitor and Designation	Date	Purpose of visit
1.	Prof. P. Jothilingam Retired Professor Department of Mathematics Pondicherry University	01.04.05	To give a Seminar Talk

2.	<u>Imperial:</u> Prof. David Ewins Pro-rector, International Relation Prof. Mary Ritter Pro-rector, Postgraduate Study <u>Delft:</u> Prof. Jan Van Katwijk Dean for Faculty, Electricl Engg. Informatics and Maths Ms. Marietta Spiekerman Senior Policy Advisor, Internationalisation <u>ETH:</u> Prof. Konard Osterwalder Rector ETH, Chair IDEA League Prof. Hans Thierstein, Pro-rector, International Relations <u>RWTH:</u> Dr. Heide Naderer, Head of International Office <u>IDEA:</u> Dr. Herma Buttner, IDEA Secretary General	07.04.05	The delegation members met the faculty and activities of mutual interest were discussed.
3.	Prof. S. Bhattacharya Department of Mathematics Indian Institute of Technology, Kharagpur	08.04.05	Seminar Talk
4.	Prof. Martin Beckmann Emeritus Professor Dept. of Economics, Brown University USA and Technical University Munchen, Germany	11.04.05	Seminar Talk
5.	Prof. R. Gopal Department of Statistics University of Madras, Chennai	15.04.05	Seminar Talk
6.	Prof. D.V. Pai Department of Mathematics Indian Institute of Technology, Mumbai	29.04.05	Seminar Talk
7.	Dr. Jayaraman Sethuraman Professor Emeritus and Adjunct Professor Department of Statistics Florida State University, USA	06.05.05	To give a series of lectures
8.	Prof. Wolfgang Luh & Prof. Juergen Mueller University of Trier, Trier, GERMANY	14.05.05 to 22.05.05	DST-DAAD (exchange) Programme
9.	Prof. A.K. Pani Department of Mathematics, IIT Bombay, Powai, Mumbai	28.06.05	Seminar Talk
10.	Prof. M.S. Gowda Department of Mathematics and Statistics University of Maryland, Baltimore County, USA.	30.06.05 to 01.07.05	To give a series of lectures on "Finite dimensional variational inequality and complementarity problems"
11.	Prof. Alladi Sitaram Stat-Math Unit Indian Statistical Institute , Bangalore	20.07.05	Seminar Talk
12.	Prof.T. Parthasarathy Chennai Mathematical Institute, Chennai	05.08.05	Seminar Talk
13.	Prof. Kamala Krithivasan Department of Computer Science and Engineering, IIT Madras Chennai.	12.08.05	Seminar Talk
14.	Prof. S. Parvathi Ramamujan Institute for Advanced Study in Mathematics University of Madras, Chennai	19.08.05	Seminar Talk
15.	Dr. Ton Boerkoel Department of Mathematics, Emporia State University, USA	24.08.05	Seminar Talk
16.	Prof. M. Krishna The Institute of Mathematical Sciences, Chennai	26.08.05	Seminar Talk
17.	Prof. T.C. Vasudevan Department of Mathematics Vivekananda College, Chennai	02.09.05	Seminar Talk

18.	Dr. Benjamin Miller Department of Mathematics University of California Los Angeles, USA	08.09.05 to 09.09.05	Seminar Talk
19.	Dr. V. Balaji Chennai Mathematical Institute, Chennai	16.09.05	Seminar Talk
20.	Prof. P. Ganesan Department of Mathematics Anna University, Chennai	14.10.05	Seminar Talk
21.	Prof. D. Sampangi Raman Indian Statistical Institute, Chennai	21.10.05	Seminar Talk
22.	Mr. Sashikumar Ganesan Scientist, Institute for Analysis and Numerik University of Magdeburg, Germany	27.10.05	Seminar Talk
23.	Dr. Amit K Biswas Indian Statistical Institute, Chennai	28.10.05	Seminar Talk
24.	Dr. Amritanshu Prasad The Institute of Mathematical Sciences Chennai	11.11.05	Seminar Talk
25.	Dr. Sapna Isotupa Assistant Professor School of Business and Economics Wilfrid Laurier University Waterloo, Canada	25.11.05	Seminar Talk
26.	Prof. A. Sitaram Emertius Professor Stat- Math Unit Department of Mathematics, ISI, Bangalore	28.11.05 to 02.12.05	To give a Series of lectures under NBHM
27.	Antti Rasila University of Helsinki Finland	13.12.05 to 16.12.05	First spell of Pre-Workshop Lectures on "Quasiconformal Mappings and their Applications"
28.	Raimo Nakki University of Jyvaskyla Finland	20.12.05 to 23.12.05	Second spell of Pre- Workshop Lectures on "Quasiconformal Mappings and their Applications"
29.	Prof. Sergi Pereverzyev Radon Institute for Computational and Applied Mathematics, Linz, , Austria.	20.12.05 to 22.12.05	Seminar Talk
30.	Prof. S. Thangavelu Department of Mathematics Indian Institute of Science Bangalore	26.12.05 to 30.12.05	To give a Series of lectures on "Hermite and Laguerre semigroups: Some recent developments"
31.	Prof. B.S. Dandapat Indian Statistical Institute, Kolkata	02.01.06	Special Seminar Talk
32.	Prof. Venkatesh Raman Institute of Mathematical Sciences, Chennai	13.01.06	Seminar Talk
33.	Prof. Phoolan Prasad Department of Mathematics Indian Institute of Science, Bangalore	17.01.06	Special Seminar Talk
34.	Prof. S.K. Shanthi Institute for Financial Management and Research, Chennai	20.01.06	Seminar Talk
35.	Prof. P.N. Shivakumar Department of Mathematics University of Manitoba, Winnipeg, Canada	31.01.06	Special Seminar Talk
36.	Prof. N. Saradha Tata Institute of Fundamental Research Mumbai	03.02.06	Seminar Talk
37.	Dr. Vijay Kodyalam Institute of Mathematical Sciences, Chennai	10.02.06	Seminar Talk
38.	Prof. Dr. Helmut J. Schmidt President, TU-Kaiserslautern, Germany	16.02.06	Collaboration between the Mathematics Department and TU-Kaiserslautern
39.	Prof. T. Parthasarathy Chennai Mathematical Institute, Chennai	17.02.06	Seminar Talk

40.	Prof. L.S. Ganesh Department of Management Studies IIT Madras	24.02.06	Seminar Talk
41.	Prof. Dr. To Wing Keung Department of Mathematics National University of Singapore Singapore	27.02.06	Collaboration between the Mathematics Department and Department of Mathematics, National University of Singapore
42.	Prof. P.L. Sachdev	07.03.06 to 10.03.06	Collaboration work
43.	Dr. K. Srinivas Institute of Mathematical Sciences, Chennai	17.03.06	Seminar Talk
44.	Prof. K. N. Ranganathan Department of Mathematics Vivekananda College, Chennai	31.03.06	Seminar Talk

4.11.5 Other Activities:

The faculty members of the department have been

- Reviewers for Mathematical Reviews/Zentralblatt fur Mathematik
- Referees for various National and International Journals
- Members of Evaluation Committees of project proposals
- Members of various Committees/Boards of IIT Madras / Universities / National Institutions
- Members of various Academies and Professional Societies such as AMS, IMS, ISPS, ISTE, ICTP & AeSI.

Analysis Group Seminar has been initiated in the Department. There will be lectures every week by Faculty/Research Scholars

1. Prof. A. Rangan has been relieved of his duties with effect from September 7, 2005 on Voluntary retirement basis.
2. Prof. M. Thamban Nair served as an External Member in the CSIR-Expert Committee meeting at Department of Mathematics, University of Calicut, on July 22, 2005.
3. An iterative method considered by Professor M.T. Nair in a paper published in "Studia Mathematica" Vol. 147 (2001) 15 - 26", has been named after him as "M.T. Nair method" by a Russian Mathematician N.B. Uskova in a recent paper titled "on M.T. Nair method for linear operator invariant subspace construction" presented at the 12th International Conference of the EWM (European Women Mathematician) Association, Sept 18-25, 2005.
4. A recent paper of Prof. M.T. Nair, "Regularization Hilbert scales under general smoothing conditions (with S. Pereverzev and U. Tantenhahn), Inverse Problems Vol.21 (2005) 1851 – 1869", has been selected for inclusion in a special category of papers called "IOP Select" by Institute of Physics.
5. Dr. S. Ponnusamy, Associate Professor was elected as Fellow of the National Academy of Science, India (Allahabad) in the year 2005.
6. Dr. S. Ponnusamy delivered inaugural addresses at the following National Seminars:
 - i) "Orientation Programme for Higher Secondary School Faculty of Villupuram District" at Theivanai Ammal College For Women, Villupuram on 23rd November 2005.
 - ii) "Advanced Techniques & Applied Mathematics" at Kaamadhenu Arts and Science College, Sathyamangalam, Erode District, on 14th October 2005.
 - iii) "Recent Trends in Applied Mathematics" at Gobi Arts & Science College, Gobichettipalayam, Erode District, on 15th October 2005.
7. Dr. R. Rama is editing proceedings of 'Group discussion meeting on 'Natural computing' during November 21- 27, 2005, for RMS-Lecture Notes Series.
8. Dr. A.V. Jayanthan has joined the Department of Mathematics as Assistant Professor on September 26, 2005.

Ph.D. Seminar Talks:			
Sl.No	Name of the Scholar	Title & Date	
1.	Ms.G. Chandini	"Numerical Methods for Partial Differential Equations using Radial Basis Functions" July 15,2005	
2.	Mr. I. Mohammed Rizwan Sadiq,	"Dynamics and Stability of Thin Film Flow Systems" July 18,2005	
3.	Ms. T. Dimple	"Studies on Deteriorating Systems- Optimal repair and replacement Strategies" September 5,2005	
4.	Mr. R. Sudhesh	"Time-dependent analysis of State-dependent Queues" October 26,2005	
5.	Mr. V. Antont Vijesh	"Newtons Method and Solution of Nonlinear Operator Equations" November 2,2005	
6.	Mr. K. Paramasivam	"Colouring of Commutative Algebraic Structures" November 7,2005	
7.	Mr. T. Johnson	"Fuzzy data Analysis of some New Models" November 24,2005	
8.	Mr. T. Johnson	"Some New Fuzzy Models and their Applications" December 8,2005	
9.	Ms. T. Dimple	"Studies on Deteriorating System: Warranty Cost Analysis" December 12,2005	
10.	Ms. J. Anuradha	"Fixed Point theorem for multi valued contraction mappings" January 25, 2006	
11.	Mr. V. Murugan	"Iterative Functional Equations" February 8, 2006	
12.	Mr. Y. Inyasi Sowri Raju	"Birings and its Properties" February 27, 2006	
Ph.D. Viva – Voce Examination:			
Sl.No	Name of the Scholar	Title of the thesis & Viva date	
1.	Mr. E. Shine Lal	"A General Mollifier- Type Method for Ill- Posed Operator Equations" 27.06.05	
2.	Ms. V. Manjula	"Higher Order Semi Compact Scheme to Solve Transient Incompressible Navier Stokes Equations" July 20,2005	
3.	Mr. Samir Roy	"Modeling of Heat Flow through Glass-fibre Insulation" August 12,2005	
4.	Mr. Moon Kumar Chetry	"Study of Special Elements in Group Rings and Loop Rings" August 29,2005	
5.	Mr. S. Mohan Kumar	"Modeling and Simulation of Incompressible flow through Porous obstacles in open and closed channels" February 20, 2006	
Summer Fellowship Programme:			
Sl.No	Name of the student	Affiliated to	Title of the Report
1.	Mr. M. Kalaivani	Bharathiyar University, Coimbatore	"Heat and Wave Equations in Higher Dimensions" Supervisor: Dr. Ch. Srinivasa Rao
2.	Ms. J. Pavithra	CEG, Anna University, Chennai	" The Fast Fourier Transform" Supervisor: Dr.Y.V.S.S.Sanyasiraju
3.	Ms. C.R. Saranya	CEG, Anna University. Chennai	"Generalized Inverses of infinite Matrices Over a Finite Field" Supervisor: Dr. K.C. Sivakumar

M.Sc. JOINT ADMISSIONS TEST (JAM 2006) :

From the year 2005, students are being admitted to the two-year M.Sc. (Mathematics) programme through an All India Joint Admission test (JAM) common to IITs.

NATIONAL SYMPOSIUM ON MATHEMATICAL METHODS AND APPLICATIONS (NSMMA – 2005) :

A one day 'National Symposium on Mathematical Methods and Applications (NSMMA 2005)' to commemorate the birth anniversary of Sri Srinivasa Ramanujan was conducted on 22nd December 2005. The Head of the Department Prof. S.A. Choudum was the Chairperson and Dr. K.C. Sivakumar was the Secretary of the above national symposium.

The day's events were inaugurated by Prof. M. S. Ananth, Director, IIT Madras, Chennai. There were three invited talks in the morning session by Prof. Sergei Pereverzyev, RICAM, Austria, Prof. P.K. Subramanian, California State University, USA and Prof. Ron Kerman, Brock University, Canada. About 112 registered participants attended the symposium and 83 of them presented their work in parallel sessions conducted during the symposium. The valedictory function was chaired by Prof. S.K. Seshadri, Dean of Administration.

FORAYS 2006– A MATH FEST:

FORAYS, the annual mathematics festival organized by the students of the Department of Mathematics was held on 4th and 5th March, 2006.

FORAYS 2006 started with the Inaugural function chaired by Prof. V.G.Idichandy, Dean (Students), followed by an invited lecture by Prof.S. Kumaresan, University of Mumbai, Mumbai

Events such as Quiz, Olympiad, Hodge Podge, Big Fight and Mathematical Tambola were conducted as part of the math fest. FORAYS 2006 was well attended with nearly 80 colleges participating in the events. The Valedictory function was chaired by Mr. K.N. Visweswaran, Mentor, Hexaware Chennai Limited, who also distributed the prizes to the winners.

4.12 DEPARTMENT OF MECHANICAL ENGINEERING

4.12.1 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 and Composites Technology Centre.

The Manufacturing Engineering Stream consists of the Manufacturing Engineering Section and Precision Engineering & Instrumentation laboratories.

4.12.2 Academic Programmes:

New Courses Introduced:

S.No.	Course No.	Title
1.	ME 694	Design with Advanced Engineering Materials
2.	ME 746	Tribo-Design and Analysis
3.	ME 777	Theory and Technology of Fuel Cells
4.		Introduction to Fluid Mechanics and Heat Transfer
5.	ME 727	Micro Scale Fluid Flow and Machinery

New discipline introduced:

1. Dual Degree programme in Engineering Design
2. User Oriented Programme in Automotive Technology for Industries

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	58	70	85	87	04	304
Dual Degree	70	49	25	25	20	189
M.Tech.	70	100	0	0	0	170
M.S.	11	21	35	22	9	98
Ph.D.	8	34	51	42	60	195
Total	217	274	196	176	93	956

Names of Student/Scholar who attended Conference/Seminar and symposia abroad/India

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conference/ Seminar/ Symposia	Date and Venue
(I) Conference:				
1.	S Christopher	PhD	Convergence 2005	29 th and 30 th Nov. 2005, JN Tata Auditorium, IISC Campus, Bangalore
2.	Satyanarayan, L	PhD	National Conference on Nondestructive Testing 2005,	2nd – 4th Dec 2005, Kolkata, India.
3.	Jayarao, V.V.S.,	MS	National Conference on Nondestructive Testing 2005,	2nd – 4th Dec 2005, Kolkata, India.
4.	Shivaraj, K,	MS	National Conference on Nondestructive Testing 2005,	2nd – 4th Dec 2005, Kolkata, India.
5.	Kathirvel, T,	PHD	National Conference on Nondestructive Testing 2005,	2nd – 4th Dec 2005, Kolkata, India.

6.	Sridhar C.	MTech (TCS, UOP)	National Conference on Nondestructive Testing 2005, India.	2nd – 4th Dec 2005, Kolkata, India.
7.	Soma Sekhar, B.V.,	PHD	International conference on Computational & Experimental Engineering and Sciences "ICCES 2005"	1 st – 6 th December 2005.
8.	Soma Sekhar, B.V.,	PHD	International conference on Smart Structures, Materails, and Systems, Bangalore	29 th July – 2 nd Aug 2005.
9.	Kathirvel.T	PHD	International Conference on Corrosion, CORCON 2005, Chennai Trade Centre, Chennai	28th- 30th Nov 2005.
10.	Satyanarayan, L.,	PHD	International Conference on Corrosion, CORCON 2005, Chennai Trade Centre, Chennai	28th- 30th Nov 2005.
11.	Shivaraj, K.,	MS	International Conference on Corrosion, CORCON 2005, Chennai Trade Centre, Chennai	28th- 30th Nov 2005.
12.	Vigel Raj R.	MS	4 th International Conference on Smart Materials, Structures and Systems\	July 28-30 2005, Bangalore
13.	R. Manu	Ph.D.	Fourth National Conference on Precision Engineering COPEN 2005	16-17 December 2005, Kolkata
14.	Jagadeesha Kumar	Ph.D.	Fourth National Conference on Precision Engineering, COPEN 2005	16-17 December 2005, Kolkata
15.	D.S. Srinivasu	Ph.D.	Fourth National Conference on Precision Engineering, COPEN 2005	16-17 December 2005, Kolkata
16.	D.S. Srinivasu	Ph.D.	International Conference on Emerging Technologies in Intelligent system and control (EISCO-2005).	Jan.5-7, 2005, Coimbatore
17.	N. Arunachalam	Ph.D.	Fourth National Conference on Precision Engineering, COPEN 2005	16-17 December 2005, Kolkata
18.	N. Santhosh Kumar	Ph.D.	National Aerospace Manufacturing Engineering Seminar, NAMS 2005.	Sept. 2005 Trivandrum
19.	N. Santhosh Kumar	Ph.D.	Fourth National Conference on Precision Engineering, COPEN 2005.	16-17 December 2005, Kolkata
20.	M. Kantha Babu	Ph.D.	International Conference on computational and experimental engineering and sciences ICCES-2005, pp. 3328-3333.	IIT Madras, December 2005
21.	M. Kantha Babu	Ph.D.	Fourth National Conference on Precision Engineering, COPEN 2005, pp. 82-87.	16-17 December 2005, Kolkata
22.	B. Dhanasekar	Ph.D.	International Conference on computational and experimental engineering and sciences ICCES-2005, pp. 3328-3333. 5 th International Conference on Advances in Metrology, National Physical Laboratory.	IIT Madras, December 2005 Feb. 23-25, 2005, New Delhi
23.	Ch. Vikram Kumar	Ph.D.	National Aerospace Manufacturing Engineering Seminar, NAMS 2005 Fourth National Conference on Precision Engineering, COPEN 2005	Sept. 2005, Trivandrum 16-17 December 2005, Kolkata

24.	Binu C Yeldose	Ph.D.	Fourth National Conference on Precision Engineering, COPEN 2005	16-17 December 2005, Kolkata
25.	B Anand Ronald	Ph.D.	Fourth National Conference on Precision Engineering, COPEN 2005	16-17 December 2005, Kolkata
26.	M.Sreekumar	Ph.D	National conference on Advances in Manufacturing and Resource Analysis	18 & 19 th Feb.2005 Dindigul
27.	M.Sreekumar	Ph.D	Design Modeling and Implementation of self-tuning Adaptive fuzzy Controller for a Robot in Obstacle Avoidance.	May 11-13, 2005 Bangkok, Thailand.
28.	M.Sreekumar	Ph.D	SMA actuated Mini-valve for Temperature control in Hydraulic Systems	Nov.25-27,2005 Chennai.
29.	M.Sreekumar	Ph.D	On the Process of Improving the Response of Shape Memory Alloy Actuators for Robotics Applications.	Dec.1-10 2005 Chennai.
30.	M.Sreekumar	Ph.D	Singularity Avoidance in Parallel Manipulators using Fuzzy Control.	Dec.13-16 2005 Singapore.
31.	M.Sreekumar	Ph.D	Design of Supervisory Adaptive Fuzzy Controllers for Intelligent Robotic Vehicles.	Dec.20-222005 Pune.
32.	M.Sreekumar	Ph.D	Fuzzy Controller for the Non-linear Modeling of SMA actuators for Robotic Applications.	Jan.04-6 2006 Tamil Nadu.
33.	G.Satheesh Kumar	Ph.D	Stiffness for Complex contours in Machine Tool Application First International Congress Design and Modeling of Mechanical Systems..	CMSM March 23-25, 2005.
34.	Benny Paul	Ph.D.	SAE India Int. Mobility Engg. Congress & Exposition 2005.	Oct. 23-25, 2005 Chennai Trade Centre
35.	Jayashankara, B	Ph.D.	-do-	-do-
36.	James Gunasekara,	Ph.D.	-do-	-do-
37.	Porpatham, E.	Ph.D.	-do-	-do-
38.	Purushothama, H.R.	Ph.D.	-do-	-do-
39.	Prasad V. Dudhgaonkar	Ph.D.	-do-	-do-
40.	Ananda Kumar, T.	Ph.D.	-do-	-do-
41.	Swaminathan, S.	Ph.D.	-do-	-do-
42.	Thundil K. Raj, R.	Ph.D.	-do-	-do-
43.	Aurobindo, L	Ph.D.	-do-	-do-
44.	Jyothish Kumar	Ph.D.	-do-	-do-
45.	Thiagarajan, P	Ph.D.	-do-	-do-
46.	Subramanian, V.	M.S.	-do-	-do-
47.	Manohar, Reddy, S.	M.S.	-do-	-do-
48.	Sivanageswara Rao, B	M.S.	-do-	-do-
49.	Dinesh Bawane	M.S.	-do-	-do-
50.	Dominic John	M.Tech.	-do-	-do-
51.	Benny Paul	Ph.D.	14 th ISME Int. Conf. on Mechanical Engg. in Knowledge Age	Dec. 12-14, 2005 Delhi College of Engg., Delhi
52.	Thundil Karuppa Raj, R	Ph.D.	-do-	-do-
53.	Thiyagarajan, P	Ph.D.	-do-	-do-
54.	E. James Gunasekaran	Ph.D.	-do-	-do-
55.	B. Jayashankara	Ph.D.	-do-	-do-
56.	V. Jyothishkumar	Ph.D.	-do-	-do-

57.	J. Nazar	Ph.D.	19 th National Conf. on I.C. Engines and Combustion	Dec. 21-23, 2005 Annamalai Univ. Chidambaram
58.	E. Porpatham	Ph.D.	-do-	-do-
59.	M. Loganathan	Ph.D.	-do-	-do-
60.	T. Anand Kumar	Ph.D.	-do-	-do-
61.	P. Thiyagarajan	Ph.D.	-do-	-do-
62.	B. Jayashankara	Ph.D.	-do-	-do-
63.	Alfred Herman, S	Ph.D.	-do-	-do-
64.	E. James Gunasekaran	Ph.D.	-do-	-do-
65.	E. Karunakaran	M.S.	-do-	-do-
66.	R. Thundil Karuppa Raj	Ph.D.	-do-	-do-
67.	V. Jyothishkumar	Ph.D.	-do-	-do-
68.	S. Suresh Kumar	M.S.	-do-	-do-
69.	M. Deiveegan	Ph.D.	18 th National & 7 th ISHMT- ASME Heat & Mass Transfer Conference	Jan 4-6, 2006 IIT Guwahati
70.	Rameche Candanes	Ph.D.	-do-	-do-
71.	Patel, H.E.	Ph.D.	-do-	-do-
72.	Bansode, A.S.	Ph.D.	-do-	-do-
73.	Sumithra K. Raju	Ph.D.	-do-	-do-
74.	Krishna Reddy	Ph.D.	-do-	-do-
75.	Rameche Candanes	Ph.D.	Recent Advances in Computational Methods in Engg.	March 24-25, 2006
76.	Vinay Kumar, M.L.	Ph.D.	-do-	-do-
77.	D. Ruben Sudhakar	Ph.D.	Seminar on Underground Coal Gasification and Underground Coal Mining for Bright and Secure Energy Future	30-31 st Jan. 2006 New Delhi
78.	Suresh, M.V.J.J.	Ph.D.	-do-	-do-
79.	Suresh, P.R.	Ph.D.	International Conference on Thermal Engineering Theory and Application 2006	6.1.2006 Al-Ain, Dubai
80.	Suresh, P.R.	Ph.D.	International Conference on Computational and Experimental Sciences	6.12.2005 IIT Madras
81.	Sendhil Kumar, N.	Ph.D.	National Conference on Recent Trends in Renewable Energy, NACOE 05	Dec. 9-10, 2005 Kovilpatti, Tamilnadu
82.	Mr. N.Kulasekharan	Ph.D.	18th National & 7 th ISHMT- ASME Heat and Mass Transfer Conference	January 4-6, 2006 at Guwahati.
83.	Mr. BVN.Rama Kumar	Ph.D.	18th National & 7 th ISHMT- ASME Heat and Mass Transfer Conference	January 4-6, 2006 at Guwahati.
84.	Mr. M.Mahendran	Ph.D.	National Conf. on Recent advances in Computational Methods in Aerospace Engg	February 24 & 25, 2006
85.	Mr. U.Muneeswara Babu	M.S.	National Conf. on Recent advances in Computational Methods in Aerospace Engg	February 24 & 25, 2006
86.	Mr. K.Gouthamkumar	M.S.	National Conf. on Recent advances in Computational Methods in Aerospace Engg	February 24 & 25, 2006
87.	Rajesh K.Bhangale	Ph.D.	Third MIT conference on Computational Fluid and Solids Mechanics	14-17 June 2005, Boston USA.
88.	Rajesh K.Bhangale	Ph.D.	Third International Conference on Structural Stability and Dynamics	19-22 June 2005 Kissimmee Florida, USA
89.	Rajesh K.Bhangale	Ph.D.	International conference on conference smart materials and structures	28-30 July 2005, Bangalore

90.	Rajesh K.Bhangale	Ph.D.	International Conference on Computational and Experimental Sciences	1-6 Dec, 2006 IITM, Chennai.
91.	A. R. Annigeri	Ph.D.	International conference on conference smart materials and structures	28-30 July 2005,Bangalore
92.	A. R. Annigeri	Ph.D.	International Conference on Computational and Experimental Sciences	1-6 Dec, 2006 IITM, Chennai
93.	V.Pradeep	Ph.D.	International Conference on Computational and Experimental Sciences	1-6 Dec, 2006 IITM, Chennai
94.	A.Kumaravel	Ph.D.	International conference on conference smart materials and structures	28-30 July 2005,Bangalore
95.	A.Kumaravel	Ph.D.	International Conference on Computational and Experimental Sciences	1-6 Dec, 2006 IITM, Chennai
96.	N.D.Ravikumar	M.S.	International Conference on Computational and Experimental Sciences	1-6 Dec, 2006 IITM, Chennai
97.	G.Vishnu Narayana	M.S.	International Conference on Computational and Experimental Sciences	1-6 Dec, 2006 IITM, Chennai
98.	M.Amarnath	Ph.D.	International Conference on Recent Advances in Mechanical & Materials Engineering (ICRAMME2005)	30 - 31 May 2005, Kuala Lumpur, Malaysia
99.	G.Jayaprasad	Ph.D.	International conference on Advances in Materials, Product Design and Manufacturing Systems (ICMPM 2005)	12-14 Dec., 2005, Sathyamangalam, India.
100.	G.Jayaprasad	Ph.D.	International Conference on Computational and Experimental Engineering and Sciences (ICES05)	Dec. 1-6, 2005, IIT Madras, Chennai.
101.	Hemantha Kumar	Ph.D.	14 th International ISME conference on Mechanical Engineering in Knowledge Age	Dec. 12-14, 2005, Delhi College of Engineering, India
(ii) Seminar:				
1.	M.Sreekumar	Ph.D	National seminar on Advances in Image processing & Robotics	25-26 Feb.2005 Anna University Chennai.
(iii) Symposia:				
1	K. Sai Sanakaranarayana	MS	National Symposium on Acoustics (NSA-2005)	Dec. 12-14, 2005, NAL, Bangalore

4.12.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization
Professor:	
Ajit Kumar Kolar, Ph.D.	Fluidised Bed Combustion, Biofuels, Fuel Cells
Balabaskaran V., Ph.D	Pumps, Hydroturbines, Vortex element method
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.	Simulation, CFD, Fluid Flow in Engines and Gas Turbines
Gnanamoorthy R., Dr. Eng.	Machine design, design of test machines, fatigue and fracture mechanics, gear and bearings, rolling contact fatigue, failure analysis, tribology, new materials and components, mechanical behaviour of materials

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
Krishnaiah Chetty O.V., Ph.D.	Conventional and unconventional machining, FMS, CIM, Scheduling, Petri Nets
Krishna Kumar R., Ph.D.	Non-linear and linear finite elements, Computer Aided Design, Simulation of Manufacturing Processes, Tyre & Vehicle Mechanics, Biomechanics
Krishnan Balasubramanian, Ph.D.	Nondestructive Evaluation, Materials Characterization Wave Propagation
Kumaraswamy S., Ph.D.	Pumps, Hydroturbines, Cavitation
Madhusudana Rao M., Ph.D.	Machine design, especially design of mechanical handling equipment, pneumatic/hydraulic transportation, three phase system, materials handling system
Maiya M.P., Ph.D.	Refrigeration (Sorption systems and co-generation) Air Conditioning (Desiccant and evaporative cooling and energy aspects) Ventilation, drying and effluent evaporation Metal hydride energy conversion systems
Mani A., Ph.D.	Solar energy, refrigeration and air conditioning, cryogenic engineering, alternate working fluids, effluent treatment
Mayuram M.M., Ph.D.	Surface engineering, wear and wear control, thermal sprayed coatings, fatigue and fracture aspects in design and analysis
Muthuveerappan G., Ph.D.	Machine design, vibrations of structures in fluid environments, gear teeth profile and fillet for geometry, stress analysis and design of gears, finite element analysis
Nagarajan T., Ph.D.	Robotics, Pneumatics Medical Instruments
Narayanan S., Ph.D.	Vibration, Smart Structures
Narayanasamy K., Ph.D.	Precision engineering, high precision manufacturing, production metrology, surface technology
Pramod S.Mehta, Ph.D.	Combustion Modelling, 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 mechanics, fatigue and fracture of materials
Ramamoorthy B., Ph.D.	Metrology, Computer Aided Inspection, Vision Applications, Surface Technology, Sensors, Manufacturing Engineering, Quality Control.
Ramesh Babu N., Ph.D.	Computer aided Manufacturing-CNC, PLC, grinding, unconventional machining processes - LBM, AWJM
Ramesh A., Ph.D.	IC Engine Combustion and Emissions, Electronic Engine Management, Alternative Fuels
Shunmugam M.S., Ph.D.	Metrology, BTA, Gear Machining, Grinding, EDM, Statistical Quality Assurance, Automation, Computer Aided Manufacturing Systems and Control
Singaperumal M., Ph.D.	Fluid Power, System Simulation, Mechatronics Precision Engineering.
Sitaram N., Ph.D.	Turbomachinery / end wall flows, computational fluid dynamics, compressors and turbines, boundary layers, tip clearance flows
Siva Prasad N., Ph.D.	Finite element analysis, computer aided design, stress analysis, machine design
Srinivasa Murthy S., Ph.D.	Refrigeration & Airconditioning, Energy Conservation & Heat Recovery, Solar & Hydrogen Energy Utilisation

Srinivasa Y.G., Ph.D.	Control Active Suspension, Active Vibration Control, Extrude Ho ning
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.	Metal Cutting, CAD, Grinding, Condition Monitoring, Composites and Surface Technology
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
Nilesh J.Vasa, Ph.D.	Laser Technology and remote sensing ,Mechanical Engineering, lighting protection of wind turbines
Raghu Prakash V, Ph.D.	Experimental Fatigue Analysis, Structural integrity, Test systems design
Assistant Professor:	
Arunn Narasimhan, Ph.D.	Heat Transfer and Fluid Flow in Porous Media, Phase Change and Convection
Shaligram Tiwari, Ph.D.	Refrigeration and Airconditioning, Boiling, Flow Transition, Vortex Dynamics, CFD, Maragonic Convection
Dhiman Chatterjee, Ph.D.	Cavitation, Turbomachines, Two-phase flow
Mallikarjuna J.M., Ph.D.	Simulation of Engine processes, Data Acquisition, Design of Engine Components
Samuel GL., Ph.D.	Micro Machining, CAD-CAM, FMS
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, genetic algorithm
Srinivas Reddy K., Ph.D.	Renewable Energies, Solar Energy, Energy Conservation, Energy Environment, Energy Auditing
Srinivasan K., Ph.D.	Jet Flow and Noise, Active and Passive Flow Control, Measurement and Instrumentation
Visiting Faculty:	
Ramamurthi K., Ph.D.	Combustion, Propulsion, Explosions
Henry Ford Chair Professor	
Sharma R.P., ME	Engine Design, Engine Tribology, Alternative Fuels (Bio-diesel and Hydrogen), Engine Emissions, Automotive Engineering
Emeritus Scientist/ Professor	
Krishnamurthy, R, Ph.D.	Metal Cutting, Grinding, Unconventional Machining Ceramics
Nagalingam, B, Ph.D.	IC Engine Combustion and Emissions, Alternative Fuels, Engine Design
Scientific Officer Gr. II	
Raja Rao S., M.E.	Engineering Drawing, machine drawing, computer graphics

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Dr T.Nagarajan	A Short-Term Course on Robotic Control and Vision Conducted for the participants from Combat Vehicle Research and Development Establishment (CVRDE).	17 th to 30 th October 2005.
2.	S. Narayanan	International Conference on Computation and Experimental Engineering and Sciences, IIT Madras	Dec. 1-6, 2005
Seminar:			
1.	Dr. P. Chandramouli	Noise Control Issues in Industry	April 11, 2005
2.	Dr. V. Ganesan (Organising Secretary)	SAE INDIA Int. Mobility Engg. Congress & Exposition 2005, Chennai	Oct. 23-25, 2005
Workshop:			
1.	Dr. Ajit Kumar Kolar Dr. BVSSS Prasad Dr. K.Srinivas Reddy	Indo-Swedish Workshop on "Biofuel Conversion"	Dec. 14-16, 2005
2.	Dr. S.K. Das	A 2-day Int. Workshop on "Compact Heat Exchangers"	Jan. 9-10, 2006
Short Term Course:			
1.	Dr. J.M. Mallikarjuna	Automotive Engine & Emission Control Techniques	Mar. 6, 2006 – Mar. 11, 2006
2.	Dr. Dhiman Chatterjee and Prof. S. Kumaraswamy	Short Term Training Programme (STTP) on Pumps and Cavitation	19.12.05-23.12.05

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.P. Venkateshan	Indo-French Work on "Megha Tropicque"	Satellite Applications Centre, Ahmedabad	Sept. 17-20, 2005
2.	Dr M.P.Maiya	18 th International Congress of Mechanical Engineering, COBEM 2005	Ouro Preto, Minas Gerais, Brazil	6 th to 11 th November 2005
3.	Dr M.P.Maiya	18 th National & 7 th ISHMT-ASME Heat and Mass Transfer Conference	IIT Guwahati, India.	4 th to 6 th January 2006
4.	Dr. Ajit Kumar Kolar	8 th Int. Conf. on Circulating Fluidised Beds	Hangzhou, China	May, 10-13, 2005
Seminar:				
1.	Dr.M.Singaperumal	Study meeting an Advanced Manufacturing technologies – Precision Engineering organized by Asian Productively Organization	Davegn, Korea.	25 th to 30 th October 2005.
Symposia:				
1.	Dr. L. Vijayaraghavan	Inauguration of students symposium PRODIGY'06	NIT., Tiruchirappalli	7 th Feb.-2006
2.	Dr. G.L. Samuel	Machine Tools and Production Technology from Germany VDW Technology Symposium.	Chennai	13 th and 14 th November 2005

Conference:				
1.	Dr. N. Ramesh Babu	Presented a paper at the International Conference WJTA 2005 American Waterjet Conference Key note attests on Computer Applications in Mechanical Engineering at the National Conference (CAME 2005)	Houston, Texas, USA JNTU College of Engg., Anantapur	21-23 rd August 2005 December 21, 2005
2.	Dr. V. Ganesan	2 nd Nat. Automotive SAE India Youth Conference 2005	P.S.G. College of Technology Coimbatore	Mar. 3-5, 2005
3.	Prof. R.P. Sharma	-do-	-do-	-do-
4.	Dr. V. Ganesan	SAE India Int. Mobility Engg. Congress & Exposition 2005	Chennai Trade Centre	Oct. 23-25, 2005
5.	Dr. A. Ramesh	-do-	-do-	-do-
6.	Dr. J.M. Mallikarjuna	-do-	-do-	-do-
7.	Dr. R.P. Sharma	-do-	-do-	-do-
8.	Dr. V. Ganesan	14 th ISME International Conference on Mech. Engg. in Knowledge Age	Delhi College of Engg., Delhi	Dec. 12, 2005 to Dec. 14, 2005
9.	Dr. V. Ganesan	19 th National Conference on I.C. Engines and Combustion	Annamalai Univ., Chidambaram	Dec. 21, 2005 to Dec. 23, 2005
10.	Dr. Pramod S. Mehta	-do-	-do-	-do-
11.	Dr. J.M. Mallikarjuna	-do-	-do-	-do-
12.	Prof. R.P. Sharma	-do-	-do-	-do-
13.	Dr. V. Ganesan	National Conf. on Recent Advances in Mech. Engg. README 2005	P.A. College of Engg., Mangalore	Dec. 1-3, 2005
14.	Prof. R.P. Sharma	60 th Annual Convention and Intl. Seminar on "New Horizons and Liquids and Special Oleochemicals"	IICT, Hyderabad	Dec. 2-3, 2005
15.	Prof. R.P. Sharma	5 th Int. Symp. On Fuels & Lubricants	IOCL, New Delhi	Mar. 9-10, 2006
16.	Dr. A. Ramesh	-do-	-do-	-do-
17.	Prof. R.P. Sharma	Technology Appreciation Program on Engines	IC & SR IIT Madras	Mar. 17, 2006
18.	Dr. K. Srinivas Reddy	ICORE 2006	SESI, Hyderabad	Feb. 8-11, 2006
19.	Dr. BVSSS.Prasad	18th National & 7 th ISHMT-ASME Heat and Mass Transfer Conference.	IIT Guwahati	January 4-6, 2006
20.	Dr. N.Sitaram	National Conf. on Recent advances in Computational Methods in Aerospace Engg	IIT Madras	February 24 & 25, 2006
21.	Dr C Sujatha	The 12 th International Congress on Sound and Vibration (ICSV12)	Lisbon, Portugal	July 11-14, 2005
22.	Dr C Sujatha	The 12th National Conference on Machines and Mechanisms (NaCoMM-2005)	IIT Guwahati	December 16-17, 2005

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr Dhiman Chatterjee	Hydrodynamic cavitation and hydraulic control systems	Jadavpur University, Kolkata on 6 th July, 2005 (As a part of Refresher Course on "Recent Advances in hydraulic control systems" sponsored by UGC-ASC)
2.	Dr S. Kumaraswamy	Understanding pump characteristics for the designer and the user	32 nd national conf. on Fluid Mechanics and Fluid Power, 15-17 Dec. 2005, Osmanabad

3.	Dr A Mani	Automobile Airconditioning	MICO, Bangalore.
		Review of Renewable Energy	Shri Andal Alagar College of Engg., Chennai.
		Overview on Vapour Absorption Refrigeration System and Vapour Compression Refrigeration System"	Annamalai University, Chidambaram.
4.	Dr. P. Chandramouli	Fluid-Structure Interactions Vibration Analysis Noise and Vibrations	CFD Short Course, June 2005 CVRDE June 2005 CVRDE Sept 2005
5.	Prof. R.P. Sharma	a) Use of CNG/LPG in Automotive Engine b) Engine Design and Automotive Emissions	Indian Institute of Petroleum, Dehradun April 18, 2005
		Engine Oil Consumption Reduction	P.S.G. College of Technology, Coimbatore, Sept. 24, 2005
		Brainstorming Session on R & D in the Downstream Sector of Petroleum Industry	Petrofed at Delhi Jan. 7, 2006
		Strategies for Bio-fuel Crops in AP	National Academy of Agricultural Research Management, Hyderabad, Jan. 23, 2006
		Biodiesel fuel for Automotive Applications	P.S.G. College of Technology, Sept. 9, 2005
6.	Dr. A. Ramesh	Role of Electronics in the Reduction of Emission Automobiles	Sree Chitra Thirunal College of Engineering, Thiruvananthapuram June 24, 2005
		Recent Advances in Automotive Engines	JNTU College of Engineering, Kakinada, Dec. 16, 2005
		Electronic Engine Management	Technology Appreciation Program, IIT Madras, Mar. 17, 2006
7.	Dr.V. Ganesan	Promising Gaseous Fuel for Automotive Applications	P.S.G. College of Technology, Coimbatore, Sept. 9, 2005
		Promising Gaseous Fuel for Automotive Applications	P.A. College of Engg. Managalore, 1.12.2005
		Promising Gaseous Fuels for Automotive Applications	NITK, Surathkal Mar. 24, 2006
8.	Dr. J.M. Mallikarjuna	Supercharging and Turbocharging	IIT Madras, 23.3.2006
		Hydrogen – A Fuel for I.C. Engine – An Experimental Investigations	NITK, Surathkal Mar. 24, 2006
9.	Dr. Sarit Kumar Das	Process Intensification in Heat Exchangers	Indian Chemical Manufacturers Association, Southern Region, Nungambakkam, Chennai 29.4.2005
10.	Dr. K. Srinivas Reddy	Recent Trends in Solar Thermal Energy Applications	T.J. Institute of Technology, Chennai, 20.8.2006
		Solar Thermal Energy Applications	R.K.M. Engg. College Kavaraipettai, 22.8.2005
11.	Dr. S.P. Venkateshan	CFD Analysis of Compressible and Incompressible Internal Flows	Vikram Sarabhai Space Centre, Thiruvananthapuram 27.9.2005
12.	Dr. Ajit Kumar Kolar	Energy	K.C.G. College of Engineering, Chennai, 5.9.2005
		Energy	Tsinghua Univ., Beijing Shanghai Jiao Tong Univ., Shanghai and Zhejiang Univ. Hangzhou and Asian Institute of Tech., Bangkok
		Fuel Cells	St. Peters College, M.M. Jain College and T.J. Institute of Technology, Chennai 18 th & 19 th Aug. 2005
13.	Dr M.M.Mayuram	Automotive Transmission	M/S Mico Ltd., Bangalore Oct 21-22, 2005
14.	Dr M.P.Maiya	Thermoelectric Cooling	International Workshop on Thermal Design and Management held in Bangalore, 10-11, January 2006
		Building Cooling Load Analysis	Refresher Course 2006, ISRO, Bangalore, 24-25, January 2006

15.	Dr K. Ramamurthi	Combustion Instability and Control	IIT, Kanpur, Jan.16, 2006
		Characteristics of Sprays formed in Swirled Flows	IIT, Kanpur, Jan.17, 2006
		Energy Aspects in Rocket Propulsion	LPSC/ISRO, Trivandrum, Jan.25, 2006
16.	S. Narayanan	Random Vibrations	STTP for faculty of engineering colleges at College of Engineering, Trivandrum, June 17, 2005
		Introduction to Random Processes and Statistical Properties	NPEEE sponsored short term course on Probability Methods in Earthquake Engineering (PMEE 2005) July 11-15, 2005
		Random Processes in Time and Frequency Domains	-do-
		Response of SDOF Systems to Random Environments	-do-
		Response of MDOF Systems to Random Environments"	-do-
17.	Dr C Sujatha	"Acoustical Standards and Sound Pressure Measurements"	Technology Appreciation Programme on "Acoustics and Noise Control for Industry at ICSR, IIT Madras on April, 13, 2005
		"Vibration Instrumentation" and "Machinery Noise and Control"	Short Term Course on "Introduction to Industrial Vibration Problems and its Solutions" conducted by AU-FRG Institute for CAD/CAM, Anna University, Chennai-25 during the period 26-28 May, 2005
		"Vibration Instrumentation" and "Signal Processing for Mechanical Engineers"	Short Term Training Programme on "Recent Advances in Analysis of Machinery Vibrations" at the College of Engineering, Trivandrum on June 9 th and 10 th , 2005
		"Vibration Instrumentation and Measurements"	Technical Workshop on Vibration, Noise and Condition Monitoring at B S Abdur Rahman Crescent Engineering College, Chennai 600 048 on 24-11-2005

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country visited	Date	Purpose of Visit
1.	Dr P. Chandramouli	Portugal	July 10-17	Conference
2.	Dr S Srinivasa Murthy	Istanbul, Turkey	12-16 July 2005	International Hydrogen Energy Conference
3.	Dr P. Chandramouli	U K	August 2005	Project Meeting
4.	Dr P. Chandramouli	USA	October 2005	Project Meeting
5.	Dr.M.Singaperumal	Davegn, Korea	25 th to 30 th Oct.2005.	Study meeting an Advanced Manufacturing Technologies.
6.	Dr. V. Ganesan	Detroit, USA	April 3-6, 2006	To receive fellowship award
7.	Dr. A. Ramesh	Detroit, USA	April 3-6, 2006	To present a paper
8.	Dr. Ajit Kumar Kolar	China & Thailand	May 10-28, 2005	To attend 8 th Int. Conf. On Circulating Fluidised Beds in Hangzhou, China and also to give lectures at Bangkok
9.	Dr. Sarit Kumar Das	Sweden	1.9.05 to 21.9.05	To discuss Collaborative Research Project
10.	Dr. Sarit Kumar Das	Helmut Schmidt Univ., Humburg, Germany and Univ. of Lund, Sweden	20.3.2006 to 3.4.2006	To attend seminar and discuss research collaboration.
11.	Dr. Sarit Kumar Das	Canada	11.9.2005 to 16.9.2005	To present papers at the 5 th Int. Conf. On Enhanced, Compact and Ultra Compact Heat Exchangers: Science, Engg. & Technology

12.	Dr M.P.Maiya	Brazil	5 th to 13 th November 2006	Attending Conference and visiting a few Brazilian Technical Laboratories
13.	Dr Krishnan Balasubramaniam	USA	28 th July-4 th Aug 2005	Review of Progress in QNDE Conference
14.	Dr Krishnan Balasubramaniam	South Korea	November 7-9, 2005, Jeju, Korea	Advance Nondestructive Evaluation Conference
15.	Dr C Sujatha	Portugal	10-15 July, 2005	To present papers at the Twelfth International Congress on Sound and Vibration (ICSV12), 11-14 July 2005, Lisbon, Portugal.

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	Dr. V. Ganesan	Bharat Jyoti Award	India International Friendship Society	Life time achievements	Mar. 03, 2006
2.	Dr. V. Ganesan	Certificate of Appreciation	American Society of Engineers of Indian Origin – MI Chapter	Life time achievements	Apr. 5, 2006
3.	Dr. A. Ramesh	Bhagalaxmi and Krishna Ayengar	IIT Madras	Guiding the best M.Tech. project	Apr. 2006
4.	Prof. R.P. Sharma	-do-	IIT Madras	Guiding the best M.Tech. project	-do-
5.	Dr. S.K. Das	Prof. K.N.Seetharamu Medal and Prize	ISHMT-ASME	Research in the area of Heat and Mass Transfer for the year 2005	Jan. 6, 2006
6.	Dr. N.Sitaram & S.Anish, M.Tech.	Dr.M.G. Deshpande Memorial prize	NSFMFP	For best paper from academics	2005
7.	Dr Krishnan Balasubramaniam	ISNT-IXAR AWARD	Indian Society for NDT (ISNT)	Best Technical Paper	Dec 2005

Books, Monographs authored / co-authored

S.No.	Name of Faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr. Sarit Kumar Das	Process Heat Transfer	Narosa Publishers, Delhi	Nil

Fellowships of Academies and Professional Societies :

S.No.	Name of Faculty	Name of the Academy /Professional Society	Level	Year of Admission
(i) Humboldt Fellowship:				
1.	Dr. Shamit Bakshi	Humboldt Fellowship	-	June 2005 to July 2006
2.	Dr. V Ganesan	SAE	Fellow	April 2006

4.12.4 Design and Development Activities:

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

- A new type of mixture injection system for two stroke engines has been developed.
- A Variable valve timing mechanism for a small automotive engine has been developed with a leading automotive industry
- A controller has been developed for a large 12 cylinder diesel engine for military applications

Software was developed consisting of two separate modules for rating and sizing calculations for the compact heat exchangers. There are about 66 surface characteristics from the published data. All commonly used fluids

and solid materials database are also incorporated. Nevertheless user can define a surface of fluid of his/her choice.

The software has been delivered to CVRDE (DRDO), Avadi for application to design of cooling system for Arjun Combat Tanks.

Dr. S.P. Venkateshan handed over a compact X-Band ESR Spectrometer Developed under an AERB funded project on 2.8.2005

As part of recent M.Tech projects, a prototype of a magneto-rheological (MR) based damper for a three-wheeler front suspension has been designed and fabricated. Experimental studies on characterization and analytical modeling of the damper have also been implemented. This has been achieved with the support of NPOL, Cochin and Rambal Industries, Thirupporur. This is the first time such a damper has been fabricated in the country.

New facilities added or major equipment procured through project funds:

Sl.No.	Name of Equipment	Value (Rs. in lacs)
1.	Eddy Current Dynamometer from project funds	4.47
2.	Fuel Cell Test Station	1.5
3.	ESP Scanner	3
4.	Unitary AC test facility	10
5.	CEDIP Infrared Imaging Camera with Lens	40
6.	Eddy Current Phased Array Module	15
7.	RITEC High Power Nonlinear Ultrasonic System	40
8.	National Instruments Compact RIO real-time embedded controllers	2

Patents awarded:

Patents filed: 1

A novel heat exchanger called "Modular Multi-Block Cross Flow Heat Exchanger" has been developed. The product has been proposed to be patented.

Two US Patents filed by Dr G Venkatarathnam:

- (a) Refrigerant Composition And Process For Preparation Thereof, Filed On Nov. 18, 2005, Application No. 10/557,189.
- (b) Refrigerant Composition For Refrigeration Systems, Was Filed On January 16, 2006 As Application Serial No. 11/331,8

4.12.5 Research and Consultancy:

Sponsored Research Projects:

S.No.	Title	Period	Funding Agency	Amount (In Rs. lakhs)	Co-ordinators
1.	Development of mixed refrigerant cryocooler for electronic cooling applications	2002-2006	ISRO	21.04	Dr G. Venkatarathnam Dr S. Srinivasa Murthy
2.	Network for Renewable Energy Research for the Built Environment and Technology Transfer between EU and India – RENEET"		EU-India Economic Cross Cultural Programme	25.00	Dr S Srinivasa Murthy
3.	Energy and Environmental Engineering for Sustainability (EEES): Establishment of Bachelor of Engineering Course in Energy and Environment		EU-Asia Link Programme;	18.00	Dr S Srinivasa Murthy
4.	Design and development of a ventilation system for the sidha medical unit"		Gandhi-gram Rural Trust		Dr A Mani
5.	Design and development of a ventilation system for the soap unit		Gandhi-gram Rural Trust		Dr A Mani

6.	Hydrophone Design and Vibration Characteristics	4/04-4/07	MHRD	8.0	Dr. P. Chandramouli (PI), Dr. M. S. Sivakumar (AM), Dr. C. Lakshman Rao (AM)
7.	Design and Development of a self guided Vehicle (SGV) with Embedded System Controller.	04.11.2003 to 03.11.2005	DST	15,38,000/-	Dr.Y.G.Srinivasa
8.	Hardware –in-loop Design Fabrication and Testing of Real time closed-loop	17.05.2004 to 16.05.2006	ISRO	10,71,600/-	Dr.Y.G.Srinivasa
9.	Fuel Nozzle Modelling	2002-2005	Aeronautical R & D Board	7.47	Dr. V. Ganesan
10.	Development of High Performance Bio-gas Vegetable Oil Dual Fuel Engine	30.1.2003 to 29.1.2006	Ministry of Non-conventional Energy Sources	18.00	Dr. A. Ramesh Dr. B. Nagalingam
11.	Development of a mixture Injection System for Improved Performance and reduced emissions in two-stroke SI Engines	1.4.2003 to 30.9.2005	Ministry of Human Resources and Development	10.00	Dr. A. Ramesh Dr. V. Ganesan Dr. B. Nagalingam
12.	Development of Combustion Diagnostic Laboratory	2003-2006	DST-FIST	100.00	Dr.V. Ganesan Dr. J.M. Mallikarjuna
13.	Development of an Engine management System for a small Two Wheeler Engine	18 months from 15 th June 2005	TIFAC	110.00	Prof. R P Sharma Dr. A Ramesh Mr. P. V. Manivannan
14.	Porous Medium Enhanced Energy Efficient Solar Parabolic Trough Collector	3 ½ years w.e.f. April, 2005	MHRD	15.00	Dr. K. Srinivas Reddy Dr. Arunn Narasimhan
15.	Development of Mathematical Model for Melt Relocation Studies	7.11.2005 to 6.11.2008	IGCAR, Kalpakkam	16,09,200/-	Dr. T. Sundararajan Dr. Sarit Kumar Das
16.	Biofuel Conversion	2003-2005	SIDA	15.00	Dr.Ajit Kumar Kolar Dr.BVSS Prasad
17.	Development of Mathematical Model for Sodium Combustion Extinguishment in Leak Collection Tray	13.4.2005 to 12.10.2006	IGCAR, Kalpakkam	6,49,200/-	Dr Sarit K. Das Dr T. Sundararajan
18.	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
19.	Thermal and Electrical Conduction in Nano-fluids	5.12.2004 to 4.2.2007	DST	7.60	Dr. Sarit K. Das Dr. T. Sundararajan Dr T.Pradeep Dr A. Dasgupta Dr N. Dasgupta
20.	Flow Boiling Heat Transfer Inside Narrow Tubes	3.3.2003 to 2.3.2006	ISRO	21,27,500	Dr. A.R. Balakrishnan Dr. Sarit K. Das K. Ramamurthy
21.	Study on Departure from Nucleate and Tube Dry	2004-2005	BHEL	15,00,000	Dr. B.V.S.S.S. Prasad Dr. Sarit K. Das
22.	Trigeneration Systems	Aug. 2005 to Aug. 2006	CWET Chennai	2.5	Dr. Ajit Kumar Kular
23.	Augmentation of Research Facilities	April 05 to March 2010	DST	38.0	Dr. N.Sitaram Dr. M.Govardhan Dr. BVSSS.Prasad
24.	Performance Improvement of Centrifugal Compressor by means of Squealer Tips	March 2003 to Feb. 2006	CSIR	5.0	Dr. N.Sitaram
25.	Investigation of Subsonic Impulse and Reaction Turbine Cascades	April 2003 to Sept 06	MHRD	10.0	Dr. M.Govardhan Dr. N.Sitaram

26.	Turbine Rotor / Stator Interaction including Film cooling effects	April 2003 March 2006	ARDB	9.0	Dr.BVSSS.Prasad Dr.N.Sitaram
27.	Development of a CFD model for Blockage of coolant flow path in a fast breeder reactor fuel sub-assembly.	3 years	IGCAR	12.91	Dr.BVSSS.Prasad
28.	Vapour compression heat pump chiller (ongoing).	2002 – 2006 4 years	Kirloskar McQuay Pvt.Ltd., Pune	15.0	Dr .S.Srinivasa Murthy Dr.M.P.Maiya Dr.A.R. Balakrishnan
29.	Demonstration of Solar Heat Driven Metal Hydride Based Heat Pump (ongoing).	2003 – 2006 3½ years	MNES	23.9	Dr S.Srinivasa Murthy Dr.M.P.Maiya
30.	Synthesis and Evaluation of Hydrogen Absorbing Alloys by Mechanical Alloying (ongoing).	2003 – 2006 3½ years	MNES	20.0	Dr.S.Srinivasa Murthy Dr.M.P.Maiya
31.	Polymer Composite gears		DST	12.7	Dr R Gnanamoorthy Dr S K Malhotra
32.	Development of a oral simulator	2005-2008	MHRD	17	Dr R Gnanamoorthy Dr M Kamaraj
33.	NDE techniques for Large Area Honeycomb Panels	2003-05	Indian Space Research Organisa- tion	16.00	Dr Krishnan Balasubramaniam
34.	Infrastructure Asset Management NDE Technologies	2003-06	Department of Science and Technology India	49.00	Dr Krishnan Balasubramaniam
35.	Development of Advanced NDE Techniques (with Enhanced Sensitivity, Reliability and Reduced Inspection Time) for Detection and Characterisation of Flaws in Nuclear Reactor Components/Process Equipments	2003-06	BRNS, BARC, Trombay	213.00	Dr Krishnan Balasubramaniam
36.	Development of a technique the detection of cracks in Ti welds in pressure bottles	2005-06	ISRO, LPSC, Bangalore	16.00	Dr Krishnan Balasubramaniam
37.	Detector Array Characterisation for Computer Aided Tomography	2006-2008	DRDL (DRDO), Hyderabad	195.00	Dr Krishnan Balasubramaniam
38.	Structural Health Monitoring Demonstration for LCA Components	2005-2007	ADA, Bangalore	104.00	Dr Krishnan Balasubramaniam
39.	Exploratory studies on a cavitation-induced ignition system for non-hypergolic propellant rockets	2 years	ISRO-IIT(M)	18.66	Dr. Dhiman Chatterjee & Dr. S. Kumaraswamy
40.	Experimental studies on hydraulic transport of large solids in hoses	2 years	NIOT	29.82	Dr. S. Kumaraswamy
41.	Active Vibration Control of Plates'	3 years	Research Centre Imarat, Hyderabad	4.95	Dr C Sujatha Dr S Swarnamani

Industrial Consultancy projects:

S.No.	Name of Faculty	Title	Industry	Amount (Rs. In Lakhs)
1.	Dr P. Chandramouli Dr C. Sujatha Dr S. Swarnamani Dr N. Ganesan Dr S. Narayanan	Seismic Testing & Analysis of Electrical Equipment	Several Industries	15.0

2.	Dr. A. Ramesh	LPG Diesel Dual Fuel System with Electronic Controller for Tractor Application – Phase I	M/s Mahindra and Mahindra Ltd., Tractor Division Mumbai	0.72
3.	Dr. K. Srinivas Reddy	Determination of "K" Values for LRB Samples	M/s Minwool Rocks Fibres, Chennai M/s Rockwool(India) Ltd., Hyderabad M/s Rockwool(India) Ltd., Chennai M/s Rockwool(India) Ltd., New Delhi	1.44
4.	Dr. K. Srinivas Reddy	Determination of Density for Resinbonded Fibre Glass Wool	CPWD, Pondicherry	0.06
5.	Dr. K. Srinivas Reddy	Determination of Thermal Conductivity of Rockwool (LRB) Sample	M/s Rockwool (India) Ltd., Hyderabad M/s Rockwool (India) Ltd., New Delhi	0.45
6.	Dr Sarit K. Das	CFD Simulation for Identifying Failures in Radiator Components	M/s Commercial Auto Products Pvt. Ltd., Lucknow	0.87
7.	Dr. BVSSS. Prasad Dr. N.Sitaram	Design of duct for a Climatic Wind Tunnel Application	KASCO	0.25
8.	Dr. BVSSS. Prasad Dr. N.Sitaram	Air flow test for perforated raised access flooring panes.	United Insulations	0.20
9.	Dr.BVSSS.Prasad	Design of Wind Turbine	MSC Engieeering, Chennai	1.80
10.	Dr.BVSSS.Prasad	CFD analysis of vertical axis wind mill	Disha Consultant Gujarat	0.50
11.	Dr M.P.Maiya	HVAC Consultancy Service for Prayer hall	Jesus Redeems Ministries, Nalumavadi - 628211	1.5
12.	Dr R Gnanamoorthy	Fretting studies on coated steels,	M/s Tata Motors	
13.	Dr R Gnanamoorthy	Friction analysis on surface modified steels	M/s Tata Motors	
14.	Dr R Gnanamoorthy	Studies on cone clutches	M/s Sundaram Claytons	
15.	Dr Krishnan Balasubramaniam	Imaging of the bond between Si wafer and Substrate	General Electric Jack Welch Technology Center, Bangalore	0.65
16.	Dr Krishnan Balasubramaniam	Survey of NDE methods for Solar Cell Crack Detection	Solaria Pvt. Ltd., Hyderabad	0.35
17.	Dr A Mani	Vetting of thermal design of induced draught cooling tower	L&T ECC Division, Chennai.	
18.	Dr. S. Kumaraswamy	Expert opinion on pump test rig arrangement	Titanium Tantalum Products Ltd. Chennai	0.30
19.	Dr. S. Kumaraswamy	Establishment of the RO plant including treatment of the RO reject	Tamilnadu Cooperative Textile processing mills Ltd. Erode	3.50

20.	Dr. S. Kumaraswamy	Improvement of existing effluent treatment plant	Tamilnadu Cooperative Textile processing mills Ltd. Erode	1.00
21.	Dr.C.Sujatha	Damping studies on rubber samples	WEP Peripherals Ltd., Mysore	0.55
22.	Dr.C.Sujatha	Vibration resistance test	Anabond Essex, Pondicherry	0.44
23.	Dr.C.Sujatha Dr P Chandramouli	Vibration test on Amalgamated Rectifier Transformer	Blue Star Exports, Tiruvallur	0.50
24.	Dr.C.Sujatha Dr P Chandramouli	Vibration test on Amalgamated Rectifier Transformer	Ramya Electro-gear Industries	0.73
25.	Dr.C.Sujatha Dr N Ganesan	Vibration test on Radiator	Banco Products, Vadodara	0.506
26.	Dr C Sujatha	Vibration resistance test	Anabond Essex, Pondicherry	0.44
27.	Dr.C.Sujatha Dr P Chandramouli	Ground vibration testing at Ulli village	Skanska Cementation Ltd., Vellore	0.64

RBIC Projects:

S.No.	Name of Faculty	Title	Industry	Amount (Rs. In Lakhs)
1.	Dr. P. Chandramouli Dr. C. Sujatha Dr. S. Swarnamani	Vehicle Dynamics of MBT Arjun	CVRDE	49.7
2.	Dr.V. Ganesan Prof. R.P. Sharma	Modelling of Steady Flow through Intake and Exhaust Manifolds	Infosys Technologies, Bangalore	14.00
3.	Dr. V. Ganesan Prof. R.P. Sharma	CFD Modelling and Analysis of Intake and Exhaust System	Engg. Solutions, Larsen & Toubro Vadodara	11.615
4.	Dr. V. Ganesan	Consultancy and Technical Study on Self-Cleaning Air Cleaning System and Compact Air Cleaning (Secondary Filtration After Turbocharger Compressor) for Armoured Fighting Vehicles	CVRDE Avadi Chennai	9.2
5.	Prof. R.P. Sharma Prof. A. Ramesh Dr. V. Ganesan Prof. Pramod S. Mehta Dr. J.M. Mallikarjuna Mr. P.V. Mannivannan	Development of Hydrogen Engine for Passenger Bus Application	M/s Tata Motors Limited, Pune	94.00
6.	Dr. Sarit K. Das	Development of Mathematical Model to Predict Performance of Plate and Fin Type Heat Exchangers for Aerospace Applications	Honeywell Technology Solutions Lab Pvt. Ltd., Bangalore	2.20
7.	Dr. BVSSS. Prasad Dr. N.Sitaram	Computational Investigation and Testing of Fan Model	M/s Cethar Vessels, Trichy	7.5
8.	Dr. BVSSS.Prasad	CFD Visualization model for characterizing thermo hydrolic flow regimes of a typical U-tube stream generator	M/s BHEL Trichy	9.25
9.	Dr. S.Srinivasa Murthy and Dr M.P.Maiya	Design & Development of Metal Hydride Based Cooling System	Thermax, Pune	15.00
10.	Dr Krishnan Balasubramaniam	Development of Data Registry and Data Analysis Algorithms for NDE inspection of Large Area Aircraft Structures	US Air Force Research Laboratory, USA	70.00

11.	Dr Krishnan Balasubramaniam	Modeling and Residual Life Assessment of a Composite Tube Gun Barrel	ARDE, Pune	4.92
12.	Dr Krishnan Balasubramaniam	Feasibility Evaluation for an ultrasonic contaminant detection system in cotton processing	Sieger Spintech Pvt. Ltd	4.00
13.	Dr Krishnan Balasubramaniam	Development of Ultrasonic Guided Wave Techniques for Pipe Inspection	BPCL, Mumbai	15.32
14.	Dr Krishnan Balasubramaniam	Development of Nano-Imaging of the Porosity Structure of Nano-Ceramic Samples	General Electric Jack Welch Technology Center, Bangalore	10.00
15.	Dr Krishnan Balasubramaniam	Measurement of Viscosity and Density in Glass Melts	Corning Inc, USA	20
16.	Dr Krishnan Balasubramaniam	Development of a portable C-scan system for the inspection of portable composite bridge decks.	R&DE (Engineers), Pune	4.90
17.	Dr Krishnan Balasubramaniam	Development of an Ultrasonic Technique Quality Evaluation of Large Composite Tube	DRDL, Hyderabad	9.92
18.	Dr Krishnan Balasubramaniam	Imaging of the bond between Si wafer and Substrate.	General Electric Jack Welch Technology Center, Bangalore	0.65
19.	Dr Krishnan Balasubramaniam	Survey of NDE methods for Solar Cell Crack Detection	Solaria Pvt. Ltd., Hyderabad	0.35
20.	Dr Krishnan Balasubramaniam	Burn Rate Measurement Technique Development	DRDL, Hyderabad	9.80
21.	Dr Krishnan Balasubramaniam	C-Scan Algorithm Development for Billet Inspection	Mahindra Intertrade	2.00
22.	Dr Krishnan Balasubramaniam	Flow and Cure Monitoring Sensors using Guided Ultrasonic Waves	Research and Development Establishment, Pune	9.80

Retainer Consultancy

S.No.	Name of Faculty	Title	Industry	Amount (Rs. In Lakhs)
1	Dr P. Chandramouli	Nonlinear Dynamics of Engines	Boeing USA	2.0
2	Dr P. Chandramouli	Noise and Vibration of motorcycles	TVS Motors	1.0
3	Dr. V. Ganesan	CFD Analysis	M/s Cades Digitech (P) Ltd., Bangalore	2.4

Exchange programme with other Universities including Institutions/Universities under MoU:

Sri Dixit Kaustubh Shantanu, M.Tech student went to Germany under student exchange program.

Mr Dharmendra Sharma, M.S. scholar is under exchange to NUT, Japan to carry out a part of research work under JASSO scholarship.

Journal Editorial Books:

S.No.	Name of Faculty	Level	Journal
1.	Dr S Srinivasa Murthy	Area Editor (Asia- Pacific countries)	International Absorption Newsletter, UMCP, USA
2.	Dr S Srinivasa Murthy	Member, Editorial Board	Journal of Energy, Mass and Heat Transfer, APCEE
3.	Dr S Srinivasa Murthy	Member, Editorial Board	Innovative AC&R, Quarterly Journal for the AC&R Industry
4.	Dr S Srinivasa Murthy	Associate Editor (Regional)	International Journal, Applied Thermal Engineering, Elsevier

5.	Dr S Srinivasa Murthy	Member, Editorial Board	International Journal of Low Carbon Technologies; Cambridge University Press
6.	Dr. V. Ganesan	Editor	Journal of Naval Architecture and Marine Engg
7.	Dr. Sarit Kumar Das	Member of the Editorial Board	International Journal Heat Transfer Engineering (Taylor and Francis)

Research Publications:

Total Number of papers published in Refereed National Journals	:	11
Total Number of papers published in Refereed International Journals	:	67
Total Number of papers presented in National Conferences	:	72
Total Number of papers presented in International Conferences	:	97

In Refereed National Journals:

Sl.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Krishnan Balasubramaniam	Resonance Frequency Shift in Nonlinear Hysteretic Elastic Materials and Damaged Atomic Elastic Materials	Advances in Vibration Engineering, 4 (4), 387, (2005)
2.	Krishnan Balasubramaniam	Inspection of Thin Welded Aluminium Plates using Ultrasonic Guided Waves	Journal of Nondestructive Evaluation and Testing 4(2), 36-41, (2005)
3.	Das, S.K., Sundararajan, T., Preedp, T. and Pael, H.E	Comment on 'Model for Heat Conduction in Manofluids': Das et al reply"	Physical Review Letters, Vol. 95 (20), 2005, p. 209402
4.	Bharat Krishna, S. and Ganesan, V.	CFD Analysis of Flow through Vane Swirlers"	Journal of the Institution of Engineers (India), Vol. 86, April, 2005, pp 12-19.
5.	Ganesan, S., Kishore Kumar, S and Ganesan, V	Numerical Modelling of Isothermal Flows in a Gas Turbine Afterburner Model"	Journal of Energy, Heat and Mass Transfer, Vol. 27, No.1, 2005, pp 23-38
6.	Kale, S.C., and Ganesan, V.	A Study of Steady Flow Through a SI Engine Intake System Using CFD"	Journal of Institution of Engineers, India, Vol. 86, 2005, pp 61-65.
7.	Ananda Reddy, G. and Ganesan, V.	A Numerical Study of Pre-Diffuser Optimization of an Aero Gas Turbine Combustion Chamber"	Indian Journal of Engineering and Material Sciences, India, Vol. 12, No. 4, 2005, pp 281-291.
8.	Ganesan, S., Kishore Kumar, S. and Ganesan, V.	CFD study of Isothermal Flow in an Afterburner System	Indian Journal of Engineering and Material Sciences, India, Vol. 12, pp 487-497
9.	U.S.P. Shet, K.Kumaran and Omkar D.Vaidya.	Flame Noise from Swirled Partially Premixed LPG-Air Twin-Jet Open Flames	Journal of The Acoustical Society of India, Vol.33-2005, No.1-4, pp 45-51
10.	Swarnamani, S, Prasad, S.A.N. Vendhan, C. P	Analysis of Underwater Plate Panels for Active Control of Sound Radiation	Journal of Acoustic Society of India," Vol. 33, pp.535-540, 2005
11	K. Renji, P.S. Nair and S. Narayanan	Acoustic Response behaviour of panels mounted with equipment and its prediction using statistical energy analysis	J. of Sound and Vibration (28914-5), 851-870 2006

In Referred International Journals:

Sl. No.	Name of the faculty	Title of the paper	Name of the Journal
1.	B.Viswanathan, M.Helen, & S.Srinivasa Murthy	Noble Metal Based Anodes for Polymer Electrolyte Membrane Fuel Cells Photo-Electrochemistry & Photo-Biology in the Environment	Research Signpost, 2005, pp.61-104

2.	L.Hima Kumar, B.Viswanathan & S.Srinivasa Murthy	Alanates-Are they the Appropriate Hydrogen Storage Materials? Photo- Electrochemistry & Photo-Biology in the Environment	Research Signpost, 2005, pp.13-42
3.	R.Vijay, R.Sundaresan, M.P.Maiya & S.Srinivasa Murthy	Hydrogen storage properties of Mg-x wt% Cr ₂ O ₃ (x=5-20) nano- composites prepared by mechanical alloying	Int. J of Hydrogen Energy, Article in Press, Sciencedirect (On Line) 2006
4.	P.Muthukumar, M.Prakash Maiya and S.Srinivasa Murthy	Experiments on a metal hydride based hydrogen storage device	Int. J of Hydrogen Energy, Vol.30, 2005, pp. 1569- 1581.
5.	P.Muthukumar, M.Prakash Maiya and S.Srinivasa Murthy	Experiments on a metal hydride based hydrogen compressor	Int. J of Hydrogen Energy, Vol.30, 2005, pp. 879-892.
6.	R.Vijay, R.Sundaresan, M.P.Maiya & S.Srinivasa Murthy	Comparative evaluation of Mg-Ni hydriding materials prepared by mechanical alloying	Int. J of Hydrogen Energy, Vol.30, 2005, pp.501-508
7.	Dhiman Chatterjee (& others)	On the suitability of broadband attenuation measurement for characterizing contrast microbubbles	Ultrasound in Medicine and Biology, vol 31(6), pp 781- 786, June 2005.
8.	Dhiman Chatterjee (& others)	Characterization of ultrasound contrast microbubbles using <i>in vivo</i> experiments and viscous and viscoelastic interface models for encapsulation	The Journal of Acoustical Society of America, vol 118(1), pp 539-550, July 2005.
9.	R. Senthil Kumar, A. Mani, S. Kumaraswamy	Analysis of jet pump assisted vacuum desalination system using power plant waste heat	International Journal of Desalination, Vol. 179, 2005, p. 345-354.
10.	S. Sathish Kumar and A.Mani	Studies on vapour compression refrigeration based simultaneous evaporation and water recovery system	IASME Transactions, Vol. 2, No.9, 2005, pp.1745-1753.
11.	Krishnan Balasubramaniam	A new approach to inversion of surface wave dispersion relation for determination of depth distribution of non-uniform stresses in elastic materials	International Journal of Solids and Structures, 42, 789-803 (2005)
12.	Krishnan Balasubramaniam	Ultrasonic goniometry immersion techniques for the measurement of elastic moduli	Composite Structures, 67, 3-17 (2005)
13.	Krishnan Balasubramaniam	Ray based model for the ultrasonic time-of-flight diffraction simulation of thin walled structure inspection	Journal of Pressure Vessel Technology, Transactions of the ASME, 127 (3), 262-68, (2005)
14.	Krishnan Balasubramaniam	A point source correlation technique for automatic dis- continuity identification and sizing using time of flight diffraction	Materials valuation, 63 (4), 425-29, (2005)
15.	K Ramamurthi	Rapid spread of jets in presence of loud tones	Flow Visualization and Image Processing, vol. 12, pp. 1-18, 2005
16.	K Ramamurthi	Low temperature flash vaporization for desalination	Desalination, vol. 180, pp. 25-32, 2005
17.	K Ramamurthi	Growth of longitudinal waves in presence of lateral wave modes in viscous liquid sheets	Atomization and Sprays, vol. 15, pp. 182-200, 2005
18.	K Ramamurthi	Experiments on vaporization of saline water at low temperature and reduced pressures	J. Applied Thermal Engineering, vol. 25, pp. 941-952, 2005
19.	Jyothish kumar and V. Ganesan	Modeling of Marine Gas Turbine Combustor under Non-Reacting and Reacting Conditions	Journal of Naval Architecture and Marine Engineering, Vol. 2, No.1, June 2005, pp 21-32
20.	Sheeba, A. and Ganesan, V.	Modelling of Annular Prediffuser for Marine Gas Turbine Combustor using CFD A Study on the effect of Strut Configuration	Journal of Naval Architecture and Marine Engg., Vol. 2, Dec. 2005, pp 41-52.

21.	Nazar, J., Ramesh, A. and Nagalingam, B.	Studies on Dual Fuel Operation of Karanja Oil and its Bio-diesel with LPG as the Inducted Fuel	Society of Automotive Engineers, SP 2014, Paper No. 2006-01-0237 (2006).
22.	Ganesan, S., Kishore Kumar, S., and Ganesan, V.	Numerical Modelling of Isothermal Flows in a Gas Turbine Afterburner Model	Journal of Energy, Heat and Mass Transfer, Vol. 27, No.1, 2005, pp 23- 38.
23.	Kale, S.C. and Ganesan, V.	A Study of Steady Flow Through a SI Engine Intake System Using CFD	Journal of Institution of Engineers, India, Vol. 86, 2005, pp 61-65.
24.	Ananda Reddy, G. and Ganesan, V	A Numerical Study of Pre-Diffuser Optimization of an Aero Gas Turbine Combustion Chamber	Indian Journal of Engineering and Material Sciences, India, Vol. 12, No. 4, 2005, pp 281-291.
25.	Nafis Ahamed, Ramesh, A., and Gajendra Babu, M.K.	Experimental Investigations of Different Parameters Affecting the Performance of a CNG-Diesel, Dual-Fuel Engine	SAE's 2005 Transactions, Journal of Engines
26.	Ch.S.Y. Suresh, Vamsee Krishna, Y., Sundarajan, T. and Sarit K. Das	Numerical Simulation of Three Dimensional Natural Convection Inside a Heat Generating Anisotropic Porous Medium	Heat Mass Transfer, Vol. 31, 2005, pp 799-809
27.	Srihari, N., Prabhakara Rao, B., Das, S.K. and Bengt Sunden	Transient response of Plate Heat Exchangers Considering Effect of Flow Maldistribution	International Journal of Heat and Mass Transfer, Vol. 48, 2005, pp 3231-3243
28.	Prabhakara Rao, B, Bengt Sunden and Sarit K. Das	An Experimental and Theoretical Investigation of the Effect of Flow Maldistribution on the Thermal Performance of Plate Heat Exchangers	ASME Journal of Heat Transfer, Vol. 127, 2005, pp 332-347
29.	Suresh, Ch.S.Y, Sateesh, G, Sarit K. Das, Venkateshan, S.P and Rajan, M	Heat Transfer from a Totally Blocked Fuel Subassembly of a Liquid Metal Fast Breeder Reactor-I Experimental Investigation	Nuclear Engg. and Design, Vol. 235, Issue 8, 2005, pp 885-895.
30.	Suresh, Ch.S.Y., Sundararajan, T., Venkateshan, S.P., Sarit K. Das and Thanasekhar, M.R.	Heat Transfer from a Totally Blocked Fuel Subassembly of a Liquid Metal Fast Breeder Reactor-II	Nuclear Engineering and Design, Vol. 235, Issue 8, 2005, pp 897-912.
31.	Sateesh, G., Sarit K. Das and Balakrishnan, A.R.,	Analysis of Pool Boiling Heat Transfer: Effect of Bubbles Sliding on the Heating Surface	International Journal of Heat and Mass Transfer, Vol. 48, 2005, pp 1543-1553.
32.	Sarit K. Das, Sundararajan, T., Pradeep, T. and Patel, H.E.,	Comment on 'Model for Heat Conduction in Nanofluids': Das et al reply"	Physical Review Letters, Vol. 95, Issue 20, 2005, Page 209402
33.	Y.G.Srinivasa & S.S.Parthasarathy	Design of Active suspension system for a quarter car Road vehicle model using model reference control	Journal of systems and control Engineering, Proceedings of the Institution of Mechanical Engineering, Part-I
34.	N.Ganesan and Ravikiran Kadoli	A theoretical analysis of linear thermoelastic buckling of composite hemispherical shells with a cut-out at the apex	Composite Structures, Volume 68, Issue 1, April 2005, Pages 87-101
35.	N.Ganesan and Ravikiran Kadoli	Semi analytical finite element analysis of piezothermoelastic shells of revolution	Computers & Structures, Volume 83, Issues 15-16, June 2005, Pages 1305-1319
36.	N.Ganesan and V. Pradeep	Buckling and vibration of sandwich beams with viscoelastic core under thermal environments	Journal of Sound and Vibration, Volume 286, Issues 4-5, 22 September 2005, Pages 1067-1074.
37.	N.Ganesan and V. Pradeep	Buckling and vibration of circular cylindrical shells containing hot liquid	Journal of Sound and Vibration, Volume 287, Issues 4-5, 4 November 2005, Pages 845-863

38.	N.Ganesan and Rajesh K. Bhangale	Free vibration studies of simply supported non-homogeneous functionally graded magneto-electro-elastic finite cylindrical shells	Journal of Sound and Vibration, Volume 288, Issues 1-2, 22 November 2005, Pages 412-422
39.	N.Ganesan and Ravikiran Kadoli	Buckling and free vibration analysis of functionally graded cylindrical shells subjected to a temperature-specified boundary condition	Journal of Sound and Vibration, Volume 289, Issue 3, 24 January 2006, Pages 450-480
40.	N.Ganesan and Rajesh K. Bhangale	A linear thermoelastic buckling behavior of functionally graded hemispherical shell with a cut-out at apex in thermal environment	International Journal of Structural Stability and Dynamics, (2005) 5:185-215
41.	N.Ganesan and Rajesh K. Bhangale	Free vibration of simply supported functionally graded and layered magneto-electro-elastic plates by finite element method	Journal of Sound and Vibration, In Press, Corrected Proof, Available online 28 February 2006
42.	R.Vijay, R.Sundaresan, M.P.Maiya and S.Srinivasa Murthy	Comparative evaluation of Mg-Ni hydrogen absorbing materials prepared by mechanical alloying	Int. J. Hydrogen Energy, 30, Issue 5, April 2005, pp.501-508.
43.	Muthukumar, P., M. Prakash Maiya and S. Srinivasa Murthy,	Experiments on metal hydride based hydrogen storage device	Int. J. Hydrogen Energy, 30, No.15, 2005, pp.1569-1581.
44.	Patel, H.E., Sundararajan, T., Pradeep, T., Dasgupta, N., Dasgupta and Sarit K. Das	A Micro-convection Model for Thermal Conductivity of Nanofluids	Pramana Journal of Physics, Vol. 65, No. 5, 2005, pp 863-869.
45.	Renu Kumar, R., Ajit Kumar Kolar and Bo Leckner,	Shrinkage Characteristics of Casuarina Wood during Devolatilisation in a Fluidized Bed Combustor	Journal of Biomass and Bioenergy, Vol. 30, 2006, 153-165.
46.	Wilson, L., Narasimhan, A. and Venkateshan, S.P.,	Permeability and Form Coefficient Measurement of Porous Inserts with Non-Darcy Model using Non-Plug Flow Experiments	ASME J. Fluids Engineering, 128, 2006, May issue.
47.	Lage, J.L., Krueger, P.S. and Narasimhan, A.	Protocol for Measuring Permeability and Form Coefficient of Porous Media	Phy. Fluids, 17, Paper No. 088101, 2005 (4 pages)
48.	Akhilesh, R., Narasimhan, A. and Balaji, C.,	Method to Improve Geometry for Heat Transfer, Enhancement in PCM Composite Heat Sinks	Int. J. Heat and Mass Transfer, 48, 2005, pp 2759-2770.
49.	Narasimhan, A.,	Thermal Analysis of a Silicon Wafer Processing Combination Bake-Chill Station used in Microlithography	Materials and Manufacturing Processes, Vol. 20, 2005, pp 1-14
50.	D. D. Ebenzer, K. Ravichandran, R. Ramesh and C. Padmanabhan	Forced vibration of Solid Axially Polarized Piezoelectric Ceramic Cylinders with Internal Losses	Journal of the Acoustical Society of America, vol. 117, pp. 3645-3656.
51.	K. Ravichandran, D. D. Ebenezer and C. Padmanabhan	Forced Vibration of Solid Elastic Cylinders	Journal of Sound and Vibration, vol. 282, pp. 991-1007
52.	K. Jayaraj, N. Ganesan and C. Padmanabhan,	A New Finite Element Formulation Based on the Velocity of Flow for Water Hammer Problems	International Journal of Pressure Vessels and Piping, vol. 82, pp. 1-14.
53.	Parthasarathy S.S. and Y.G.Srinivasa,	Design of active suspension System for a quarter car road vehicle model using model reference control, Journal of Systems and Control Engineering	Proceedings of the Institution of Mechanical Engineers.(IMECHE) Part I.(Vol.219, 18 Pages, in Press)
54.	Satheesh Kumar G. and Y.G.Srinivasa	Stiffness for Complex Contours in Machine Tool Applications	First International Congress Design and Modeling of Mechanical Systems, CMSM, March 23-25, 2005.
55.	S Senthilvelan and R Gnanamoorthy	Selective carbon fiber reinforced nylon 66 spur gears: Development and performance	Applied Composite Materials, Vol. 13, Iss 1, Pp 43-56.

56.	S. Senthilvelan and R. Gnanamoorthy	Effect of gear tooth fillet radius on the performance of injection molded Nylon 6/6 gears	Materials and Design, Vol 27 Iss 8 Pp 632-639.
57	R. Ramesh and R. Gnanamoorthy	Effect of post oxidation on the fretting wear performance of liquid nitrided En24 steels	'Surface & Coating Technology, Vol. 200, Iss. 12-12, Pp. 3926-3932.
58.	P. Jawahar, R. Gnanamoorthy and M. Balasubramanian	Tribological behaviour of clay – thermoset polyester nanocomposites	Wear, In Press, Corrected Proof, Available online 2 March 2006.
59.	S. Senthilvelan and R. Gnanamoorthy	Damping characteristics of unreinforced, glass and carbon fiber reinforced Nylon 6/6 spur gears	Polymer Testing, Vol. 25, Iss. 1, Pp. 56-62.
60.	R. Ramesh and R. Gnanamoorthy,	Fretting wear behavior of as received, hardened - tempered and liquid nitrided structural steel, En24, against bearing steel, En31	J o f Materials Processing Technology, Vol. 171, Iss. 1, Pp. 61-67.
61.	R. Ramesh and R. Gnanamoorthy	Development of a fretting wear test rig and preliminary studies for understanding the fretting wear properties of steels	Materials & Design, Vol. 27, Iss 2, Pp. 141-146. 2005
62.	S. Senthilvelan and R. Gnanamoorthy	Surface failure analysis of unreinforced, glass and carbon fibre reinforced Nylon 6/6 gears	Int J of Plastics Technology, Vol. 9, Pp. 444-452.
63.	S. Senthilvelan and R. Gnanamoorthy	Reinforced polymer gear fatigue and failure analysis	Tran of Indian Institute of Metals, Vol. 58, Iss. 2 Pp. 249-253.
64.	G. Srinath and R. Gnanamoorthy,	Effect of nanoclay reinforcement on tensile and tribo behavior of Nylon 6	Journal of Materials Science, Vol. 40, Iss. 11, Pp. 2897-2901.
65.	G. Srinath and R. Gnanamoorthy	Effect of short fibre reinforcement on the friction and wear behaviour of Nylon 66	Applied Comp Materials, Vol 12 Iss 6 Pp. 369-383.
66.	P. Jawahar, R. Gnanamoorthy, and M Balasubramanian	Flexural and tribological properties of polyester clay nanocomposites	J of Materials Science Letters, Vol. 40, Pp. 4391-4393.
67.	N.Ganesan, and S.Swarnamani, AR Annigeri	Free vibrations of simply supported and multiphase, magneto-electro-elastic cylindrical shells	Smart Mater. Struct. 15 (2006) 459–467

In Proceedings of National Conferences:

S.No.	Name of the faculty	Title	Institution	Period
1.	K.Vijay, K. Kumaran and U. S. P. Shet.	Effect of Port-Geometry on Temperature Distribution of Hot-Gases in Premixed Laminar Flames Issuing from A Nozzle Burner	Proceedings of the 18 th National & 7 th ISHMT-ASME, Heat And Mass Transfer Conference, pp 1410-1413.	January 4 - 6, 2006, I.I.T., Guwahati, p319, and in the CD HMT-2006-C197
2.	A. Zeenathul Farida, K. Kumaran, U.S.P.Shet, and T.Sundararajan	Effect of Co-Flow and Swirl-Air on Near Burner Temperature Field of Partially Premixed LPG-Air Tubular Burner Flames, NCICEC-2005	Proceedings of the 19 th National Conference on I. C. Engines And Combustion, pp 275-281	December 21-23, 2005, Annamalai University, Annamalainagar-608 002,
3.	USP Shet	Emission Control Measures in Solid Waste Incinerators	NCICEC-2005, Proceedings of the 19 th National Conference on I. C. Engines and Combustion pp 327-334	December 21-23, 2005, Annamalai University, Annamalainagar-608 002,
4.	P. Muthukumar, M.P. Maiya And S. Srinivasa Murthy	Heat And Mass Transfer Based Comparison of Metal Hydride Systems for Hydrogen Storage	Eighteenth National Heat and Mass Transfer Conference / Seventh ISHMT-ASME Heat and Mass Transfer Conference	Gawahati, 4-6 January 2006.

5.	N. Gopalakrishnan, B.V.S.S.S. Prasad And S. Srinivasa Murthy	Experimental Investigations on Thermal Stratification in Chilled Water Storage Tanks	Eighteenth National Heat and Mass Transfer Conference / Seventh ISHMT-ASME Heat and Mass Transfer Conference	Gawahati, 4- 6 January 2006.
6.	S. Kumaraswamy	Understanding pump characteristics for the designer and the user	32 nd Natl. Conf. of Fluid Mech. And Fluid Power, Osmanabad	15-17 Dec. 2005
7.	S Christopher and S Kumaraswamy	Studies on various leading edges on the flow in a radial pump using CFD	Convergence 2005, Ansys India Users conf.	29 th and 30 th Nov. 2005
8.	K. Ramamurthi	19 th NCICE and Combustion	Annamalai University	21-23 Dec. 2005
9.	Dr.N.Sitaram K. Goutham Kumar	"Computational Study of Secondary Flows in an Annular Turbine Impulse Rotor Cascade"	National Conf. on Recent advances in Computational Methods in Aerospace Engg.	February 24 & 25, 2006
10.	N. Sitaram P. Usha Sri	Computational Investigation of Flow in a Centrifugal Impeller with Chamfered Blade Tips: Effect of Tip Clearance	National Conf. on Recent advances in Computational Methods in Aerospace Engg.	February 24 & 25, 2006
11.	N. Sitaram Inkant Awasthi	Design and Computational Flow Analysis of Forward and Backward Curved Centrifugal Impellers of Large Capacity	National Conf. on Recent advances in Computational Methods in Aerospace Engg.	February 24 & 25, 2006
12.	N.Sitaram, BVSSS. Prasad, U. Muneeswara Babu, & M. Mahendran	Computational Investigation of Secondary Flows in Annular and Linear Cascades of Turbine Rotor Blade	National Conf. on Recent advances in Computational Methods in Aerospace Engg.	February 24 & 25, 2006
13.	Dr. N.Sitaram P. Usha Sri	Computational Investigation of Flow in a Centrifugal Impeller with Chamfered Blade Tips	College of Engineering, Osmanabad	Dec. 15-17, 2005
14.	N. Sitaram S. Anish	Effect of Inlet Vane Angle of a Partial Vane Diffuser on the Performance of a Centrifugal Compressor	College of Engineering, Osmanabad	Dec. 15-17, 2005
15.	N. Sitaram N. R. Prashant	Measurement of Periodic Static Pressure on the casing over the Rotor of a Centrifugal Compressor	College of Engineering, Osmanabad	Dec. 15-17, 2005
16.	BVSSS.Prasad BVN.Ramakumar Ritesh Moon Dadaji	Experimental Investigation of Flow Characteristics of Jet Impingement on concave surface	College of Engineering, Osmanabad	15-17 Dec, 2005
17.	Sendhil Kumar, N. and Srinivas Reddy, K.	Design and Performance Evaluation of Novel Solar Desalination System	Proc. of the 2 nd National Conference on Recent Trends in Renewable Energy (NACOOE 2005), organized by National Engg. College, Kovilpatti, Tamilnadu	Dec. 9-10, 2005, pp 01- 09.
18.	Patel, H.E., Sundararajan, T, Pradeep, T, Dasgupta, A, Dasgupta, N and Sarit K. Das	A Micro- convection Model for Thermal Conductivity of Nanofluids	Proc. of the National Conference on Nanoscience and Technology – Part II, National Chemical Lab., Pune, India	March 7-8, 2005.
19.	Thundil Karuppa Raj, R. and Ganesan, V.	Numerical Analysis of Non- Reacting Flow through a 45° Vane Swirler in a Model Gas Turbine Combustor	Proc. of the National Conference on Advances in Mechanical Engineering (README 2005), organized by Dept. of Mech. Engg., P.A. College of Engineering, Mangalore	Dec. 1-3, 2005.

20.	Jyothish Kumar, V., Vijayashree and Ganesan, V.,	GANESH A GUI Approach to SI Engine Simulation	Proc. of the National Conference on Advances in Mechanical Engineering (README 2005), organized by Dept. of Mech. Engg., P.A. College of Engineering, Mangalore	Dec. 1-3, 2005.
21.	Sharma, R.P.	Importance of Biodiesel Specifications with respect to Engine Performance	Proc. of the 60 th Annual Convention and International Seminar on "New Horizons in Liquids and Special Oleochemicals", Indian Institute of Chemical Technology, Hyderabad	Dec. 2-3, 2005.
22.	Jyothish Kumar, V. and Ganesan, V.	Isothermal Flow Analysis Inside an Annular Gas Turbine Combustor	Proc. of the 32 nd National Conference on Fluid Mechanics & Fluid Power, Osmanabad, Maharashtra	Dec. 15-17, 2005.
23.	Karunakaran, E. and Ganesan, V.,	Turbulent Flow Field Studies in a Conical Diffuser-Using CFD Code	Proc. of the 32 nd National Conference on Fluid Mechanics & Fluid Power, Osmanabad, Maharashtra	Dec. 15-17, 2005.
24.	Thundil Karuppu Raj, R. and Ganesan, V.	Study on Flow through a Vane Swirler with and without Hub	Proc. of the 32 nd National Conference on Fluid Mechanics & Fluid Power, Osmanabad, Maharashtra	Dec. 15-17, 2005.
25.	Nazar, J., Ramesh, A. and Nagalingam, B.	Experimental Investigation on the Performance of Karanja Oil Hydrogen Dual Fuel Engine	Proc. of the 19 th National Conference on I.C. Engines and Combustion, organized by Faculty of Engineering and Technology, Annamalai University, Chidambaram	Dec. 21-23, 2005, pp 131-136
26.	Loganathan, M. and Ramesh, A.	Experimental Investigation on the use of LPG in a Two Stroke SI Engine	-do-	Dec. 21-23, 2005, pp 149-155
27.	Sarveswaran, Y.V.S. Murthy and Ganesan, V.	Altitude Performance Comparison of a Wankel Engine with Carburetor and Fuel Injection	-do-	Dec. 21-23, 2005, pp 173-177
28.	Anand Kumar, T., Mallikarjuna, J.M. and Ganesan, V.	Effect of Intake Port configuration and Engine Speed on Flow Field Characteristics of a Four-stroke SI Engine – A Study Using KIVA 3V CFD Code	-do-	Dec. 21-23, 2005, pp 195-199
29.	Thiyagarajan, P., and Ganesan, V	Numerical Study of Pressure Drop and Flow Characteristics in Plated Automotive Air Filters	-do-	Dec. 21-23, 2005, pp 201-204
30.	Alfred Herman, S., and Ganesan, V.	Comparison of Turbulence Modules and Optimisation of Grid Density for Studying In-cylinder Flow Field in a DI Diesel Engine	-do-	Dec. 21-23, 2005, pp 217-224
31.	Jayasankara and Ganesan, V.	Multi-Dimensional Modeling of DI Diesel Engine to Study In-cylinder Air Motion	-do-	Dec. 21-23, 2005, pp 239-245
32.	James Gunasekaran, E. and Ganesan, V.	CFD Modeling of Suction and Compression Processes in a Four-Stroke Four-Valve DISI Engine	-do-	Dec. 21-23, 2005, pp 247-251

33.	Benny Paul and Ganesan, V.	CFD Analysis of the Effect of Port Configurations on Air Motion Inside the Cylinder of a DI Diesel Engine	-do-	Dec. 21-23, 2005, pp 253-257
34.	Karunakaran, E., and Ganesan, V.	Study on the Effect of Inlet Velocity Distortion in the Development of Flow Field of a Conical Diffuser	-do-	Dec. 21-23, 2005, pp 259-263
35.	Vijayashree, Jyothish Kumar, V. and Ganesan, V.	A Graphical User Interface for SI Engine Simulation	-do-	Dec. 21-23, 2005, pp 265-273
36.	Thundil Karuppa Raj, R. and Ganesan, V.	Numerical Analysis of Reacting Flow Through a 45° Vane Swirler in a Model Gas Turbine Combustor	-do-	Dec. 21-23, 2005, pp 289-292
37.	Jyothishkumar and Ganesan, V.	Combustion Analysis in an Annular Gas Turbine Combustor	-do-	Dec. 21-23, 2005, pp 425-428
38.	Suresh Kumar, S., and Ganesan, V.	Computational Study of Various Combustion Models in an Aero Gas Turbine Engine Afterburner	-do-	Dec. 21-23, 2005, pp 429-432
39.	Kiran Kumar Panda and Ganesan, V.	Multidimensional Intake Flow Modeling of a Four-Stroke Engine – A CFD Approach	-do-	Dec. 21-23, 2005, pp 563-570
40.	Athiraj, K., Purushothama, H.R., and Mallikarjuna, J.M.	Reduction of Cold-Start Unburned Hydrocarbon Emissions of a Port Fuel Injected SI Engine - An Experimental Investigations	-do-	Dec. 21-23, 2005, pp 463-470
41.	Iyahraja. S and J. M. Mallikarjuna	Electronic Gasoline Fuel Injector Characteristics – An Experimental Study	-do-	Dec. 21-23, 2005, pp 577-582
42.	K. Sai Sankara Narayana and C. Padmanabhan, 2005	High frequency Acoustics using a new finite element formulation	National Symposium on Acoustics (NSA-2005), NAL, Bangalore	December 14-16.
43.	Krishna Kishore.M, and Mayuram.M.M	Evaluation of stress intensity factors for semi-elliptical surface cracks in round bars under bending and torsion	Proceedings of the 14 th ISME International conference on Mechanical Engineering Age. Dec 2005 Delhi	
44.	V.Jaipal Reddy and M.P.Maiya,	Analysis on Triple Effect Parallel Flow Water – Lithium Bromide Vapour Absorption Refrigeration System	National Conference on Energy, Environment, Ecosystem & Sustainable Development,	August 4 – 5, 2005 BBSB Eng College, Fatehgarh Sahib 140407, India.
45.	P.Muthukumar, M.P.Maiya and S.Srinivasa Murthy	Heat and Mass Transfer Based Comparison of Metal Hydride Systems for Hydrogen Storage	18 th National Heat and Mass Transfer Conference and 7 th ISHMT /ASME Heat and Mass Transfer Conference,	January 4 – 6, 2006, IIT Guwahati, India.
46.	S Senthivelan and R. Gnanamoorthy	Effect of short fiber reinforcements on the damping characteristics of polymer composite gears	National Conf on Industrial Problems in Machines & Mechanisms (IPROMM-2005), Kharagpur	Feb 2005, 139-144.
47.	A Sahaya Grinspan and R Gnanamoorthy	Development Of A Novel Surface Modification Technique For The Introduction Residual Stress And Preliminary Studies On Alloy Steel, En 8', NMD 2005	Annual technical meeting of the Indian institute of metals Chennai	November 14-16, 2005
48.	G Srinath and R Gnanamoorthy	Processing and Characterization of Polyamide organoclay nanocomposites prepared by melt intercalation technique	NMD 2005, Annual Technical Meeting of Indian institute of metals Chennai	Nov 14-16, 2005

49.	S Senthilvelan and R. Gnanamoorthy	Efficiency of short glass and carbon fiber reinforced injection molded nylon 6/6 gear	ISAMPE National Conference on High Performance Composite Materials Coimbatore	Dec 9-10, 2005, pp.267-269.
50.	G Srinath and R Gnanamoorthy	Processing and Characterization of Polyamide organoclay nanocomposites prepared by melt intercalation technique	NACOMM 2005, 12 th National Conference, IIT Guwahati	16-17 Dec, 2005, pp. 331-336.
51.	Dhanasekaran and R Gnanamoorthy	Abrasive wear behavior of Fe C Cu Sintered Steels containing MoS ₂ , Processing and Characterization of Polyamide organoclay nanocomposites prepared by melt intercalation technique	NACOMM 2005, 12 th National Conference, IIT Guwahati	16-17 Dec, 2005, pp. 304-309.
52.	Krishnan Balasubramaniam	Comparative studies on imaging and evaluation of simulated crack like defects in pipes and plates using advanced ultrasonic phased array and SAFT techniques	ISNT	December 2005
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58.	Krishnan Balasubramaniam	Ultrasonic circumferential guided wave technique for the detection of corrosion in inaccessible regions of pipelines	CORCON 2005	November 2005
59.	Krishnan Balasubramaniam	Detection of corrosion damage on aircraft fleet	CORCON 2005	November 2005
60.	Krishnan Balasubramaniam	Phased array ultrasound to image internal corrosion in pipes	CORCON 2005	November 2005
61.	Krishnan Balasubramaniam	Structural Health Monitoring of Aerospace Structures using Ultrasonic Guided Wave Techniques	ISS05	July 2005
62.	M Hashim, M.Amaranth, S Swarnamani C.Sujatha	Diagnosis of gear wear by experimental and theoretical approach, pp284-290	Proc.12th National Conference on Machines and Mechanisms (NaCoMM-2005)	IIT Guwahati, December 16-17, 2005
63.	M.Amarnanth, S Swarnamani C.Sujatha	Application of Wavelet transform to gearbox fault,Diagnosis pp195-201	Proc.12th National Conference on Machines and Mechanisms (NaCoMM-2005)	IIT Guwahati, December 16-17, 2005
64.	K. Mahesh Babu, Suryanarayana. A.N. Prasad, and S.Swarnamani	Experimental Study on LQG Vibration Control of a Shell with a Lid	Second CONTROL INSTRUMENTATION SYSTEM CONFERENCE (CISCON 2005)	NOV 11-12, 2005 MIT, Manipal

65.	Jayaprakash G and S Swarnamani	Early identification of structural damage using the Lipschitz Exponent estimated by wavelet transform applied to modal data ,p169-176	Proc. of ICMPM2005 Bannariamman Institute of technology Satyamanagala	12-14 Dec 2005
66.	AR Annigeri, N Ganesan and S Swarnamani	Static studies on Magneto-electro-elastic Beam	SSS Smart Structures Conference 2005, IISc Bangalore	28 -07 to 30-07-05
67.	M.D. Narayanan, S. Narayanan and P. Chandramouli	Nonlinear system identification using chaotic excitation	Proceedings 2 nd National Conference on Nonlinear Systems and Dynamics, Aligarh Muslim University, India, 198-201	Feb. 24-26, 2005
68.	S. Narayanan and Pankaj Kumar	Solution of Fokker-Planck Equation by Finite Element and Finite Difference Methods for Nonlinear Systems	Proc. of National Symposium on Structural Dynamics, Random Vibration and Earthquake Engg., IISc Bangalore	July 2005
69.	M. Seshagiri Rao and S Narayanan	Active Control of Wave Propagation in 1D Periodic Structure with Distributed Piezoelectric Actuators and Sensors	Proceedings of National Symposium Acoustics (NSA-2005), Bangalore,	December 15-16, 2005.
70.	Hemantha Kumar, B. Suresh Kumar and C. Sujatha	Lateral dynamic analysis of a typical Indian rail-road vehicle	Proc. 12th National Conference on Machines and Mechanisms (NaCoMM-2005)	IIT Guwahati, December 16-17, 2005
71.	M.Hashim, M.Amarnath, S.Swarnamani and C.Sujatha	Diagnosis of gear wear by experimental and analytical approach	Proc. 12th National Conference on Machines and Mechanisms (NaCoMM-2005)	IIT Guwahati, December 16-17, 2005
72.	M Amarnath, S.Swarnamani and C.Sujatha	Application of Wavelet Transform To Gearbox Fault Diagnosis	Proc. 12th National Conference on Machines and Mechanisms (NaCoMM-2005)	IIT Guwahati, December 16-17, 2005

In Proceedings of International Conferences:

S.No	Name of the faculty	Title	Institution	Period
1.	G. Venkatarathnam L. R. Oellrich	Potential Of Small Mixed Refrigerant Coolers For Natural Gas Liquefaction – A Review	DKV (German Refrigeration Congress)	16-18 November, 2005
2.	P.Muthukumar, Kevin Abraham, M.Prakash Maiya & S. Srinivasa Murthy	Cyclic Performance Of A Metal Hydride Based Single Stage Hydrogen Compressor	International Hydrogen Energy Congress and Exhibition,	Istanbul, Turkey, 13 - 15 July 2005.
3.	R. Vijay, G.V.N. Rao, R. Sundaresan, M.Prakash Maiya and S. Srinivasa Murthy	Hydrogen Storage Characteristics Of Magnesium - Aluminum Compounds Prepared By Mechanical Alloying	International Hydrogen Energy Congress and Exhibition	Istanbul, Turkey, 13 - 15 July 2005.
4.	S.Sathish Kumar and A. Mani	Desalination using spraytower and vapour compression refrigeration system	Proceedings of Trombay symposium on desalination and water reuse,	BARC, Mumbai, OP 1.2, 2005, pp.1-6.
5.	S.Sathish Kumar and A. Mani	Studies on simultaneous effluent evaporation and water recovery system	Proceedings of International Conference on Heat Transfer, Thermal Engineering and Environment	Greece, 2005, pp.288-293, ISBN: 960-8457-33-5.
6.	S.Sathish Kumar and A. Mani	Evaporation augmented effluent concentrating system with recovery of fresh water	Proceedings of International Conference on Environmental Management	Hyderabad, 2005, pp.157-164.

7.	G.V.S. Sesha Girish and A.Mani	Experimental studies on solar forced convective evaporation system for tannery effluent'	Solar world congress 2005, USA	
8.	A. Selvaraju and A. Mani	Influence of ejector geometry on performance of R134a vapour ejector refrigeration system for solar energy applications	Solar world congress 2005, USA.	
9.	M Krishna Kishore and M M Mayuram	Crack growth analysis of surface flaws in cylindrical shafts under combined bending & torsion	International Conference & Exhibition on Pressure Vessels and Piping OPE-2006	February 07-09, Chennai, India
10.	Mayuram M M, and Shankar S	A Finite Element study of Elastic-Plastic contact between multiple Hemispherical Asperities	World Tribology Congress III (WTC – 2005)	Washington D.C., U.S.A. Sep.2005
11.	Vinod M. Shigarkanthi, Porpatham, E. and Ramesh, A.,	Experimental Investigations and Modelling of Cycle by Cycle Variations in a Gas Fuelled SI Engine	Proc. of the International Future Transportation Technology Conference	Sept. 7-9, 2005, Chicago, USA, Paper No. 2005-01-3480.
12.	Jyothishkumar, V. and Ganesan, V	Non-reacting and Reaction Flow Analysis of Annular Gas Turbine Combustor for LCE Applications	Proc. of the International Mobility Engineering Congress and Exposition 2005, Organised by SAE India, Southern India Section, Chennai	Oct. 23-25, 2005.
13.	Pradeep, V. and Sharma, R.P.	Evaluation of Performance, Emission and Combustion Parameters of a CI Engine Fuelled with Bio-diesel from Rubber Seed Oil and its Blends	-do-	Oct. 23-25, 2005, pp 339-346 (Paper No. 2005-26-353)
14.	Khader Basha, M., Soundarapandian, T Kumaravelu, V., Balakrishna Reddy, B., Achuthan, N., Krishna Vasudevan, Ramesh, A. and Ganesan, V.	Development of a Controller for a 1000 HP Engine of an Armoured Fighting Vehicle	-do-	Chennai, Oct. 23-25, 2005, pp 9-14. (SAE Paper No. 2005-26-302)
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16.	Alfred Herman, S. and Ganesan, V.	The Effect of Induced Swirl Pattern on TDC Flow Field in a HSDI Diesel Engine	-do-	Oct. 23-25, 2005, pp 123-130 (Paper No. 2005-26-319)
17.	Thiyagarajan, P. and Ganesan, V.	Study of Flow Through Air Filter for off Highway Vehicle – A Preliminary CFD Approach	-do-	Oct. 23-25, 2005, pp 247-252 (Paper No. 2005-26-339)
18.	Karunakaran, E. and Ganesan, V.	Study of Turbulence Models in Flows through Adverse Pressure Gradient System	-do-	Orlando Florida, Nov. 5-11, 2005.
19.	Suresh Kumar, S. and Ganesan, V.	Flow Investigations in an Aero Gas Turbine Engine Afterburner	-do-	Orlando Florida, Nov. 5-11, 2005
20.	Jyothishkumar, V. and Ganesan, V.	Gas Turbine Combustor – Modeling and Optimization	-do-	Orlando Florida, Nov. 5-11, 2005
21.	Thundil Karuppa Raj, R. and Ganesan, V.	Numerical and Experimental Investigation of Flow through Vane Swirlers	-do-	Orlando Florida, Nov. 5-11, 2005.

22.	Benny Paul and Ganesan, V.	Study of Air Motion Inside the Cylinder of a DI Diesel Engine with Spiral Intake Port	Proc. of the 14 th ISME International Conference on Mechanical Engineering in Know Age [®] Organised by Dept. of Mechanical, Production and Industrial Engineering, Delhi College of Engineering, Delhi	Dec. 12-14, 2005, (CD copy)
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31.	Nazar, J., Ramesh, A., and Nagalingam, B.	Investigation on the Use of Coconut Oil and its Bio-diesel in a Direct Injection Diesel Engine	Proc. of the Sym. on Fuels and Lubricants: Technological Innovations and Environmental Concerns, International Symposium on Fuels and Lubricants, Delhi	March 7-10, 2006, SAE Paper No. 2006-28-0005
32.	M. Sreekumar, T. Nagarajan and M. Singaperumal	Design, Modeling and Implementation of Self-tuning Adaptive Fuzzy Controller for a Robot in Obstacle Avoidance	Paper ID-F81, Proc. of the 4th Asian Conference on Industrial Automation and Robotics (ACIAR2005)	May 11-13, 2005, Bangkok, Thailand.
33.	M. Sreekumar, T. Nagarajan and M. Singaperumal	SMA actuated Mini-valve for Temperature control in Hydraulic systems	Proc. of International conference & Exhibition on Fluid Power Technology (EMCHAFT2005)	Nov. 25-27, 2005, Chennai, India, pp. 11-22.

34.	M. Sreekumar, T. Nagarajan and M. Singaperumal	On the Process of Improving the Response of Shape Memory Alloy Actuators for Robotic Applications	Proc. of International Conference on Computational & Experimental Engineering and Sciences, (ICCES05)	Dec. 1-10, 2005, Chennai, India, Paper ID: ICCES0520050801554, pp. 3098-3103.
35.	M. Sreekumar, T. Nagarajan and M. Singaperumal	Singularity Avoidance in Parallel Manipulators using Fuzzy Control	The 3rd International Conference on Computational Intelligence, Robotics and Autonomous Systems (CIRAS 2005)	Dec. 13-16, 2005, Singapore, Paper ID: REG 1195.
36.	M. Sreekumar, T. Nagarajan and M. Singaperumal	Design of Supervisory Adaptive Fuzzy Controllers for Intelligent Robotic Vehicles	Proc. of 2nd Indian International Conference on Artificial Intelligence (IICAI-05)	Dec. 20-22, 2005, Pune, India, Paper ID: 338, pp.2163-2177.
37.	M. Sreekumar, T. Nagarajan and M. Singaperumal	Fuzzy Controller for the Non-linear Modeling of SMA actuators for Robotic Applications	Proc. of International conference on Resource Utilisation and Intelligent Systems (INCRUIS-2006)	Jan 04-06, 2006, Tamil Nadu, India, Paper ID-INFE 311, pp. 499-505
38.	S. Durgaprasad and C. Padmanabhan	Enhanced Acoustic Properties with Composite PoroElastic Materials	Accepted for the Symposium on the Acoustics of Poro-Elastic Materials (SAPEM 2005), Lyon, France	December 7-9
39.	C. Padmanabhan, J. E. Farstad, D. L. Carlson, R. J. Fox and R. J. Williams	Efficient analysis of rotor-stator rub interaction using parametric continuation	International Conference on Computational & Experimental Engineering and Science (ICCES 05)	December 1-6, IIT Madras India.
40.	R. Vigel Raj, T. Nagapranay, V. Ravindra, C. Lakshman Rao, S. M. Sivakumar and C. Padmanabhan	PVDF Based Hydrophone: Design and Sensitivity Analysis	Proceedings of Fourth International Conference on Smart Materials, Structures and Systems (ISSS), Bangalore, India	July 28-30. Paper no. SB-07.
41.	E. N. V. Sai Krishna, C. Padmanabhan and N. Ganesan	Finite element modeling of a surge tank for pressure pulse attenuation	Proceedings Twelfth International Congress on Sound and Vibration, Lisbon, Portugal	July 11-14. Paper No. 314.
42.	K. Sharath Chandra, S. Vengedesan and C. Padmanabhan	Calculation of perforated muffler element impedance by computational fluid dynamics	Proceedings Twelfth International Congress on Sound and Vibration, Lisbon, Portugal	July 11-14. Paper No. 894.
43.	Mrinal Verma, Krishnan, A.S., Venkateshan, S.P. and Balaji, C.	Experimental Studies on Combined Mixed Convection and Surface Radiation between Vertical Parallel Plate	Proc. of the 6 th World Conference on Experimental Heat Transfer, Fluid Mechanics and Thermo-dynamics, Matsushima, Miyagi, Japan	April 17-21, 2005, Paper No. 8-6-2
44.	Raja, A.P., Das, S.K. and Basak, T.	Heat Transfer and Fluid Flow in a Constructual Heat Exchange	Proc. of the Fifth International Conference on Enhanced, Compact and Ultra Compact Heat Exchangers: Science, Engineering and Technology, Whistler, Canada	Sept. 11-16, 2005.
45.	Rao, B.P., Das, S.K. and Sunden, B.	An Experimental Investigation of the Port to Cannel Flow and Pressure Distribution of the Smaller and Larger Plate Package Heat Exchangers	-do-	Sept. 11-16, 2005.

46.	Tereda, F., Srihari, N. and Das, S.K.	Experimental Investigation on Port to Channel Flow Mal distribution in Plate Heat Exchangers	-do-	Sept. 11-16, 2005.
47.	Venkateshan, S.P., Deiveegan, M. and Balaji, C.	Parameter Retrieval and Inverse Problems in Radiation Heat Transfer	International Workshop on Treatment of Thermal Radiation in Heat Transfer Problems, IIT Guwahati	January 2-3, 2006.
48.	Venkateshan, S.P., John Sunil Kumar and Rameche Candane, S.	Interaction of Radiation with other Modes of Heat Transfer	International Workshop on Treatment of Thermal Radiation in Heat Transfer Problems, IIT Guwahati	January 2-3, 2006.
49.	Praveen Reddy, V. and Srinivas Reddy, K.S.,	Thermal Modeling of Water and PCM Based Solar Integrated Collector Storage System	International Congress on Renewable Energy for Sustainable Development (ICORE), Organised by Solar Energy Society of India, Hyderabad	Feb. 8-11, 2006
50.	Deiveegan, M., Balaji, C. and Venkateshan, S.P.	Comparison of Discrete Ordinate and Finite Volume Methods in Solution of Radiative Transfer Equation	Proc. of the 18 th National & 7 th ISHMT- ASME Heat and Mass Transfer Conference, IIT Guwahati	Jan. 4-6, 2006 (paper No. G422).
51.	Rameche Candane, S., Balaji, C. and Venkateshan, S.P	Coupled Transient Heat Transfer Analysis for High Speed Flow through Divergent Duct	Proc. of the 18 th National & 7 th ISHMT- ASME Heat and Mass Transfer Conference, IIT Guwahati	Jan. 4-6, 2006 (paper No. G418).
52.	Suresh, P.R., Sarit K. Das, Sundrarajan, T., Srinivasan	Influence of Aspect Ratio on the Development of Plane Jets at Low Reynolds Numbers	Proc. of the 2 nd International Conference on Thermal Engineering Theory and Applications, Al Ain, United Arab Emirates	Jan. 3-6, 2006.
53.	Hrishikesh E. Patel, Pradeep, T., Sundrarajan and Sarit K. Das	A Model for Thermal Conductivity of Nanofluids	Proc. of the 18 th National & 7 th ISHMT- ASME Heat and Mass Transfer Conference, IIT Guwahati	Jan. 4-6, 2006.
54.	Bansode, A.S., Rajesh Kumar, T., Muralidhar, B., Siddharth Patel, Sundrarajan, T. and Sarit K. Das	Numerical Simulation of Transport Processes in a Proton Exchange Membrane Fuel Cell Assembly	Proc. of the 18 th National & 7 th ISHMT- ASME Heat and Mass Transfer Conference, IIT Guwahati	Jan. 4-6, 2006.
55.	Suyambazhahan, S., Sundrarajan, T. and Sarit K. Das	Numerical Prediction of Effect on Orientation to Flow and Thermal Oscillations in Buoyant Jet	Proc. of the 18 th National & 7 th ISHMT- ASME Heat and Mass Transfer Conference, IIT Guwahati	Jan. 4-6, 2006.
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57.	Narasimhan, A. and Sahu, K.D.	Heat Transfer Augmentation in a Near-Compact Heat Exchanger using Porous Medium Fins	Proc. 18 th ISHMT & 7 th ASME Heat and Mass Transfer Conference, IIT Guwahati	Jan. 4-6, 2006.
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59.	Suresh, P.R., Sarit K. Das and Sundrarajan, T.	Transition and Mixing Behaviour of a Plane Air Jet	Fourth Int. Conf. on Heat Transfer Fluid Mechanics and Thermodynamics – HEFAT 2005, Cairo, Egypt	Sept. 19-22, 2005.

60.	BVSSS.Prasad BVN.Ramakumar	Numerical Study of Jet impingement on a concave surface	18th National & 7th ISHMT –ASME	4-6 Jan 2006
61.	BVSSS.Prasad BVN.Ramakumar & N.Kulasekharan	A Combined CFD and network approach for a Conjugate heat transfer analysis of Gas Turbine Blade	18th National & 7th ISHMT –ASME	4-6 Jan 2006
62.	V. J. Vignesh and M.P.Maiya	Analysis, Simulation and Feasibility Study of a Direct Compression Desalination System	18 th International Congress of Mechanical Engineering (COBEM 2005)	6 – 11 Nov. 2005, Ouro Preto, Minas Gerais, Brazil.
63.	A Sahaya Grinspan and R Gnanamoorthy	Fatigue Behavior of Oil Jet Peened Carbon Steels	OPE 2006, Int Conf on Pressure Vessels and Piping	Chennai, India, 7-9 Feb 2006.
64.	G Srinath and R Gnanamoorthy	High Temperature Tribo behaviour Of Nylon 6 Clay Nanocomposites	ICAMMP-2006 Int Conf On Advances In Materials And Materials Processing	3-5 February 2006 Kharagpur.
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66.	Sahaya Grinspan and R Gnanamoorthy	A 'Liquid Jet Peening – A Novel Surface Modification Process; Studies on Al Alloy Aa6063-T6 and Aa6061-T4	ICAMMP-2006	3-5 February 2006 Kharagpur.
67.	S. Dhanasekaran and R. Gnanamoorthy	Effect of solid lubricant addition on the tribological behavior for sintered steels', The global happening on particulate materials for automotive and engineering industry	Int Conference With Trade Exhibition And Particulate World	Feb 2005.
68.	S Senthivelan and R. Gnanamoorthy	Performance of polymer composite gears-effect of tooth deflection	63rd SPE Annual Technical Conference Boston	May 2005
69.	A Sahaya Grinspan and R Gnanamoorthy	Studies on Surface Morphology and Mass Loss Rate in the Oil Jet Peened Al Alloy	Int Conf On Advances in Materials, Product Design & Manufacturing Systems, Sathyamangalam	12-14, Dec 2005
70.	S Senthivelan and R. Gnanamoorthy	Contact stress analysis of unreinforced, glass and Carbon reinforced nylon 6/6 spur gears	Int Conf On Advances in Materials, Product Design & Manufacturing Systems, Sathyamangalam	12-14, Dec 2005
71.	Krishnan Balasubramaniam	Simulation of wave interaction with arbitrarily oriented defects in thin sections using spectral element method	American Society of Mechanical Engineers	July 2005
72.	Krishnan Balasubramaniam	The 2004 Ultrasonic Benchmark Problem — SDH Response Under Oblique Incidence: Measurements and Patch Element Model Calculations	Review of Quantitative Nondestructive Evaluation, Vol.25B, D.O.Thompson and D.E.Chimenti, Eds., American Institute of Physics, 2006, pp 1820-1827	July 2005
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75.	Krishnan Balasubramaniam	Ultrasonic Band Gaps in Periodic Stack of Plates — Simulation and Experiments	Review of Quantitative Nondestructive Evaluation, Vol.25B, D.O.Thompson and D.E.Chimenti, Eds., American Institute of Physics, 2006, pp 1043-1050	July 2005
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77.	Krishnan Balasubramaniam	Inspection Using Shear Wave Time of Flight Diffraction (S-TOFD) Technique	Review of Quantitative Nondestructive Evaluation, Vol.25A, D.O.Thompson and D.E.Chimenti, Eds., American Institute of Physics, 2006, pp 97-102	July 2005
78.	A.Zeenathul Farida, K Kumaran, U.S.P. Shet and T. Sundararajan	Stability of Partially Premixed Flames with Co-Flow and External Swirl-Air	The 5 th Asia-pacific Conference on Combustion	17-20 July 2005, The University of Adelaide, South Australia, 5005 , Australia.
79.	K Kumaran and USP Shet	Studies on Flame Characteristics of Swirled-Turbulent Open Premixed Nozzle Flames	The 5 th Asia-pacific Conference on Combustion	17-20 July 2005, The University of Adelaide, South Australia, 5005 , Australia.
80.	Manoj Sharma, V Rishikesh, P Harshavardhan, U.S.P Shet, K. Srinivasan and T Sundararajan	Enhancement of Fuel-Air Mixing in Supersonic Flow by Wall-Mounted Opposed Cavities	The ISABE 2005, September 4-9, 2005	The 17 th International Symposium on Air Breathing Engines, Munich Germany.
81.	K.Kumaran and U.S.P.Shet.	Combustion Noise Emission From Swirled-Turbulent Open Premixed Nozzle Flames, Paper No::lcces0520050816777	ICCES'05, India, International Conference on Computational and Experimental Engineering and Sciences	IIT Madras, December 1-6, 2005
82.	Rajesh Shrivastava, U.S.P.Shet and T.Sundararajan.:	Numerical Analysis of Bio-Diesel Droplet Burning, Paper No:lcces0520050817790.	ICCES'05, India, International Conference on Computational and Experimental Engineering and Sciences	IIT Madras, December 1-6, 2005
86.	M. Amarnath, C.Sujatha, and S. Swarnamani,	Classification Of Gear Wear Using Artificial Neural Networks	Department of Mechanical Engineering, Indian Institute of Technology Madras, Chennai-600036, India Twelfth International Congress on Sound and Vibration	11 – 14, July 2005, Lisbon Portugal
87.	M.Amarnath, C.Sujatha, S.Swarnamani	Gear Fault detection using oil film thickness and vibration Analysis. ICRAMME 05	Proceedings of the International Conference on Recent Advances in Mechanical & Materials Engineering	30-31 May 2005, Kuala Lumpur, Malaysia Paper No. 232, pp788-794

88.	Mallikarjuna Reddy and S,Swarnamani	Damage Localization in Stiffened plates using Wavelet Approach, pp3263-3258	Proc.ICCES'05	December 1-6, 2005 , Indian Institute of Technology Madras, Chennai 600036. INDIA
89.	G Jayaprakash and S Swarnamani	Damage identification of beam structures using wavelet analysis, pp3355-3360	Proc.ICCES'05	December 1-6, 2005 , Indian Institute of Technology Madras, Chennai 600036. INDIA
90.	A.R.Annigeri, N Ganesan and S Swarnamani	Modeling of Cantilever Magneto-Electro-Elastic Cylindrical Shell,pp3347-3352	Proc.ICCES'05	December 1-6, 2005 , Indian Institute of Technology Madras, Chennai 600036. INDIA
91.	S. Jayasankar, S. Narayanan and P. Chandramouli	Scattering characteristics of submerged shells coated with compliant layer	International Conferences on Computational and Experimental Engineering Sciences ICCES05, IIT Madras	1-6 Dec. 2005
92.	V Balamurugan and S Narayanan	Active Vibration control of Smart Stiffened plates using PZT sensors and actuators	International Conferences on Computational and Experimental Engineering Sciences ICCES05, IIT Madras	1-6 Dec. 2005
93.	V Balamurugan and S Narayanan	Thermoelectromechanical modeling of piezolaminated plates with higher order plate finite elements	International Conferences on Computational and Experimental Engineering Sciences ICCES05, IIT Madras	1-6 Dec. 2005
94.	L.V.V.Gopala Rao and S. Narayanan	Semi-Active Vehicle Suspension with Skyhook Damper	Proceedings of the 14th ISME International Conference on Mechanical Engineering in Knowledge Age, Delhi College of Engineering, INDIA.	December12-14, 2005
95.	M. Ganesh Raja and S Narayanan	A Spectral Element for Active Vibration Control of Tensegrity Structures	International Conferences on Computational and Experimental Engineering Sciences ICCES05, IIT Madras	1-6 Dec. 2005
96.	M. Ganesh Raja and S Narayanan	Simultaneous Optimization Of Smart Tensegrity Structures	Proceedings of the 14th ISME International Conference on Mechanical Engineering in Knowledge Age, Delhi College of Engineering, INDIA	December12-14, 2005
97.	Manjusha, C.Sujatha and Venkatesh Balasubramanian	Response of spine to vehicular vibration	Proc. Twelfth International Congress on Sound and Vibration (ICSV12),	11-14 July 2005, Lisbon, Portugal

Distinguished Visitors to the Department:

Sl. No.	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
1.	Prof. Helmut Eichseder Univ. of Graz, Austria	29.12.2005	To deliver a lecture on "Use of Hydrogen in IC Engines"

2.	Dr. S. Ganesan CORIA-UMR, France	25.1.2006	To deliver a lecture on "Homogeneous Charge Compression Ignition Engines"
3.	Dr. Mahulikar Professor, IIT Bombay	20.1.2006	To give seminar in HTTP Lab.
4.	Prof. Jesse Zhu Univ. of Western Ontario, Canada	Feb. 14-17, 2006	For Technical Discussions and to give seminars

4.12.6 Other Activities:

- Prof. A. Ramesh has been nominated as a Member of the Board of Academic Studies in Jawaharlal Nehru Technological University, Hyderabad
- Prof. A. Ramesh has been nominated as a Member of the Board of Academic Studies in Jawaharlal Nehru Technological University, Kakinada
- Prof. R.P. Sharma has been elected as Vice-Chairman of the Combustion Institute (India)
- Dr. Ajit Kumar Kolar has been nominated to the International Advisory Board of International CFB conference
- Prof S Srinivasa Murthy is elected as the President of the Indian Society for Heat and Mass Transfer for 2006-2008.
- Prof S Srinivasa Murthy has been nominated as the Country Delegate to the International Institute of Refrigeration, Headquarters, Paris for 2005-2010.
- Prof S Srinivasa Murthy is a member of the Scientific Committee for International Conferences on Heat Transfer conducted by the International Committee on Heat Transfer, 2006-2008.
- Prof C Sujatha is serving as warden of Sharavati and Sarayu Hostels
- Prof C Sujatha was part of sub-committee responsible for proposing the syllabus for the Engineering Design Programme
- Prof C Sujatha was part of Committee responsible for procurement of equipment for Vehicle Dynamics and Mechatronics Laboratories of Engineering Design Programme
- Prof C Sujatha served as an invitee for Institute Sexual Harassment Cell.

4.13 DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

4.13.1 Introduction:

The Department of Metallurgical Engineering was established in 1959. President of India in his capacity as the Visitor of IIT Madras approved the change of name of the Department of Metallurgical Engineering as Department of Metallurgical & Materials Engineering with effect from 12th March 2003. The Department offers B.Tech., Dual Degree, M.Tech., M.S. and Ph.D. programmes. Following are major areas of teaching, research and consultancy activities of the Department.

- Metal Casting
- Metal Forming
- Metal Joining
- Materials Technology

4.13.2 Academic Programmes:

Students on Roll:

Programme	I Year	II Year	III Year	VI Year	V Year & others	Total
B.Tech	22	30	31	24	01	108
Dual Degree	08	10	05	08	05	36
M.Tech	13	15	-	-	-	28
M.S.	2	4	7	6	3	22
Ph.D	5	14	16	11	18	64
Total	50	73	59	49	27	258

4.13.3 Faculty and their activities:

Faculty:

Name and Qualification

Major Area of Specialization

Professors :

Achar, D.R.G. Ph.D. (IIT Madras)	Welding Technology, Failure Analysis, Corrosion, Industrial Metallurgy
Guha, B. Ph.D. (IIT Madras)	Fatigue & Fracture of Welded Joints, Application of FEM/CAD in the area of Welding Technology
Kesavan Nair, P. Ph.D. (IIT Madras) Rejoined on 18.06.2005 after a 2 year leave.	Physical Metallurgy, X-ray Diffraction, Materials Science and Technology
Murty, B.S. Ph.D. (IISc Bangalore)	Physical Metallurgy, x-ray Diffraction, Electron Microscopy, Nano materials, Bulk Metallic Glasses, Composites
Paramanand Singh Ph.D. (IIT Bombay)	Powder Metallurgy, Ceramics, Composites and Materials Science
Pathak, S.D. Ph.D. (IIT Madras)	Materials Science and Technology, Mechanical Behaviour, Mechanical Metallurgy, Mechanical Testing, Fatigue, Fracture Mechanics
Prasad Rao, K. Ph.D. (IIT Madras)	Joining Materials, Surface Technology, Nano Technology, Powder Metallurgy
Prasanna Kumar, T.S. Ph.D. (IIT Madras)	Metallurgical Process Modeling, Steel Plant Automation and Off-line Simulators, Metal Casting
Raghavan, S. Ph.D. (IISc Bangalore)	Process and Extractive Metallurgy, Thermodynamics, Solid Electrolyte Chemical Sensors, Hot Corrosion
Seshadri, S.K. Ph.D., (Imperial College, London)	Chemical Metallurgy, Surface Technology, Corrosion
Venugopal, P. Ph.D. (IIT Madras)	Solid State Joining of Dissimilar P/M Metals, Metal Forming Processes, Press Tool Design, Hammers and Presses, Cold Extrusion of Materials

Associate Professors:

Balasubramanian, M. Ph.D. (IIT Madras)	Processing and Characterization of Composite Materials, Ceramic Processing
Bhattacharya, S.S. Ph.D. (IIT Madras)	Superplasticity and High Temperature Behaviour, Metal Forming, Nano-crystalline materials
Ganesh Sundara Raman, S. Ph.D. (IIT Madras)	Mechanical Behaviour, Fatigue, Fracture Mechanics, Fretting
Harikumar, K.C. Ph.D. (IIT Delhi)	Computational Thermochemistry, Phase Diagrams, CALPHAD
Kamaraj, M. Ph. D. (IIT Madras)	Mechanical Behaviour of Materials, High temperature behavior of coatings and welded joints, Surface Engineering, Biomaterials
Sampath, V. Ph.D. (IISc, Bangalore)	Materials Technology & Science, Composite Materials, Physical Metallurgy, Surface Modification
Sampath Kumar, T.S. Ph.D. (IISc, Bangalore)	Biomaterials, Surface Sciences, Analytical Instrumentation
Uday Chakkingal Ph.D. (Rensselaer Poly Inst., USA)	Materials Processing and Characterization, Aluminium Alloys, Surface Coatings

Assistant Professors:

Phanikumar, G. Ph.D. (IISc, Bangalore)	Solidification Processing, Transport Phenomena in Manufacturing Processes
Prathap Haridoss Ph.D. (Univ. of Wisconsin – Madison, USA)	Fuel Cells, Rechargeable Batteries, Electrochemistry, Materials Characterization
Subramanya Sarma, V. Ph.D. (IIT Madras)	Materials Processing, Development, Characterization and Microstructure - Mechanical Properties Correlations in Engineering Materials

Emeritus Professor:

Sundarasan, S. Ph.D (IIT Madras) Term completed on 30.06.2005. Guest faculty from July 2005 till November 2005.	Metal Joining, Welding Metallurgy, Mechanical Behaviour
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Visiting Faculty:

Nageswar Rao, M. Ph. D. (Univ. of Pennsylvania, USA) Term completed on 28.02.2006. Guest faculty from March 2006 till April 2006.	Development, Production, Characterisation (Quality Control) and Application Engineering of Special Steels, Superalloys and Titanium Alloys with Particular Reference to Use in Strategic Sectors - Defence, Space and Atomic Energy
Rodriguez, P. Ph. D. (IISc, Bangalore) AICTE-INAE Visiting Faculty (on reappointment)	Nuclear Metallurgy, Mechanical Metallurgy
Gokularathnam, C.V. Ph.D. (Florida) Term completed on 30.06.2005	Physical Metallurgy, X-ray Diffraction, Powder Diffraction, Powder Metallurgy, Advanced Ceramics, SEM and TEM

Scientific Officers:

Jothinathan, G. M.Tech. (IIT Madras)	NDT, Metal Casting, Electro Met., Corrosion, Ceramics
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Short Term Courses/Workshops/Seminars/Symposia/Conferences organized by the Faculty Members:

Sl.No	Co-ordinators	Title	Institution	Period
1	Dr. M. Kamaraj, Prof. K. Prasad Rao and Mr. G. Jothinathan	A two-day course on Failure analysis of Industrial components	IIT Madras	Feb. 6 th and 7 th , 2006
2.	Prof. K. Prasad Rao & Mr.G. Jothinathan	Failure analysis of Industrial Components	IIT Madras	April 15 & 16, 2005
3.	Prof. S. Sundaresan and Dr. M. Kamaraj	One day workshop on "Welding Automation and Surfacing"	IIT Madras	April 30, 2005
4.	M.Balasubramanian & P. Alagusundaramoorthy	Fibre reinforced thermoset plastics	IIT Madras	July 11-16,2005

5.	Dr. M. Kamaraj	Two days course on Welding Technology and Inspection	IIT Madras	22 nd & 23 rd October, 2005
6.	Dr. M. Kamaraj and Dr. Kamchi Mudali (IGCAR)	Pre-conference Tutorial on "Surface Engineering and Failure Analure Analysis" Analysis, CORCON 2005; NACE International Section (NIIS) South Zone	-	November 26 th and 27 th , 2005
7.	Dr.M.Balasubramanian & Dr.P.Alagusundaramoorthy	Fibre Reinforced Thermoset Plastics	-	July 11-16, 2005.
8.	Dr.M.Balasubramanian & Dr.N.G.Nair	FRP Composites in Infrastructure Systems	-	February 22, 2006
9.	International Symposium on Frontiers in Design of Materials (FDM 2005) celebrating the World Year of Physics Nov., 12-13, 2005, 43 rd National Metallurgists Day (NMD) November 14, 2005 and 59 th Annual Technical Meet (ATM) November 15-16, 2005, together with other IIM Chapters in Tamilnadu. Organisation contributions from our Department: Frontiers in Design of Materials (FDM 2005)			

International Symposium Committee:

Dr. Baldev Raj, Chairman
Prof. Placid Rodriguez, Member
NMD-ATM-2005

National Organising Committee:

Dr. Baldev Raj, Chairman
Prof. SD Pathak, Member
Prof. DRG Achar, Member
Prof. K.Prasad Rao, Member
Prof. BS Murty, Member

Local Organising Committee:

Prof. SD Pathak, Co-Chairman
Prof. DRG Achar, Member
Dr.SS Bhattacharya, Member
Prof. BS Murty, Member
Dr. VS Sarma, Member
Prof. Paramanand Singh, Member
Prof. K. Prasad Rao, Member
Prof. SK Seshadri, Member

Technical Committee

Prof. D. R. G. Achar, Member
Prof. S. Sundaresan, Member
Prof. B. S. Murty, Member

Web Management Committee

Prof. B. S. Murty, Convener
Dr. G. Phanikumar, Co-convener
Mr. Pratik Ray, Member
Mr. T.Mahesh Kumar, Member

Registration Committee:

Dr. V. S. Sarma, Convener
Dr. K. C. Harikumar, Member
Dr. G. Phanikumar, Member
Dr.T. S. Sampath Kumar, Member

Metallography Committee:

Prof. B. S. Murty, Member

Souvenir Committee:

Dr. Uday Chakkingal, Member

Accommodation Committee:

Prof. Paramanand Singh, Convener
Prof. B. S. Murty, Member
Dr. M. Balasubramanian, Member
Dr. M. Kamaraj, Member

Exhibition Committee:

Dr. M. Kamaraj, Member

Catering Committee:

Mr. G.Jothinathan, Co-convener
Dr. K. C. Harikumar, Member
Dr. T. S. Sampath Kumar, Member

Hall Arrangements Committee:

Dr. S. S. Bhattacharya, Convener
Dr. M. Balasubramanian, Member
Dr. Prathap Haridoss, Member

Press & Media Coverage Committee:

Prof. DRG Achar, Co-convener
Prof. S Sundaresan, Member

Transport Committee:

Dr. S. Ganesh Sundara Raman, Convener
Dr. M. Kamaraj, Member
Dr. V. Sampath, Member

Short Term Courses/Workshops/Seminars/Symposia/Conferences/Training attended by the faculty members in Academic Institutions and Public sector undertakings:

Sl. No.	Name of the faculty	Event	Venue	Duration
1	Dr. P. Rodriguez	International Conference on Statistical Mechanics Plasticity and Related Instabilities	IISc Bangalore	29.08.2005 to 02.09.2005
2	Prof. B. S. Murty	12 th International conference on Rapidly Quenched and Metastable Materials (RQ12)	Jeju, South Korea	21.08.2005 to 26.08.2005

3	Dr. Uday Chakkingal	3 rd International conference on nanomaterials by Severe Plastic Deformation (NanoSPD3)	Soft Research Park, Fukuoka, Japan	22-26.09.2005.
4	Prof. P. Venugopal	2 lectures at National Forging Seminar on Neat Net Shape Forging Technology.	IISc Bangalore	29-30.09.2005.
5	Prof. P. Venugopal	Near Net Shape Forming through Powder Metallurgy	Bangalore	01.10.2005
6	Dr. M. Balasubramanian	69 th Annual session of the Indian Ceramic Society	Jamshedpur	28-29.12.2005
7	Dr. M. Nageswara Rao	CONQUEST 2006: An International Conference on Reliability in Aerospace Systems	Research Centre, Imarat, Hyderabad	15.01.06 to 17.01.2006
8	Prof. B. S. Murty	Bulk metallic glasses	Japan	25-26.01.2006
9	Prof. B. S. Murty	Nano Technology	NIT Trichy	03.03.2006

Special lectures delivered by the faculty in other institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr. M. Balasubramanian	Epoxy Resins	Goa Glass Fibre Ltd., Goa. 03.06.2005
2.	Prof. P. Venugopal	1. Metal Forming Machines on Metal Forming 2. Deep Drawing and Tool Related Aspects	King Mutt University, Thailand, 12-18.07.2005
3.	Dr. M. Nageswara Rao	Transformations in Metals – Why should Mechanical Engineers be concerned with them?	CBIT, Hyderabad 30.07.2005
4.	Dr. P. Rodriguez	Nucleation and Growth of Cracks under Creep-Fatigue Interaction Conditions	CEMERI Durgapur, 01.08.2005
5.	Dr. P. Rodriguez	Methodologies for Life Prediction under Creep-Fatigue Interaction Conditions	CEMERI Durgapur, 02.08.2005.
6.	Dr. P. Rodriguez	Interaction Between Theory and Experiments in Materials Science and Engineering	Durgapur Steel Plant 02.08.2005
7.	Dr. P. Rodriguez	Leadership in Professional Societies	IIM Durgapur, 02.08.2005
8.	Dr. G. Phanikumar	Electromagnetic levitation as a tool for solidification studies	IIT Madras 11.08.2005
9.	Prof. B. S. Murty	Identification of compositions with highest glass forming ability in multicomponent systems by thermodynamic and topological models and synthesis of bulk metallic glasses by mechanical alloying	Jeju, South Korea 22.08.2005 to 26.08.2005
10.	Dr. P. Rodriguez	Leadership: How is it different from management	IIM Rourkela Chapter & Rourkela Steel Plant 01.09.2005.
11.	Dr. M. Nageswara Rao	Development and Production of Maraging Steel Rings for Indian Space Programme.	IIT Madras 02.09.2005.
12.	Dr. P. Rodriguez	National Seminar on Non Ferrous Metals: Emerging Global Opportunities	IIM Delhi Chapter 22-23.09.2005
13.	Dr. P. Rodriguez	Leadership: How is it different from management	RRL Bhopal 26.09.2005
14.	Dr. P. Rodriguez	Interaction Between Theory and Experiments in Materials Science and Engineering	CSIR Foundation Day & Silver Jubilee of RRL Bhopal, 26.09.2005
15.	Dr. Placid Rodriguez	From three Decades of Nuclear Isolation to Global Leadership in Nuclear Technology in Three Decades.	BARC Founders' Day Lecture 2005, BARC, Mumbai., 28.10.2005.
16.	Prof. P. Venugopal	Formability Limit Diagram of Sintered P/M Preforms and its Significance to Cold Extrudability	Bangalore 29-30.09.2005
17.	Dr. M. Balasubramanian	Epoxy and Phenolic Resins	VIT, Vellore, 05.10.2005
18.	Dr. M. Kamaraj	Ceramic and carbide coatings for industrial valve applications. International Conference on Corrosion, Young Scientist Forum CORCON 2005.	Chennai 28-30.11.2005
19.	Dr. M. Nageswara Rao	Special Alloys-processing and applications in strategic sector.	NIT, Thiruchirapalli

20.	Dr. Placid Rodriguez	What happens to structural materials in a nuclear reactor: the fascinating world of radiation enhanced materials at the annual conference of Indian Nuclear Society INSA 05.	BARC Mumbai 17.11.2005
21.	Prof. S Raghavan	Recent developments in chemical sensors for non-ferrous extraction metallurgy and metals processing 59 th Annual Technical Meet of IIM.	Chennai 15-16.11.2005
22.	Prof. B. S. Murty	Nanocrystalline materials by mechanical alloying and rapid solidification processing at the international conference Frontiers in Design of Materials (FDM-2005)	IIT Madras 12-13.11.2005
23.	Prof. P. Venugopal	Lectures to the faculty, Ph.D, M.E & Final Year Production Engineering students of Mechanical Sciences Department	VIT, Vellore 13-18.12.2005
24.	Dr. M. Nageswara Rao	Engineering Education: Some thoughts for Students, Faculty and Management	Gayatri Vidya Parishad, College of Engineering, Visakhapatnam, 16.12.05
25.	Dr. M. Nageswara Rao	Importance of Process Design and Process Control in Manufacture of Materials for Aerospace Applications Research Centre Imarat, Hyderabad.	RCI, Hyderabad 17.01.2006
26.	Dr. K. C. Harikumar	An Introduction to Thermodynamic Calculation of Phase Diagrams Materials Advantage Chapter, IIT Madras	IIT Madras 12.01.2006
27.	Prof. D. R. G. Achar	Delivered the Valedictory Address at the one-day Workshop on Joining of Thin Sheet Metals (JOTHI '06) organized by the Indian Welding Society at the GRT Grand Hotel, Chennai.	Chennai 22.02.2006
28.	Prof. B. S. Murty	Nano composites by non-equilibrium processing NIMS, Tsukuba, Japan.	Tsukuba, Japan 06.02.2006
29.	Prof. B. S. Murty	Nano composites, Osaka University, Osaka, Japan	Osaka, Japan 24.02.2006
30.	Dr. M. Kamaraj	Materials for Automotive applications, Short term course on Automotive Engine and Emission Control techniques, For engineers of Indian Oil Corporation, Jointly organized by Mechanical Engg Dept IIT Madras and Indian Society for Automotive Technology	Chennai 06-11.03.2006
31.	Dr. V. Subramanya Sarma	Defects in Solids UGC workshop University of Madras	Chennai 17.03.2006

Visits abroad by faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit
1	Prof. B. S. Murty	Germany	14.05.2005 to 27.05.2005	Had discussions about research collaboration in the area of Al based metallic glasses and nanocomposites.
2	Dr. V. S. Sarma	Germany	15.05.2005 to 14.07.2005	To avail Alexander von Humboldt Fellowship at IFW Dresden, Germany
3	Prof. P. Venugopal	Thailand	10.06.2005 to 20.06.2005	Delivered Invited Lectures, advised topics of two Ph.D.Theses.
4	Prof. P. Rodriguez	Australia	10.06.2005 to 14.06.2005	Annual Convocation of International Council of Academies of Engineering and Technological Sciences (CAETS) at Cairns, Australia Following the above, a visit to the Monash University (Dept. of Materials Engg.) to discuss with the faculty and to deliver a lecture on "The grain size dependence of activation parameters for deformation: the influence of crystal structure, slip system and rate controlling dislocation mechanism"
5	Dr. T. S. Sampath Kumar	Singapore	15.06.2005 to 28.07.2005	To take up a position as Visiting Scientist at the National University of Singapore.

6	Prof. B. S. Murty	South Korea	22.08.2005 to 26.08.2005	To attend 12 th International conference on Rapidly Quenched and Metastable Materials (RQ12), Jeju, South Korea, August 21-26, 2005, present an invited paper on "Identification of compositions with highest glass forming ability in multicomponent systems by thermodynamic and topological models and synthesis of bulk metallic glasses by mechanical alloying" authored by Jatin Bhat, B.Srinivasa Rao, B.S.Murty; to chair a session on "Mg Alloys" and to visit Universities in Pohang, Daejeon and Seoul.
7	Dr. Uday Chakkingal	Japan	21-26.09.2005	To attend NANOSPD3 Conference
8	Dr. B. S. Murty	Japan	01.12.2005 to 28.02.2006	Visiting Professor of IFCAM, IMR, Tohoku University, Sendai for collaborative research on bulk metallic glasses.
9	Dr. T. S. Sampath Kumar	Singapore	04.01.2006 to 22.06.2006	Visiting Research Scientist in Nanoscience and Nanotechnology Initiative (NUSNNI) National University of Singapore.

Honours and Awards obtained

1. Prof. D.R.G. Achar, *Daya Swarup Memorial Lecture 2005*, awarded for outstanding teacher and researcher in Materials Engineering, 43rd National Metallurgists Day, 14.11.2005, Welding Science and Technology – Current Trends and Future Needs – Indian Industrial Scenario.
2. Prof. B.S. Murty, *Invited Lecture* at the International Conference, Frontiers in Design of Materials (FDM-2005), November 12-13, 2005, IIT Madras, Nanocrystalline materials by mechanical alloying and rapid solidification processing.
3. Dr. M. Nageswara Rao was elected as *Fellow of Institution of Engineers (FIE)*, 2005.
4. Dr. G. Phanikumar, *Young Metallurgist of the Year*, for outstanding contributions in the area of metal sciences, from the Ministry of Steel & Mines, Govt of India, 43rd National Metallurgists Day, November 14, 2005.
5. Prof. T.S. Prasanna Kumar Inaugurated the "National Workshop on R&D activities at National Institutes of Technologies – Review and Planning" and delivered the *Inaugural Address* on 20th Jan 2006 at NITK, Surathkal.
6. Dr. V. Subramanya Sarma, *AvH fellowship* (2 months May 15 to July 15) to work with Prof. Martin Heilmaier at Otto von Guericke University, Magdeburg, Germany.
7. Prof. P. Venugopal has been awarded the "*Fie Foundation National Award*" by the FIE Foundation of Ichalkarachi, Kolhapur, Maharashtra on 09.04.2006 in recognition of Education and Technology for the year, 2005. The Award carries a citation scroll, memento and a tax exempted cash amount of Rs. 100,000.

Books/Monographs authored / co-authored / edited

S.No.	Name(s) of Author(s)	Title of Text Book/ Monograph	Publisher
1	Dr. Uday Chakkingal	Chapter "Aluminium and its Alloys" in the book " Deformation and Processing of Structural Materials" Ex. Z.X. Guo, July 2005.	CRC, USA and Woodhead Publishing, UK
2	Prof. B.S. Murty	Proceedings of second international conference on solidification science and processing, Editors: B. K. Dhindaw and B.S. Murty	Transactions of IIM August 2005

Selection Committee Members:

- On invitation from Non-Ferrous Materials Technology Development Centre (NFTDC), Hyderabad, Dr. M. Nageswar Rao participated as a Member of the Selection Committee for inducting Senior Scientists with a Ph.D qualification in NFTDC.
- Dr. P. Rodriguez attended as a member, nominated by the Department of Science and Technology, the Selection Committee Meeting for the recruitment and promotion of candidates to the posts of Professors, Additional Professors, Associate Professors, Assistant Professors, and Scientists in equivalent grades of Sri Chitra Thirunal Institute of Medical Science and Technology, Thiruvananthapuram during the period June 20-24, 2005.
- Dr. M. Nageswar Rao participated, on invitation, as an expert in the Materials Panel Meeting Of Naval Research Board (NRB) held at IIT Madras on 13.07.2005 for consideration of funding of the projects that are proposed to NRB by various organizations.

Ph.D. Thesis Examination

- Dr. M. Balasubramanian went as an examiner for a Ph.D. oral examination at Indian Institute of Science, Bangalore on 10.06.2005.
- Dr. S. S. Bhattacharya went as an examiner for a Ph.D. oral examination at the Anna University, November 2005.
- Dr. M. Kamaraj went as an examiner for a Ph.D. oral examination at National Institute of Technology Trichy May 2005.

Nomination

- Dr. S. S. Bhattacharya was a member of the ICCES Local Organising Committee and a member of the Technical Committee for the AMPC conference to be held at Anna University (28-30 August).
- Prof. B. S. Murty has been selected as member, Board of Sciences, Dept. of Met. Eng., NIT, Tiruchirapalli
- Prof. B. S. Murty has been selected as member, Board of Sciences, Dept. of Met. Eng., Andhra University, Visakhapatnam
- Prof. B. S. Murty has been selected as member, Board of Sciences, Dept. of Met. & Mater. Eng., VNIT, Nagpur
- Dr. P. Rodriguez has been nominated as a member of the TIFAC Apex body, CUSEC (Committee on Upgradation of Science and Engineering Colleges), codenamed Mission REACH (Relevance and Excellence in Achieving new heights in higher technical education).
- Dr. P. Rodriguez has been nominated as Chairman of the TIFAC group to discuss and identify S.M.E. clusters and empowering them with modern technologies.
- Prof. P.Venugopal, Invited to serve as Technical Advisor for the following organizations in Bangalore: Advanced Forming Research Centre (AFTC), Metform Research (Scientific Metal Forming Research Foundation).

Journal Editorial Boards

- Dr. M. Kamaraj is member of Editorial Advisory Board, Trans. of the Indian Institute of Materials.
- Dr. T. S. Sampath Kumar is associate editor for the journal "Trends in Biomaterials and Artificial Organs".

New courses proposed

Following new course(s) were proposed during this year.

S No	Course No	Title
1	MT 552	Solidification Phenomena Liquid solid transformation; Nucleation; Crystal growth; Eutectic solidification; Solidification of solid solution alloys; Solidification of castings; Rapid solidification; Amorphous solidification; Micro/Macro segregation in cast alloys; Mushy zone morphology and properties. By Prof. T.S.Prasanna Kumar
2		Smart Materials Introduction to smart materials. Principles and development. Sensor and actuator materials. Methods of synthesis and characterization of shape memory alloys, piezoelectric materials, electro- and magnetorheological materials, electro- and magnetostrictive materials, optical fibres, smart gels, electrochromic materials, light-sensitive materials. Effect of composition, thermomechanical processing and grain refinement on the microstructure, properties and performance of smart materials. Applications of smart materials: industrial, medical, safety, structural, robotic, automotive, electronic, biomimetic, aerospace and consumer applications. Nanocrystalline SMAs. Thin film SMAs. Fabrication and applications of MEMS. Smart Composites: preparation, special properties and advantages. Smart structures and applications. References: <ol style="list-style-type: none">1. Mel Schwartz, <i>Encyclopedia of Smart Materials (Vols. I & II)</i>, John Wiley & Sons Ltd., New York (2002-3)2. M.V. Gandhi and Thompson, <i>Smart Materials and Structures</i>, First Edition, Chapman & Hall, London (1992)3. K. Otsuka and C.M. Wayman (Eds), <i>Smart Memory Materials</i>, Cambridge University Press, Cambridge (1998)4. Brian Culshaw, <i>Smart Structures and Materials</i>, ARTECH HOUSE INC, Massachusetts (1996). By Dr. V. Sampath

Patents Filed / Granted

Metallic foams stabilized by grain refiners

German patent application filed by Prof. B. S. Murty with Prof. J. Banhart, Dr. N. Bobcsan, Dr. G.S. Vinod Kumar

Students and their activities:

M.S/Ph.D. admission for July-November 2005:

The following are the selection committee's recommendations.

Degree	Regular	External	CTC Quota	Sponsored	ARCI	Total
Ph.D	7	3	1	1	1	13
M.S.	6	1	-	1	-	8

Technical events participated by the students

Total number of presentations made by Ph. D. scholars 3

SI.No.	Name of the Student	Programme	Name of the Conference/Seminar/Symposia	Date & Venue
Conferences				
1	P. Jawahar	Ph.D.	3 rd International Conference on Materials for Advanced Technologies	03-08.07.2005 Singapore
2	J. Chandradass	Ph.D.	3 rd International Conference on Materials for Advanced Technologies	03-08.07.2005 Singapore
3	P. Jawahar	Ph.D.	ISAMPE National Conference on Composites (INCCOM – IV)	09-10.12.2005 Coimbatore

Awards and Recognition:

1. Final year B.Tech students, G. Hariharan and Sreejith Narayanan, have been selected as "Best Outgoing Interns" by GE India Technology Centre, Bangalore. The award consists of a certificate and a gift cheque.
2. Sri S. Shankar, *Vidya Barati Prize* for the year 2005, For highest marks in the final year B.Tech/B.E./B.Sc.(Engg) in Metallurgy Exam., From the Indian Institute of Metals, 43rd National Metallurgists Day, November 14, 2005.
3. *Second Best Poster Prize*, at 59th Annual Technical Meet (ATM-2005) of the IIM, Title: Development of Ultra fine Grained High Strength 2219 A1 alloy by Cryorolling and Low Temperature Annealing, Authors: Mr. Shanmugasundaram (Ph.D.Scholar), Dr. V. S. Sarma and Prof. B. S. Murty
4. *Second Best Metallography Exhibit Prize*, In the Scanning Electron Microscopy Category, at 59th Annual Technical Meet (ATM – 2005) of the IIM, Title: Garland of Laves and Delta Phases, Authors: Mr. Sivaprasad Katakam (Ph.D. Scholar), Dr. S. Ganesh Sundara Raman.
5. Mr. Bharat Jalan, Roll No. MT0B031 (B.Tech), *First Prize in Enquesta (Online Quiz)*, Cognizance 05 Indian Institute of Technology, Roorkee, Won a Prize in the online quiz held during Cognizance 05, the technical festival of IIT Roorkee (with prize money of Rs.4000/-), March, 04-06 2005.
6. Mr. Mahesh Krishnamurthi, Roll No. MT01B013 (B.Tech), Award of *Governor's Gold Medal*, IIT Madras , All round proficiency in curricular and Extra curricular activities in the B.Tech. programme for the period 2001-05-(A Silver Medal and cash award), 29th July 2005
7. Mr. B. Vamsi Krishna (MT02D005) & Mr. K. Srinivasa Rao (MT02D006), Ph.D. Scholars , *Sudharshan Bhat Memorial Prize* , The Goud Saraswat Brahman Scholarship League, Bombay , M.S/Ph.D Schoars in Metallurgical Engg., 29th July 2005
8. T.Shanmugasundaram, Ph.D. student with Dr.V.S.Sarma and Prof. B.S.Mrty has been awarded *DAAD fellowship* to carry out research for 1 year at University of Magdeburg, Germany.
9. Puneet Chaudhary (B.Tech III Year student and Secretary of Material Advantage Chapter) wins the *Arthur E. Focke Leadership program* of ASM that includes a round trip to USA, local hospitality and two week leadership training programme. This is the fourth time a student from IIT Madras wins this award. Every year about six such scholarships are given worldwide.
10. The Material Advantage Chapter of IIT Madras has won the Chapter of Excellence Award for the year 2004-2005. Every year 5 Chapter of Excellence awards are given. It constitute a certificate and a cheque of \$400.
11. The Material Advantage Chapter of IIT Madras has won the Member Challenge award for the category of "most students recruited" for the year 2005-2006. The chapter has grown from 44 members in 2004-05 to 66 members in 2005-06. The award includes a cash prize of \$500.

Quiz programmes:

Prof. Brahm Prakash Memorial Materials Quiz 2005 jointly with IIM Chennai Chapter on 26th August, 2005, at MSB 104. Three teams of two students each (+1 or +2 level) selected to represent the chapter at IGCAR Kalpakkam. 58 Students from 16 different schools from Chennai participated. The Quiz was conducted by the 3rd Year B.Tech students. This year the final Quiz will be international. Last year the winning team was from Chennai Chapter. Team selected are from: St. Michael's Academy Matriculation Higher Secondary School and The Hindu Senior Secondary School, SBOA Matriculation Higher Secondary School.

Department of Metallurgical and Materials Engineering and METSA organized an informal get together for all 1st year students of B.Tech, Dual Degree, M.Tech, M.S. and Ph.D. on 19th August 2005 at Taramani Guest House.

Prof. Brahm Prakash Memorial Materials Quiz 2005: The three teams of two students each (+1 or +2 level) selected to represent the chapter at IGCAR Kalpakkam have been given a technical briefing by the faculty of the Department on Sept. 24. The faculty accompanied the students to Kalpakkam on 30th for the Quiz. One of the teams has made it to the Semi-finals.

Ms. Surekha Krishnan participated in the intercollegiate general QUIZ on November 21, 2005. Vasool Rani, conducted by Vijay TV and made a clean sweep of all the prizes and created a record by scoring the highest points ever.

Summer fellowship:

Four summer fellowship students joined our Department. Mid-Term evaluation was conducted in June. They are required to submit a report on their two months activities and make a presentation on 13th July 2005.

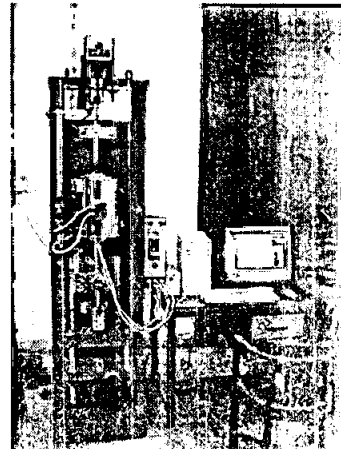
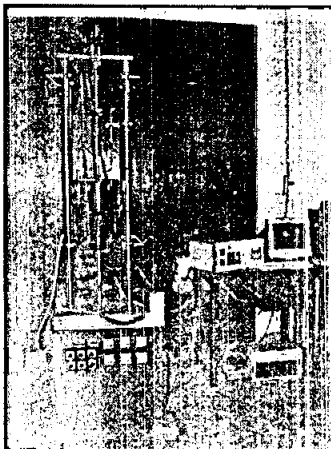
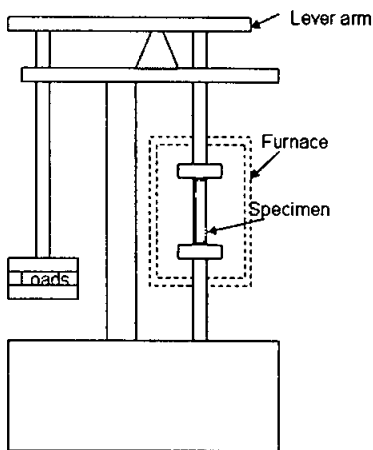
4.13.4 Design and Development activities :

New Facilities / Infrastructure :

The following new facilities have been added during this academic year.

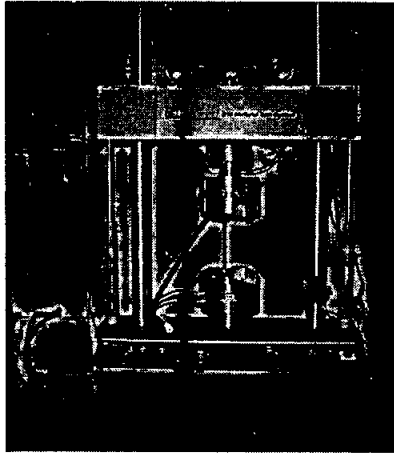
1. Creep Testing Machines

Creep machines are used to study high temperature creep and stress rupture behavior of advanced engineering materials. In case of creep, specimen is loaded within a furnace and elongation due to applied load or stress is recorded with time. In case of stress-rupture test, the time to rupture is recorded at specific applied stress.



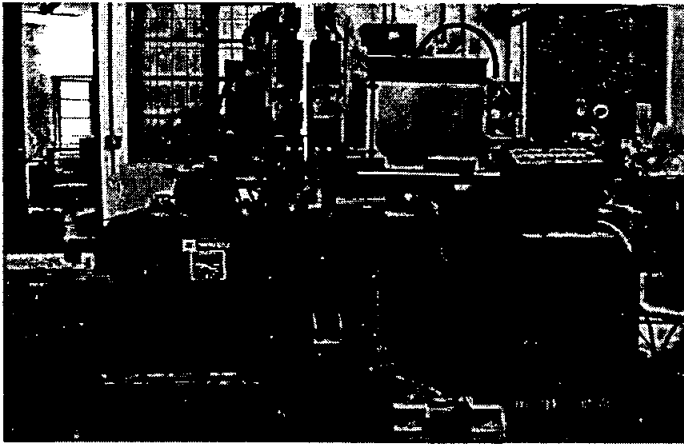
Maximum operating temperature	1000°C
Maximum load	10 kN
Maximum length of the specimen	250 mm
Minimum length of the specimen	75 mm
Operation control	PC interfaced software
Type of specimens	Flat - Min thickness: 2 mm, Max. 5mm Round - Min dia: 3 mm, Max dia: 10 mm (threaded and pin type) Sheet – Min thickness: 2 mm
Type of fixture	Depends on type of specimens

2. Servo Hydraulic Machines



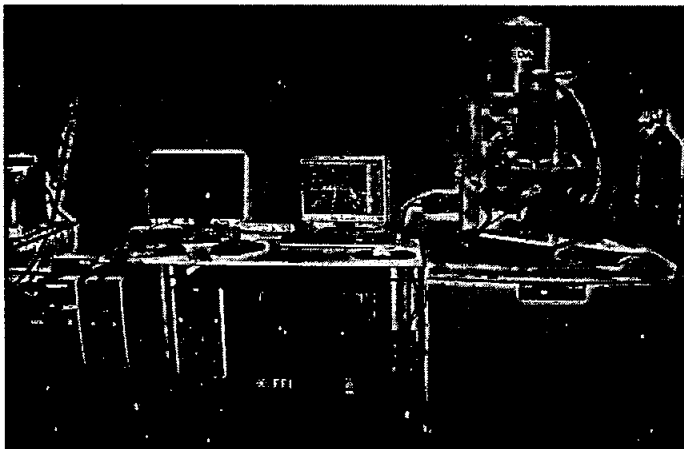
A computer controlled servo-hydraulic testing machine (MTS make) of 100 kN capacity has been installed and commissioned at Materials Testing Facility. It has three control modes of operation: force, displacement and strain. It is mainly intended for fatigue testing. The facility was procured from the Department Non-Recurring Funds.

3. Flash Butt Welding Machine



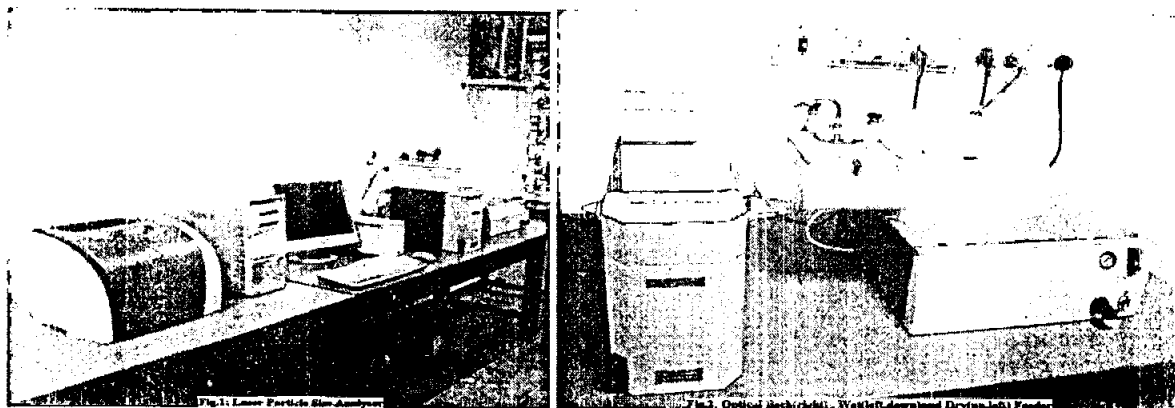
A flash butt welding machine with the following specifications has been installed. Maximum clamping force 12 tons, upsetting force 8 tons, pressure 100 Kg/cm² and a maximum electrical load of 150 kVA at 50% duty cycle.

4. High Resolution Scanning Electron Microscope



FEI Quanta 200 Scanning Electron Microscope with EDAX for composition analysis, EBSD detectors for orientation imaging, Secondary Electron and Back Scattered Electron detectors as well as low vacuum capability for imaging a wide variety of samples has been acquired through DST-FIST funding.

5. Laser Particle Size Analyzer



Laser Particle Size Analyzer, **Microtrac S-3500 Extended Model** (tri-laser technology) installed and commissioned in the Metallurgical Engineering Workshop METW 102 can measure particle size both in Wet Mode (0.02 to 1400 microns) and Dry Mode (0.25 to 1400 microns) using Fraunhofer and modified Mie theory. Volume, number and area distributions as well as percentile and other summary data are available. Data storage is in ODBC format to ensure compatibility with external statistical software applications.

4.13.5 Research and consultancy

Sponsored research projects

S.No	Title	Coordinator (s)	Agency	Value (Rs.)
1	Nanocrystalline Titania: Superplastic Deformation and Diffusion Bonding Studies	Dr. S. S. Bhattacharya Prof. S. D. Pathak	Ministry of Human Resource and Development	11,00,000
2	Investigation of Microstructure and Mechanical Properties of Beta Titanium Alloy (15-3) Weldments	Dr. G. Phanikumar Dr. V. S. Sarma Prof. S. D. Pathak Dr. M. Nageswara Rao	Indian Space Research Organisation	9,90,000
3	National Electromagnetic Levitation Facility at IIT (M), Chennai	Dr. G. Phanikumar	Indian Space Research Organisation(Respond)	46,81,000
4	High Performance Evaluation of Advanced High Temperature Materials for Aerospace Engineering	Dr. M. Kamaraj	Ministry of Human Resource and Development	11,00,000
5	Development of Al Based Super Alloys with Nanocrystalline L12-AL3 Ti Precipitates by Mechanical Alloying	Prof. B. S. Murty	Aeronautics Research & Development Board	1,57,400
6	Improvement of Notch Creep-Rupture Life of 718 Superalloy	Prof. B. S. Murty Dr. M. Nageswara Rao Dr. K. Prasad Rao	Aeronautics Research & Development Board	15,49,600
7	Wear Behaviour of A1-TiB2 and A1-TiC in-situ Reinforced Composites	Prof. B. S. Murty	Naval Research Board	23,89,000
8	Performance Evaluation of Diamond-like Carbon Coated Ti-6Al-4V for Biomedical Applications	Prof. S. D. Pathak Dr. S. Ganesh Sundara Raman	Ministry of Human Resource and Development	10,00,000
9	Improving Reactant Distribution in a PEMFC	Dr. Prathap Haridoss	Indian Space Research Organisation	15,00,000
10	Production of Carbon Nanotube Based Composites	Dr. Prathap Haridoss Prof. P. Kesavan Nair	Naval Research Board	24,84,000
11	Porous Injectable Ceramic Bone Cements	Dr. T. S. Sampath Kumar	Department of Science & Technology	23,94,840

12	Development and Characterization of Super-Elastic Ni-Ti Shape Memory Alloys for Biomedical and Dental Applications	Dr. V. Sampath	Department of Science & Technology	27,12,000
13	Development of Ni-Ti Shape Memory Alloys for Actuators through Powder Metallurgy Route and their Characterization	Dr. V. Sampath Prof. Paramanand Singh	Ministry of Human Resource and Development	10,00,000
14	Development of High Strength Ultra Fine Grained Alloys through Cryorolling	Dr. V. Subramanya Sarma Prof. B. S. Murty	Department of Science & Technology	22,32,000
15	Development of Ultrafine Grained High Strength A1 Alloys	Dr. V. Subramanya Sarma	Naval Research Board	23,88,000
16	Development of High Strength Ultra Fine Grained Al-alloys Through Cryo Rolling	Dr. V. Subramanya Sarma Prof. B. S. Murty	Indian Space Research Organisation	6,36,000
17	Development of a oral simulator and studies on new dental restorative materials	Dr. R. Gnanamoorthy ¹ Dr. M. Kamaraj	MHRD	17,00,000
18	Recycling of Printed Circuit Board Waste	Dr. Abhijit P. Deshpande ² Prof. S. K. Seshadri Dr. K.C. Harikumar Dr. Prathap Haridoss Dr. Susy Verghese ²	MHRD	15,00,000
19	Corrosion behaviour of nanocrystalline materials	Prof. B. S. Murty ³ Dr. Raman Singh ³ Prof. R. Newman ⁴ Prof. R. Desai ⁵	Australian Research Council	-
20	Applicability of equal channel angular extrusion for the processing of aluminium alloys	Dr. Uday Chakkingal Prof. P. Venugopal Dr. S. S. Bhattacharya	Department of Science and Technology	19,83,000

¹ Dept of Mechanical Engg.; ² Dept. of Chemical Engg., IIT Madras

³ Monash University, Australia; ⁴ University of Manchester, Australia; ⁵ University of Central Florida, USA

Abstracts of some major projects:

Setting up of National Electromagnetic Levitation Facility at IIT Madras: This project is funded by the Space Science Office of ISRO (HQ) under the National Microgravity Research Programme. The facility will be able to levitate, under cool and solidify under controlled conditions metallic samples of about 1 – 1.5 grams and is expected to provide insight into the fundamental aspects of solidification processes in metallic materials.

Porous Injectable Ceramic Bone Cements: This project is for the development of bone cements using calcium phosphate ceramics and natural polymers which can be easily injected at the bone defects and forms a porous structure to allow vascularisation.

Applicability of equal channel angular extrusion for the processing of aluminum alloys: The processes of equal channel angular extrusion and groove pressing are being investigated for their ability to produce ultra fine grained microstructures in aluminum alloys. The effect of subsequent conventional processing on microstructure and mechanical properties is also being investigated.

Industrial Consultancy:

Several industrial consultancy projects are taken up by the Department. The details of the projects, with the minor projects summed up under Common Code are given below. Total value of consultancy being performed this year is over Rs. 49 Lakhs.

S.No	Coordinator Name	Title	Agency	Value(Rs.)
1	Dr. S. S. Bhattacharya	Stress rupture tests	Quality Network Pvt Ltd	60,000
2	Prof. B. Guha	Tensile testing of (LM 25 alloy) samples	Light Alloy Products Ltd	27,550
3	Dr. K. C. Harikumar	Spheroidization Annealing Studies of Low Carbon Low Alloy Steels	IP Rings Ltd	61,000

4	Dr. M. Kamaraj	Tensile testing of steel strips	Wheels India Ltd	33,060	
5		Tensile testing of steels strips	Wheels India Ltd	38,570	
6		Fatigue testing of cam chains	Tube Investments of India Ltd.,	2,86,520	
7		Fatigue Testing	CommonCode	50,000	
8		Continuation of Metallurgical failure analysis of Copper bar samples	Aditya Birla Management Corporation Ltd	1,27,118	
9		Short term creep rupture test	Hastalloy India Ltd	35,264	
10		Fracture analysis of crown wheel	Tafe Ltd	38,570	
11		Tensile test of A1-Alloys samples	Wheels India Ltd	27,550	
12		Galling test of coated samples	Wheels India Ltd	35,264	
13		Metallographic examination of A1-cast samples	Gravity Die Casters Pvt. Ltd.,	22,040	
14		Fracture analysis of load sensing spring	Brakes India Limited	26,448	
15		Roller bending fatigue test of A1-alloys	Wheels India Ltd	69,426	
16		Tensile test of A1-alloys samples	Wheels India Ltd	44,080	
17		Rotating (RR Mooze) bending fatigue of A1-alloys	Wheels India Ltd	49,590	
18		Prof. P. Kesavan Nair	EDX test for the contaminant coming in cleanliness audit for Common Rail Application	Delphi - TVS	33,060
19		Prof. P. Kesavan Nair	Retained austenite analysis on plunger samples - 4 Nos	Stanadyne Pvt Ltd	22,040
20		Prof. P. Kesavan Nair	Retainer austenite measurement on 5 samples	Tube Investments of India Ltd.,	22,040
21	Prof. P. Kesavan Nair	Retained austenite analysis of needle & cam ring	Delphi - TVS	49,590	
22	Prof. P. Kesavan Nair	X-ray analysis	CommonCode	1,00,000	
23	Prof. P. Kesavan Nair	X-ray analysis on venia faxine sample	CommonCode	1,00,000	
24	Prof. P. Kesavan Nair	X-ray analysis	CommonCode	1,00,000	
25	Prof. B. S. Murty	X-ray analysis	CommonCode	1,00,000	
26	Prof. B. S. Murty	X ray analysis	CommonCode	4,00,000	
27	Prof. B. S. Murty	AFM Facility	AFM Facility	2,50,000	
28	Prof. B. S. Murty	X-ray Phase analysis on ASAB Casting - 4 Samples	Madras Engineering Industries Pvt. Ltd.,	22,040	
29	Prof. B. S. Murty	Transmission electron microscopy work	Tata Steel	5,51,000	
30	Prof. B. S. Murty	Microstructure examination of aluminum alloy wheel samples	Wheels India Ltd	35,264	
31	Prof. S. D. Pathak	Fatigue testing of front fork tubes - 6 Nos	Tube Investments of India Ltd.,	66,120	
32	Prof. S. D. Pathak	Fatigue Testing of CDW Steel Tubes	Tube Products of India	1,10,200	
33	Prof. K. Prasad Rao	Vavestrain Testing	Bharat Heavy Electricals Ltd., Tiruchy	26,520	
34	Prof. T. S. Prasanna Kumar	Development of intelligent mill setup model for adaptive and dynamic control of plate mill, BSP	Steel Authority of India	17,50,000	
35	Dr. Prathap Haridoss	Microstructure analyses	CommonCode	1,00,000	
36	Dr. V. Subramanya Sarma	For coating gold sputtering on cover slips	CommonCode	1,00,000	
37	Dr. V. Subramanya Sarma	SEM analysis of broken springs samples	Jai Parabolic Springs Ltd.,	22,040	

Research based industrial consultancy projects:

SI No	Name of Faculty	Title	Industry	Amount (Rs.)
1	Dr. M. Balasubramanian	Development and characterization of aluminium matrix composites for tracked vehicle application	CVRDE, Chennai	4,50,000

Research publications

Total No. of papers published in Refereed National Journals	.... 5
Total No of papers published in Referred International Journals	.... 51
Total No of papers published in National Conferences	.... 35
Total No of papers published in International Conferences	.... 27

In Refereed National Journals

1. Nageswara Rao, M., High Performance Materials to meet the Challenges of Corrosion Encountered in Chemical Plants, *Chemical Engineering World*, Vol. 40, No.3, 37-44, 2005.
2. M.Nageswar Rao, Metallic Materials with ultra-high corrosion resistance in chemical process industries, *Indian Chem. Engg.*, Section B, Vol.47, No.3, July – September 2005.
3. N. Das, G.K. dey, B.S. Murty and S.K. Pabi, "On amorphization and nanocomposite formation in Al-Ni-Ti system by mechanical alloying", *Pramana*, **65** (2005) 831-840.
4. Aravind Vadiraj and M. Kamaraj, Fretting wear and fretting fatigue failures in power plant components: A Review, *The Journal of CPRI*, Vol.2, No.2, September 2005 pp129-133
5. K.Gurumoorthy, C. Balasubramanian, M. Kamaraj and K. Prasad Rao, Plasma Transferred arc surfacing: An overview, *IWS Journal*, Weld-3, Bead-1 Dec (2005) pp27-33

In Refereed International Journals

1. A. K. Prasada Rao, B.S. Murty and M. Chakraborty, "Improvement in tensile strength and load bearing capacity during dry slide wear of Al-7Si alloy by combined grain refinement and modification", *Mater. Sci. Eng. A*, 2005, 395, 323-326.
2. A. Krishnaiah, Uday Chakkingal and P. Venugopal (2005) Production of Ultra fine Grain Sizes in Aluminium Sheets by the Technique of Groove Pressing, *Scripta Materialia*, **52**, 1229–1233.
3. A. Krishnaiah, Uday Chakkingal and P. Venugopal (2006) Microstructure and Mechanical Properties Resulting from Cold Rolling of Equal Channel Angular Extruded Commercial Purity Copper, *Materials Science Forum*, 503-504, 733-738.
4. A. Krishnaiah, Uday Chakkingal and P.Venugopal Applicability of the Groove Pressing Technique for Grain Refinement in Commercial Purity Copper, *Materials Science and Engineering A*, 410-411, 337-340(2005).
5. A. V. Nagasekhar, Uday Chakkingal and P. Venugopal (2006) Candidature of Equal Channel Angular Extrusion for Processing of Tubular Commercial Purity Titanium, *J. Materials Processing Technology*, **173**, 1, 53-60.
6. Aravind Vadiraj and M. Kamaraj, Characterization of fretting fatigue damage of PVD TiN coated biomedical titanium alloys, *Surface and Coatings Technology*, 200 (2006) 4538-4542
7. Aravind Vadiraj and M.Kamaraj, Damage characterization of unmodified and surface modified medical grade titanium alloys under fretting fatigue condition, *Material Science and Engineering A*, 416, 2006 pp253-260
8. Aravind Vadiraj, M. Kamaraj, U. Kamachi Mudali and Baldev Raj, Fretting Fatigue of Biomaterials – A review, *Trans. IIM*, Vol.58 (5) 911-929 (2005)
9. B. S. Murty and K. Hono, "Al, Mg and Fe based Nanocomposites by Rapid solidification processing", *Trans. IIM*, 58 (2005) 769-775.
10. B. S. Murty and K. Hono, "Understanding nanoquasicrystalline phase formation in Zr based alloys", *Trans. IIM* 2005, 58, 1213-1227.
11. B. Vamsi Krishna, P. Venugopal and K. Prasad Rao, Effect of heat treatment and interlayer on weld strength and microstructure of solid state joints between Cu and Al powder metallurgical perform tubes, *Science and Technology of Welding and Joining*, 10, 2005, 259-267.
12. B. Vamsi Krishna, P. Venugopal and K. Prasad Rao, Improved weld strength of P/M bimetallic tubes and transition joints by means of nano interlayer particles, *Materials Science and Engineering A*, 394, 2005, 277-284.
13. B. Vamsi Krishna, P. Venugopal and K. Prasad Rao, Use of powder metallurgy performs as alternative to produce bimetallic tubes, *Materials Science and Technology*, 21, 2005, 1-11.
14. B. Vamsi Krishna, P. Venugopal, K. Prasad Rao "Co-Extrusion of dissimilar sintered P/M performs – An explored route to produce bimetallic tubes" *Materials Science and Engineering A* 407 (2005) 77-83
15. D. Nagarajan, Uday Chakkingal and P. Venugopal (2006) Microstructure and Mechanical Properties Resulting from Conventional Cold Extrusion of Equal Channel Angular Extruded Aluminium Alloy AA 6101, *Materials Science Forum*, 503-504, 287-292.

16. G. Phanikumar, P. Dutta and K. Chattopadhyay, Continuous welding of Cu-Ni dissimilar couple, *Science and Technology of Welding and Joining*, Vol. 10, No. 2, pp. 158-166(9) (2005)
17. G. S. Vinod Kumar, B. S. Murty and M. Chakraborty, "Development of Al-Ti-C grain refiners and study of their grain refining efficiency on Al and Al-7Si alloy", *J. Alloys Comp.* 2005, **396**, 143-150.
18. Gandham Phanikumar, Krishanu B̄iswas, Oliver Funke, Dirk Holland-Moritz, Dieter M. Herlach and K. Chattopadhyay, Solidification of undercooled peritectic Fe-Ge alloy, *Acta Materialia*, Vol 53, Iss 13, pp 3591-3600 (2005)
19. Gandham Phanikumar, Sambandam Manjini, Pradip Dutta, Jyotirmoy Mazumder and Kamanio Chattopadhyay, Characterization of continuous CO₂ laser welded Fe-Cu dissimilar couple, *Metallurgical and Materials Transactions*, Vol. 36A, August, pp.2137-2147 (2005)
20. J. Chandradass and M. Balasubramanian, Sol-gel based extrusion of alumina-zirconia fibers, *Material Science and Engineering A*, v-408, n-1-2, pp.165-168, 2005.
21. J. Chandradass and M. Balasubramanian, Sol-gel processing of alumina-zirconia minispheres, *Ceramics International*, v-31, n-5, pp.743-748, 2005.
22. J. Chandradass and M. Balasubramanian, Sol-gel processing of alumina fibres, *Journal of Materials Processing Technology*, v-173, n-3, pp.275-280, 2006.
23. J. Eickemeyer, D. Selbmann, R. Opitz, H. Wendrock, S. Baunack, V. Subramanya Sarma, B. Holzapfel, L. Schultz, E. Maher, Effect of sulphur on cube texture formation in microalloyed Nickel substrate tapes, *Physica C*, (2005), 418, 9-15.
24. Jens Hanisch, Chuanbing Cai, Vadlamani S.Sarma, Ludwig Schultz, and Bernhard Holzapfel, Transport Measurements and Jc Simulations for RABiTS Based Coated Conductors— Doping and Grain Architecture" *IEEE Transactions on Applied Superconductivity*, 2005, Vol. 15, 2794-2797.
25. K. Gurumoorthy , M. Kamaraj, K. Prasad Rao and S. Venugopal, Microstructure and wear characteristics of nickel based hardfacing alloys deposited by plasma transferred arc welding, *Materials Science and Technology* Vol.22, No.6, (2006)
26. K. Mondal and B. S. Murty, "On the parameters to assess glass forming ability of liquids", *J. Non-Cryst. Sol.* 2005, 351, 1366-1371.
27. K. Mondal, B. S. Murty and U. K. Chatterjee, "Stress corrosion cracking behavior of 8090 Al-Li alloy in chloride medium", *Corrosion Eng. Sci. Tech.*, 40 (2005) 313-320.
28. K. Mondal, U. K. Chatterjee and B. S. Murty, "Electrochemical behaviour of amorphous and nanoquasicrystalline Zr-Pd and Zr-Pt alloys in different environments", *Corr. Sci.*, **47** (2005) 2619-2635.
29. K. Mondal, U. K. Chatterjee and B. S. Murty, "Surface oxides and their effect on the oxidation behavior of amorphous and nanoquasicrystalline Zr-Pd and Zr-Pt alloys", *J. Mater. Res.*, **21** (2006) 639-646.
30. K. R. Sriraman, S. Ganesh Sundara Raman, and S. K. Seshadri, " Synthesis and Evaluation of Hardness and Sliding Wear Resistance of Electrodeposited Nanocrystalline Ni-W Alloys", *Mater Sci Eng A*, 418, 303-311, 2006.
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4. B.Rajasekharan, S.Ganesh Sundara Raman, S.V.Joshi and G.Sundararajan, Plain fatigue and fretting fatigue behaviour of detonation sprayed Cu-Ni-In coated Al-Mg-Si alloy, Poster presentation: PD-43 ATM-132
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6. Gauray Jetly, Deepankar Pal, T.Mahesh Kumar, T.Venugopal, B.S.Murty, and K. Prasad Rao, Synthesis and characterization of nano structured Cu-Al203 composite materials, By powder metallurgy route, Poster presentation: PC-13 ATM-464
7. H.Khalid Rafi, M.Asfaq, B.S.Murty and K.Prasad Rao, Effect of nickel as interlayer in friction welding of dissimilar materials, (AA6063/AISI 304), Poster presentation: PC-8 ATM 437
8. Jatin Bhat and B.S.Murty, Thermodynamic criterion for pinpointing the exact bulk metallic glass forming, Composition in multi component Zr- and Ti-based systems, Oral presentation: MG-3 ATM-150
9. K.Biswas, G.Phanikumar, K.Chattopadhyar, D.Holland-Moritz and D.M.Herlach Rapid solidification behaviour of Fe-18% GE alloy, Oral presentation: MG-2 ATM-150

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11. M.Jayaprakash and S.Ganesh Sundara Raman, Effect of contact pressure on fretting fatigue behaviour of AISI 304 stainless steel, Oral presentation: FF-II-3 ATM-121
12. Manoj Pundalik Rao Nimbalkar and M.Kamaraj, Dry erosion behaviour of thermal Sprayed WC-Co and Cr3C2 NiCr coatings, Poster presentation: PD-47 ATM-203
13. N.Kishore Babu and S.Ganesh Sundara Raman, Influence of current pulsing on fatigue life of Ti-6Al-4V TIG weldments, Poster presentation: PD-42 ATM-98
14. P. Venugopal, "FLD and its Significance on Cold Extrusion of Sintered Powder Metallurgical (P/M) Preforms" Proceed. PMW-2005, National P/M Workshop on Net Shape Forming Through Powder Metallurgy.
15. P.C.Seshagiri, K.Prasad Rao, S.S.Bhattacharya, S.K.Bhaumik, S.Biju and Madhusudan Reddy, Mechanical properties of A1-Cu alloy (AA2219) GTA weld studies on the effects of weld techniques and scandium containing filler wire, Oral presentation: WST.6 ATM-443
16. P.Nagaraju, K.Prasad Rao and M.Kamaraj, Effect of scandium additions on creep properties of AA2219 A1-alloy Poster presentation: PE-9 ATM-444
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22. S.Ananda Selvi, Mohamad Ashfaq, K.Prasad Rao and B.S.Murty, Joining of A1-Zn-Mg alloy to stainless steel by friction welding, Poster presentation: PC-9 ATM-505
23. S.Bhaskar Reddy, A.Garg, R.Adarsh, K.Prasad Rao and B.S.Murty, Phase formation and dielectric studies of ferroelectric $Ba_{1-x}Sr_xTi_{1-y}Zr_yO_3$, Poster presentation PB-17 ATM-370
24. S.C.Tandon, Dr.R.N.Prasad, Dr. Bir Kapoor and Dr. M. Kamaraj. Cooper bar cracking in anode assembly of aluminium smelting cells Oral presentation:FA-8 ATM-202
25. S.Kumar, V.S.Sarma and B.S.Murty, Evaluation of friction and dry sliding wear behaviour of A1-7Si in-situ metal, Matrix composites, Poster presentation: PD-8 ATM-368
26. S.R.Koteswara Rao, S.Bhaskar Reddy, M.Kamaraj and K.Prasad Rao, Grain Refinement in 2219 alloy castings and welds due to scandium addition, Oral presentation (CS.2 ATM-226).
27. Sivaprasad Katakam and S.Ganesh Sundara Raman, Influence of Laves phase on fatigue lives of IN 718 welds, Poster presentation: PD-44 ATM-136
28. T.Mahesh Kumar, G.Markandeyulu, K.Prasad Rao and K.V.S. Rama Rao, Structural and magnetic characterization of ball milled Nd-Fe-B, Poster presentation: PE-52 ATM-125
29. T.Shanmuga Sundaram, V.S.Sarma and B.S.Murty, Development of ultrafine grained high strength 2219 A1 alloy by cryorolling and low Temperature ageing, Poster presentation: PE-32 ATM-614
30. T.Venugopal, K.Prasad Rao and B.S.Murty, Characterization of nanocomposites by using phase imaging and force volume, Imaging techniques of atomic force microscopy, Oral presentation: MC2 ATM-386
31. U.S.Mallic and V Sampath, Influence of composition on the microstructure and transformation temperatures of Cu-A1-Mn shape memory alloys, Poster presentation PB.5 ATM-81
32. Uday Chakkingal, A.Nagesha, K.Kumaran, Titus Leo M.Valsan and K.Bhanu Sankara Rao, Low cycle fatigue behaviour of SA 333 grade 6 steel and its correlation to crack initiation from notches, Poster presentation: PD-41 ATM-261

33. V.Sampath, Studies on preparation, processing and characterization of Asbestos-free Friction materials, Oral presentation: WT-II.2 ATM-177
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4. Estimation of Heat Flux in a Thin Slab Continuous Casting Mold by Inverse Thermal Analysis, T.S.Prasanna Kumar, International Conference on Continuous Casting: Past, Present & Future, Jamshedpur, 24th & 25th October 2005, IIM and TATA Steel.
5. G.V.S. Sastry, S. Sudhir, Ankur Gupta and B.S. Murty, "Milling of oxide blends - a possible clue to the mechanism of mechanical alloying", Proceedings of Advanced X-ray Techniques in Research and Industry (XTRI-03) 2005, Ed. A.K. Singh, Capital Publ. Co., New Delhi, 2005, pp. 470-475.
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11. M. Chakraborty, A.K. Prasada Rao, K. Das and B.S. Murty, "Modification and Grain Refinement in Al-Si Alloys", Proc. 16th Int. Symp. of International Committee for Study of Bauxite, Alumina and Aluminium, ICSOBA-2005, India (in Press).
12. Mathematical Modelling of Burden Distribution in the Bell-less Top Blast Furnace. T.S.Prasanna Kumar and K Maruti Ram, Accepted for AISTech 2006, The Iron & Steel Technology Conference and Exposition, May 1-4, 2006, Cleveland, OH
13. Nagarajan, D, Uday Chakkingal and P. Venugopal (2005) Microstructure and Mechanical Properties Resulting from Conventional Cold Extrusion of Equal Channel Angular Extruded Aluminium Alloy AA 6101, *The 3rd Intl. Conference on Nanomaterials by Severe Plastic Deformation*, Fukuoka, Japan, September 2005.
14. Numerical study of buoyancy driven flow using simple and Taylor-Galerkin algorithms, S.Arunkumar and T.S.Prasanna Kumar, Accepted for International Heat Transfer Conference IHTC-13, Sydney, NSW, Australia, 13-18 August 2006
15. P.K. Ray, Jatin Bhatt and B.S. Murty, "An atomistic approach for optimization of glass forming compositions: the case of Zr-Cu-Al ternary alloys", Proc. Emerging Trends in Nano Technology and Innovations in Design and Manufacturing, Rourkela, 2006 (in Press).
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17. P.Venkateswaran, G.Ramesh Kumar, P.K.Singh, S.Ganesh Sundara Raman and S.D.Pathak, "Short and Long Fatigue Crack Growth Behaviour of a Ferritic Steel Base Metal and Weld Metal", Proceeding of the International Conference & Exhibition on Pressure Vessels and Piping, "OPE 2006 – CHENNAI", 7-9, February 2006, Chennai, India.
18. S.Arun Kumar and T.S.Prasanna Kumar Numerical Study of Freezing of Water Using SIMPLE and Taylor-Galerkin Algorithms Accepted for 9th AIAA/ASME Joint Thermophysics and Heat Transfer Conference, June 5-8, 2006, San Fransisco.
19. S.Dhanalakshmi, P.Sivakumar and M.Balasubramanian, Influence of processing parameters in SiC_p-aluminium alloy composite produced by stir casting method, Proceedings of International Conference on Emerging Trends in Mineral Processing and Extractive Metallurgy, Bhubaneswar, June 13-14, 2005, pp.490-495.
20. Sheela Singh, M.M. Godkhindi, R.V. Krishnarao, B.S. Murty and P.G Mukunda, "Mechanically activated reaction synthesis of Si₃N₄-MoSi₂ in-situ composites", Proc. Powder Metallurgy Association of India, 2005 (in press).
21. T.Ranjit Kumar, H.C.Kamath and T.S.Prasanna Kumar, Application of Inverse Heat Conduction Problem for Mathematical Modeling Heat Transfer Coefficient during Quenching. Accepted for 9th AIAA/ASME Joint Thermophysics and Heat Transfer Conference June 5-8, 2006, San Fransisco.
22. T.S.Prasanna Kumar and H.C.Kamath, Thermal Analysis in the Metal-mold Composite during Aluminum Alloy Plate Casting using Multi-Component Interface Heat Flux model Accepted for 9th AIAA/ASME Joint Thermophysics and Heat Transfer Conference, June 5-8, 2006, San Fransisco.
23. B. Arivazhagan, M, Kamaraj, , M.Kamaraj, Shaju K. Albert and S. Sundaresan, Use of flux-cored are welding for joining modified 9Cr-1Mo(p91) steel, International conference on &exhibition on pressure vessels and piping , OPE 2006, 7-9 Feb. 2006, Chennai India
24. S. Sundaresan , M. Sireesha, M.Kamaraj and Shaju K. Albert, Joining of dissimilar steels for power plant applications, International conference on &exhibition on pressure vessels and piping , OPE 2006, 7-9 Feb. 2006, Chennai, India
25. M. Kamaraj, Ceramic and Carbide coatings for industrial valve applications, International conference on Corrosion, CORCON 2005, 28th –30th Nov. 2005, Chennai
26. Kulvir Singh, G. J. Reddy, C.R. Prasad and M. Kamaraj, Creep and crack growth studies on as-received and aged 1Cr1Mo½V rotor steel for predicting the remaining life, Proceedings of Creep & Fracture in high temperature components-Design and Life Assessment issues, Edited by I.A.Shibli et al., ECCC Creep conference Sept. 12-14, 2005, London, UK P.745 (2005)
27. M. Sireesha, Shaju K. Albert, M. Kamaraj and S. Sundaresan, Elevated temperature behavior of trimetallic transition joints for Power plant service, Proceedings of IIW International Congress 2005 on Frontiers of welding, Science and Technology, Feb. 16-19, 2005, Mumbai, India P.75 (2005)

Distinguished visitors to the Department

The following people visited our Department, interacted with faculty members and students and delivered lectures on various topics.

Sl. No.	Name of the Visitor & Designation	Date of Visit	Lecture Title
1	Dr. R. Sankarasubramanian, Defence Metallurgical Research Laboratory, Hyderabad	12.05.2005	Monte Carlo Simulations of Microstructural Evolution.
2	Dr.R.Ramaseshan, ISIR, Osaka University, Japan	01.06.2005	Development and Characterization of Nano Composite Pressure Sensors
3	Dr.B.Srinivasa Rao, ASM-IIM Visiting Lecturer, Dept. of Materials Sciencem and Engg., University of Washington, USA	29.06.2005	Processing and Characterization of Ceramic Coatings and Films
4	Dr.Jyotsna Dutta Majumdar, Asst. Professor, Dept. of Metallurgical and Materials Engineering, IIT Kharagpur, WB 721 302	01.07.2005	Laser Surface Engineeering of Mg Alloys for Improved Wear and Corrosion Resistance Applications
5	Dr.Peter Sittner, Institute of Physics, Academy of Sciences of the Czech Republic, 18221 Prague, Czech Republic	10.08.2005	Deformation and transformation processes in Cu-based SMAs: in-situ experiments and modeling

6	Dr. Bikramjit Basu, Dept. of Materials and Metallurgical Engg., IIT Kanpur	23.08.2005	Processing and characterization of nanostructured composites and biomaterials
7	Dr. Ashutosh S. Gandhi, U.C.S.B, USA	14.09.2005	Non-equilibrium phenomena in structural and functional oxide ceramics
8	Dr. A.B.S. Sastry, Chairman Srimaharshi Research Institute of Vedic Tech., Vijayawada.	06.10.2005	Indian Scientific and Technological Heritage.
9	Dr. Vikram Jayaram, Professor, Dept. of Metallurgy, IISc Bangalore	11.10.2005	A New Look at Contact Damage in Single and Multi layered Nitride Coatings
10	Prof. Dr.-Ing. Gunther Friedrich Eggeler, Professor for Materials Science, Ruhr-University Bochum, Germany	12-16.11.2005	
11	Prof. Jean-Loup Strudel, Centre des Materiaux P.M. Fourt, Ecole Nationale Supérieure des Mines de Paris Cedex, France.	12-16.11.2005	
12	Prof. L. Singheiser, Forschungszentrum Julich, Germany	12-16.11.2005	
13	Prof. Horst Hahn, Forschungszentrum Karlsruhe & Technische Universität Darmstadt, Germany	12-16.11.2005	
14	Dr. J. P. Singh, Sr. Scientist, Argonne National Laboratory, USA	05.12.2005	Talk on "Residual Stresses in Ceramic Composites"
15	Dr. Thomas Zachariah, Associate Laboratory Director, Computing and Computational Sciences, Oak Ridge National Laboratory, USA	12.12.2005	Talk on "Leadership computing at the Oak Ridge National Laboratory"
16	Sri B. Muthuraman, M.D., Tata Steel, Jamshedpur	20.01.2006	Felicitations by the Department and its Student bodies.
17	Prof. Vijay Vasudevan, Dept of Chemical and Materials Engg., University of Cincinnati, USA	03.02.2006	Metallic materials research at University of Cincinnati.
18	Prof. B. Dogan, GKSS Research Centre, Geesthacht, Germany	08.02.2006	Characterisation of Diffusion Bond TiAl-Ti6242 Joints
19	Dr. Ajay Singhal, Advanced Micro Devices, USA	23.02.2006	Chartering the Road to Success in Nanometer Semiconductor Technology Era

4.13.6 Other Activities:

METSA organized the annual technical festival AMALGAM during February 3-5, 2006. Participation: Students of Dept. of MME, IIT Madras and about 25 students from NITs (Nagpur, Warangal, Surathkal, Trichy) and PSG College of Engg., Coimbatore. Inauguration by: Dr.S.L.Mannan, Head of Metallurgy and Materials Division, IGCAR, Kalpakkam. Lectures by: Prof. Vijay Vasudevan, U. Cincinnati, USA, Prof. Vijayan, Dept of Physics, IIT Madras, Mr. V. Parthasarathy, Wave Current Pvt. Ltd., Chennai.

- Events of Amalgam
- Guest Lectures (4)
- Contributed Paper Presentations (25)
- Nano Quiz
- Daily Quiz
- ASM Materials Quiz 2006
- Math Modelling
- X-Factor
- Video Show

METSA, the students body of the Department of Metallurgical and Materials Engg. held a get together of all outgoing students on 29th April 2005. The total participation was about 40. The Head of the Department and the faculty wished the students the very best in the future. After a high tea, the get together ended with a group photograph.

Summary

The Department has seen an active and fruitful academic year 2005-06 with a per faculty average of about 4.7 publications, Rs. 11.3 Lacs of sponsored research funding and about Rs. 2 Lacs of consultancy projects.

4.14 DEPARTMENT OF OCEAN ENGINEERING

4.14.1 Introduction:

The Department of Ocean Engineering (OED) was established in 1977. It offers B.Tech. (Ocean Engineering), Dual Degree (Naval Architecture and Ocean Engineering), M.Tech. (Ocean Engineering), M.S. and Ph.D. programmes. The major areas of teaching and research at the Department are :

- Structural analysis, Design and Testing
- Wave Hydrodynamics
- Floating and Submerged Bodies
- Marine Geotechniques
- Materials in Ocean Environment
- Ocean Energy
- Naval Architecture
- Underwater instrumentation

4.14.2 Academic programmes:

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech	16	21	17	19	03	76
Dual Degree	04	06	03	04	06	23
M.Tech	06	10	-	-	-	16
M.S.	01	04	09	09	02	25
Ph.D	03	08	09	07	09	36
Total	30	49	38	39	20	176

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

Sl. No	Name of the Student	Progr-amme	Name of the Conference/ Seminar/Symposia	Date & venue
Conference:				
1.	Mr. N. Darga Kumar	Ph.D	National Conference on Geo Practice	July 25-26, 2005 Indian Institute of Science, Bangalore
2.	Shri Manasa Ranjan Behera	MS	XXXI IAHR Congress	September, 11-16, Korea
3.	V. Sriram	MS	International Conference on Coastal Zone Management and Engineering	November 27-29, 2005 Dubai
4.	Mr. R. Balaji Mr. T Nasar Mr. M.R. Behera Mr. P. Jagadeesh Mr. V Kanniah Setti Mr. N Sulficker Ali Mr. K NV Satyanarayana	Ph.D Ph.D Ph.D Ph.D MS MS MS	International Conference in Marine Hydrodynamics	January 5-7, 2006 Naval Science and Technological Lab Vishakapatnam
Workshop				
1	Mr. R. Balaji Mr. Sankar Babu Mr. T. Nazar Mr. M.R. Behera Mr. V. Sriram	Ph.D Ph.D Ph.D MS Ph.D	Workshop on Dredging Channel	December 17-18, 2005 Hotel Le Royal Meridien

4.14.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major Area of Specialization
Professors:	
S.K. Bhattacharyya, Ph.D. (IIT, Madras)	Computer aided structural analysis, Analysis of motion characteristics of floating bodies, Model studies
K. Ganesh Babu, Ph.D. (IIT, Madras)	Analysis and design of ocean structures, Behaviour of materials in Ocean Environment
V.G. Idichandy, Ph.D.(IIT, Madras)	Experimental techniques, Instrumentation, Analysis and testing of structural models and prototypes
J.S. Mani, Ph.D.(IIT, Madras)	Coastal Engineering
K. Rajagopalan, Ph.D.(IIT, Madras)	Computer aided analysis, Design of ship, underwater and offshore structures, Reinforced and pre-stressed concrete structures
V. Sundar, Ph.D.(IIT, Madras) [Head]	Wave Structure Interaction, Coastal Erosion & Shore Protection & Fluid Flow Problems
SP.Subramanian, Ph.D. Madras University	Geological oceanography, Engineering geology
R. Sundaravadivelu, Ph.D. (IIT, Madras)	Computer aided analysis, Design and experimental studies of coastal and Offshore structures.
C.P. Vendhan, Ph.D., (IIT, Kanpur)	Offshore Structural Dynamics and Finite Element methods
Associate Professors:	
V. Anantha Subramanian, Ph.D., (IIT, Madras)	Computer aided ship Design, Experimental ship hydrodynamics, Computational analysis applications
R. Natarajan, Ph.D. (IIT, Madras)	Ship Hydrodynamics, Design of small crafts, Model testing of launches, tugs, trawlers etc., Mooring analysis of floating structures
S. Surendran, Ph.D. (Yokohama National Univ., Japan)	Floating body dynamics, ship motion and non-linear dynamics
S. Nallayarasu, Ph.D	Analysis and Design of Offshore Structures, Wave-Structure interaction, Reliability in Offshore Structural Design
Assistant Professor	
S.A. Sannasiraj, Ph.D (IIT Madras)	Wave hydrodynamics, Wave-structure interaction, Floating body dynamics
K. Murali (IIT Madras)	Coastal and Ocean Hydrodynamics, Fluid-Structure interaction applied to Ocean and Bio-Medical Engineering, Multiphase flow simulations General free-surface flows
Emeritus Professor	
S. Narasimha Rao, Ph.D.(IISc.)	Marine Geo-technical Engineering , Dredging

Short-term courses/Workshops/ Seminars/ Symposia/ Conferences Organized by the Faculty Members

Sl. No.	Name of Faculty	Title	Period
Workshop:			
1.	Dr. S.A. Sannasiraj	Workshop on GIS	October 3-4, 2005
2.	Prof. V. Sundar Prof. R. Sundaravadivelu	Workshop on Tsunami Effects and Mitigation Measures	December 26, 2005
Short Term Course:			
1.	Prof. S.K. Bhattacharyya Prof. C.P. Vendhan	Acoustic Fluid Structure Interactions: Fundamentals and Computational Methods	August 18-20, 2005

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	Prof. V. Sundar	Consultation and to chair a technical session on "Sea water as a social resource"	MSSRF, Taramani, Chennai	April 2, 2005
2	Dr. S.A. Sannasiraj	Tsunami hazard along the Indian Coast	Indian Institute of Science, Bangalore	August 3, 2005
3	Prof. R. Sundaravadivelu	Chaired a session in Workshop on "Geosynthetics in Infrastructure Projects"	IISc., Bangalore	Nov., 24, 2005
4	Prof. R. Sundaravadivelu	Workshop on Creation and Management of infrastructure facilities at Educational Institutions.	IIT Madras, Chennai.	December 8-9, 2005
5	Prof. V. Sundar	Workshop on Dredging Channel	Tuticorin Port Trust, Tuticorin	December 17-18, 2005
6	Prof. R. Sundaravadivelu	Workshop on Tsunami Effects and Mitigation Measures.	IIT Madras, Chennai.	26 th Decemb er 2005.
7	Prof. J.S. Mani	Workshop on Tsunami Effects and Mitigation Measures.	IIT Madras, Chennai.	26 th Decemb er 2005.
8	Dr. K. Murali	Workshop on Tsunami Effects and Mitigation Measures.	IIT Madras, Chennai.	26 th Decemb er 2005.
9.	Prof. SP Subramanian	Workshop on Tsunami Effects and Mitigation Measures.	IIT Madras, Chennai.	26 th Decemb er 2005.
10	Prof. V.G. Idichandy	International Conference in Marine Hydrodynamics	Naval Science and Technological Lab Vishakapatnam	January 5-7, 2006
11	Prof. S.K. Bhattacharyya	International Conference in Marine Hydrodynamics	Naval Science and Technological Lab Vishakapatnam	January 5-7, 2006
12	Dr. V. Anantha Subramanian	International Conference in Marine Hydrodynamics	Naval Science and Technological Lab Vishakapatnam	January 5-7, 2006
13	Prof. V. Sundar	Workshop on Coastal Zone Management at Vizag	MS Swaminathan Research Foundation Chennai	February 24, 2006
14	Prof. SP Subramanian	International workshop on "Post-Disaster Assessment and Monitoring of Changes in Coastal, Ocean and Human Systems in the Indian Ocean and Asian Waters"	Ministry of Environment and Natural Resources Thailand	February 20-24, 2006
Seminar				
1	Prof. V. Sundar	Tsunami Effect on Coastal Structures	NPCIL Mumbai	April 22, 2005
2	Prof. J.S. Mani	National seminar on tsunami mitigation and preparedness	GSDMA, Gujarat	September 23, 2005
3	Prof. V. Sundar	Seminar on Disaster Management and Mitigation Technologies at Chennai	Canadian Consulate in Chennai	September 26, 2005
4	Prof. R. Sundaravadivelu	Seminar on Impact of Earthquake and Tsunami on architecture structural design and costal problems	Military Engineering Service, Port Blair	3-4 th March 2006.
Symposia:				
1	Prof. S. Narasimha Rao	Geopredict-2005	IIT Madras	June 3, 2005
2	Dr. S.A. Sannasiraj	Fifth International Symposium on Ocean Wave measurement and analysis, WAVES2005	ASCE, Madrid Spain	3-7, July 2005

Conference:				
1	Prof. S Narasimha Rao	National Conference on Geo Practice	Indian Institute of Science, Bangalore	July 25-26, 2005
2	Dr. K. Murali	IAHR-2005, Seoul, Korea.	International Association for Hydraulic Research, Korea	Sep 11 th – 16 th , 2005
3	Prof. SP Subramanian	Attended the Pacem in Maribus XXXI 2005 Peace on the Oceans (PIM 2005) and IOI meetings	International Ocean Institute Inst. of Marine Engg., S&T Townsville Australia	Oct.,31 – Nov., 3, 2005
3	Dr. S.A. Sannasiraj	First International Conference on Coastal Management and Engineering	Dubai Municipality, Dubai	Nov. 27-29, 2005
4	Prof. S. Narasimha Rao	National conference on Disaster Management	Andhra University Vishakapatnam	February, 2006

Special Lectures Delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1	Prof. V. Sundar	"Effects of Tsunami along Indian Coast and proposed mitigation measures" in the plenary session of Intl. Conf on "Solutions to Coastal Disasters"	American Society of Civil Engineers (ASCE) in Charleston, SC, U.S.A (9-11 May 2005)
2	Dr. S.A. Sannasiraj	Tsunami – Generation, propagation and mitigation measures.	Indian Institute of Science, Bangalore, 3-4 Aug. 2005
3	Prof. S. Narasimha Rao	Earth quake Resistant design of structure	Gayathri College of Engineering, Visakhapatnam, 9 th sept'2005.
4	Prof. V. Sundar	"Tsunami – Generation, Propagation & Effects"	Anna Adarsha College Anna Nagar, Chennai 16 th September 2005
5	Dr. S. Surendran	Ship roll dynamics	School of Aerospace &NA, Chosun University, Seosuk-Dong , Gwangju, Korea September 28, 2005
6	Dr. S. Surendran	Ship roll dynamics and control	Naval Architecture, Mokpo National University, Korea September 29, 2005
7	Dr. S. Surendran	Studies on roll dynamics of ship	Mokpo National Maritime University, Korea, September 29, 2005
8	Dr. S.A. Sannasiraj	Coastal Protection	Seminar on Climate change and its impacts on coastal zones, Anna university, Chennai, 25 th Jan. 2006
9	Prof. V. Sundar	(a) Tsunami – Generation, Propagation and Effects (b) Planning of Coastal Protection Measures considering the effect of Tsunami along the Coast of Tamilnadu	Sakthi Mariamman Engg., College Chennai – 602 105 January 19, 2006
10	Dr. S.A. Sannasiraj	Coastal Protection	Anna University, January 25, 2006
11	Prof. V Sundar	Video Presentation on "Nature's Fury: Indian Ocean Tsunami"	Included in the media library of IAHR [Intl. Association of Hydraulic Engineering and Research], The Netherlands since February 1, 2006
12	Prof. V. Sundar	Tsunami – Generation, Propagation and Effects	Sree Sastha Institute of Engineering and Technology, Chennai 602 103 February 17, 2006
13	Prof. V. Sundar	Delivered a Key note address in the National Level Technical Meet, "Civilisation 2006"	Anna University Chennai – 25 February 23, 2006
14	Prof. V. Sundar	Key note lecture on Relook into CRZ Notification of 1991 in Media workshop on CZM	Conducted by M S Swaminathan Research Foundation in Vishakapatnam

15	Prof. V Sundar	Video Presentation on "Nature's Fury: Indian Ocean Tsunami"	Included in the media library of IAHR [Intl. Association of Hydraulic Engineering and Research], The Netherlands since February 1, 2006
16	Prof. V. Sundar	Delivered lecture at Workshop on Disaster Management & Mitigation 1. Tsunami – Generation, propagation & Effects 2. Planning of coastal protection measures considering the effect of tsunami along the coast of Tamilnadu	Sree Sastha Institute of Engineering and Technology, Chennai 602 103 February 17, 2006
17	Prof. S. Narasimha Rao	Geotechnical aspects of damage caused by Tsunami along the Indian Coast	Andhra University, Viasakhapatnam February 27, 2006
18	Prof. V. Sundar	Delivered a Key note address in the National Level Technical Meet, "Civilisation 2006"	Anna University Chennai – 25 February 23, 2006
19	Prof. V. Sundar	Key note lecture on Relook into CRZ Notification of 1991 in Media workshop on CZM	Conducted by M S Swaminathan Research Foundation in Vishakapatnam, February 25, 2006
20	Dr. K. Murali	Estuary Modeling	Dept. of Civil Engg., IITM March 3, 2006
21	Dr. V. Anantha Subramanian	Potential for tourism related pleasure crafts in Kerala	Under TIFAC in Cochin, March 4, 2006
22	Prof. V. Sundar	"Coastal Protection"	DOD, ICMAM, Chennai, 7 th March 2006.
23	Dr. S.A. Sannasiraj	(a) Structural behaviour of Tsunami along Tamil Nadu Coast (b) Tsunami resistant structure	Thagarajar College of Engineering March 16, 2006
24	Prof. V. Sundar	(a) Characteristics of Tsunami (b) Coastal protection structures	Thagarajar College of Engineering Madurai, 16 th March 2006

Visits abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
1.	Prof. K. Ganesh Babu	Amsterdam	From April 18-19, 2005	Project Completion Review Meeting for RBIC
2.	Prof. K. Ganesh Babu	USA	April 23 to May 5, 2005	Collaboration with the Institutes in USA
2.	Prof. V. Sundar	South Carolina, USA	8.5.05 to 11.5.05	To participate in the ASCE International Conference, Germany
3.	Prof. V. Sundar	Germany	06.05.2005 to 06.07.2005	To participate in the ERASMUS-MUNDUS Program at Cottabus, Germany
4.	Prof. V. Sundar	South Carolina USA	08.05.2005 to 11.05.2005	To participate in the ASCE International Conference
5.	Dr. S. Surendran	Korea	16.05.2005 to 15.05.2006	To serve as a Brain Pool Researcher at Pusan National University, Korea
6.	Dr. S.A. Sannasiraj	Germany	24.06.2005 to 02.07.2005	Discussion with Brandenburg Technical University, Cottbus
7.	Dr. S.A. Sannasiraj	Spain	03.07.2005 to 07.07.2005	To attend the 5 th International Symposium on Ocean Wave Measurement and Analysis at Madrid, Spain
8.	S.A. Sannasiraj	Dubai	25 Nov to 2 Dec. 2005	To attend ARABIAN COAST conference
9.	Dr. K. Murali	COEX Seoul, Korea	11.09.2005 16.09.2005	Attended and presented paper at XXXI IAHR Congress
10.	Dr. K. Murali	Korea Singapore	17.09.2005 21.09.2005	Visited Sungkyunkwan University, Suwon and National University of Singapore
11.	Dr. V.G. Idichandy	U.S.A	21.10. 2005 to 28.10.2005	Alumni Chapter meetings

12.	Dr. SP Subramanian	Townsville Australia	24.10.2005 to 03.11.2005	Attended the Pacem in Maribus XXXI 2005 Peace on the Oceans (PIM 2005) and IOI meetings
13.	Prof. V. Sundar	Canada	14.11.05 to 16.11.05	University visit University of Waterloo
14.	Prof. V. Sundar	Canada	17.11.05 to 19.11.05	2 nd Annual Canadian Risk and Hazards Network Symposium
15.	Prof. V. Sundar	Dubai	25.11.05 to 30.11.05	1 st International Conf. on Coastal Zone Management and Engineering in the Middle East & Visit to U.A.E. University and Green Palm Marin
16	Prof. V. Sundar	U.A.E.	27 – 29 Nov' 05	To present a few papers in 1 st International conference and exhibition in coastal zone management and engineering, Dubai.
16.	Dr. S.A. Sannasiraj	Dubai	25.11.05 to 30.11.05	1 st International Conf. on Coastal Zone Management and Engineering in the Middle East & Visit to U.A.E. University and Green Palm Marin
17.	Prof. SP Subramanian	Thailand	20.02.2006 to 24.02.2006	To attend the International workshop on "Post-Disaster Assessment and Monitoring of Changes in Coastal, Ocean and Human Systems in the Indian Ocean and Asian Waters"

Honours and Awards obtained:

S. No	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1	Prof. V. Sundar	Maritime Award	Union Minister for Shipping, Ministry of Shipping New Delhi	Research paper titled "Protection Measures Against Erosion Due to Ocean Waves for the Highway connecting Chennai and Ennore Ports"	5.4.2005
2	Prof R Sundaravadivelu Prof. SR Gandhi Dr. K. Muthukumar	IGS – Prof. Dinesh Mohan Biennial Prize	Indian Geo- technical Society	Research paper on "Behaviour of Instrumented Pile Under vertical loading – a field investigation	Dec'2005
STUDENTS					
1.	Mr. Devvrath Khatri	Commodore Garg Memorial Lecture Award	Institution of Naval Architects	Outstanding performance in Naval Architecture / Ocean Engg.,	March'05

Fellowships of Academics and Professional Societies

Sl. No.	Name of the Faculty	Name of the Academy	Level	Year of Admission
1.	Dr. R. Sundaravadivelu	Indian National Academy of Engineering	Fellow	2006

4.14.4 Design and Development Activities

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

Design of current generation system in the 2m flume of Department of Ocean Engineering.

New facilities added or major equipment procured through project funds:

S.No.	Name of Equipment	Value (in Rs.)
1.	Servo motor for ship propulsion, Propulsion dynamometers through FIST	25 lakhs
2.	Wave absorber for shallow water wave basin	-
3.	Variable Frequency Drive	23,000/-
4.	hp Workstation xw 6200	3,89,807/-

4.14.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Industry	Amount (in lakhs)	Co-ordinators
1.	Studies on Tidal Inlets along East Coast of India	03.01.03 02.01.06	Dept. of Ocean Development	45.60	Prof. J.S. Mani
2.	Augmentation of research facilities	2003-07	Dept. of Science and Technology	117.00	Head, OED
3.	Hydrodynamic Model Studies and Applicability of Rans Solvers for Ship Control	Feb' 2004 Feb' 2007	Naval Research Board	26.69	Dr. V. Anantha Subramanian Dr. K. Murali
4.	Development of Coastal Protective Measure Structure in Tamilnadu	March' 04 March' 06	Ministry of Water Resources New Delhi	17.88	Prof. J.S. Mani
5.	Hydrodynamic Performance Characteristics of Vertical Wave Screens with Circular Horizontal Intercepting Elements	Jul' 04 Jul' 07	Department of Science and Technology	15.34	Dr. V. Sundar Dr. S.A. Sannasiraj
6.	Studies on the Influence of Hull Firder Whipping due to Slamming Loads on the Fatigue of Ship-shaped FPSOs	Sep. '04 Sep. '05	Class NK Nippon Kaiji Kyokai, Mumbai	4.50	Prof. CP Vendhan Prof. SK Bhattacharyya Dr. V. Anantha Subramanian
7.	Energy Dissipation and Entrainment due to Breaking Waves	Feb' 2005 Feb 2008	Naval Research Board New Delhi	25.20	Prof. V. Sundar Dr. S.A. Sannasiraj
8.	System Identification for Non-linear Maneuvering and Sea-keeping of Ships	March '05 March '08	Naval Research Board	28.40	Dr. S.K. Bhattacharyya
9.	Utilisation of SAR and scattameter data to improve the wave forecast and to refine nearshore bathymetry	Aug' 05 Aug' 08	Space Applications Centre Ahmedabad	14.60	Dr. S.A. Sannasiraj Dr. K. Murali
10.	Development of an Efficient Global SWE Model coupled with a short wave Model	Sep' 05 Sep' 08	ISRO – IITM Cell	22.04	Dr. K. Murali Dr. S.A. Sannasiraj Dr. V. Sundar

Industrial Consultancy:

Sl. No	Name of the Investigator	Title of the Assignment	Address of the Client	Amount (in lakhs)
1.	Prof. V. Sundar Dr. K. Murali	Model studies for Minor Fishery Harbour at Harwood point, West Bengal	M/s West Bengal Corp. Ltd., Kolkata 700 091	3.58
2.	Prof. R. Sundaravadivelu	Design of Block wall Quay for Tata coal jetty at Mumbai	M/s Afcons Infrastructure Ltd., Mumbai – 53	1.10
3.	Prof. R Sundaravadivelu Prof. V Sundar & Dr. K. Murali	Design of outfall for sea water desalination Manali	M/s Afcons Infrastructure Ltd., Mumbai – 53	2.20
4.	Prof. J.S. Mani	Design basis flood level estimation for ERECF site	IGCAR Kalpakkam	14.60
5.	Prof. V. Sundar Dr. S.A. Sannasiraj Prof. R. Sundaravadivelu	Shore Protection works – Numerical Model studies	Paradip Port Trust Paradip 754 142	7.16
6.	Prof. V. Sundar Dr. K. Murali	Extension of South Breakwater – Model studies	Paradip Port Trust Paradip 754 142	9.36
7.	Prof. V. Sundar Dr. S.A. Sannasiraj	Development of Fishing Harbour at chellanam in Eranakulam Dist – Model studies	Harbour Engg., Department Thiruvananthapuram	1.76
8.	Prof. S Narasimha Rao	Preparation of soil investigation reports for the construction of residual quarters of TNPHC	TNPHC Chennai – 10	1.10

9.	Prof. R Sundaravadivelu Prof. S.R. Gandhi Dr. P Alagusundaramoorthy	Deepening of Iron one berth at Paradip Port	Paradip Port Trust Paradip	7.71
10.	Prof. R. Sundaravadivelu	Deepening of central Quay I and Central Quay II at Paradip Port	Paradip Port Trust Paradip	7.71
11.	Prof. R Sundaravadivelu	Design of Iron one berth at Ennore Port	Adani Exports Ltd., Ahmedabad	2.20
12.	Prof. R Sundaravadivelu Prof. V. Sundar Dr. S.A. Sannasiraj	Bathymetry survey and numerical modeling for the construction of Groin at Periatthalai Tuticorin Dist.,	WRO / PWD Thoothukudy	5.00
13.	Prof. R. Sundaravadivelu	Design of sheet pile wall for shore protection and raising of existing road level at bamboo flat area in Port Blair	Ministry of Shipping Port Blair	1.10
14.	Dr. K. Murali Prof. V. Sundar	Study on modification of Hopper's TSHD's for enhancement of settlement of dredge materials on experimental basis	Dredging Corporation of India Ltd., Visakhapatnam	9.38
15.	Prof. V. Sundar Dr. S.A. Sannasiraj	Construction of Ettikulam Fish Landing Centre in Kannur District – Model studies	Harbour Engineering Department Trivandrum	1.65
16.	Prof. R Sundaravadivelu Dr. S.A. Sannasiraj	Detailed study for rehabilitation of damaged structures at Pondicherry Port	Port Department Pondicherry	1.10
17.	Prof. R. Sundaravadivelu Prof. S.R. Gandhi Dr. P Alagusundaramoorthy	Rehabilitation measures and mitigation / maintenance schedule for Naval Wharf and Coast Guard Jetty	Military Engineering Service Port Blair	5.51
18.	Prof. R Sundaravadivelu	Bathymetry and land survey for the proposed construction of jetty at Pondicherry new port	PWD Pondicherry	5.51
19.	Prof. R Sundaravadivelu	Proof checking design calculation for bridge across Archen Kovil	Dr. PK Aravindan Chennai – 42	0.44
20.	Prof. R Sundaravadivelu	Development of Ganagavaram Port	Afcons House Mumbai – 53	5.51
21.	Prof. R Sundaravadivelu	Design of R.C.C. Jetties in Lakshadweep Island	Lakshadweep Harbour Works Kavanatti - 682 555	9.91
22.	Prof. V. Sundar	Development of Fishery Harbour at Arthungal model studies	Harbour Engg., Department Trivandrum	1.88
23.	Prof. V Sundar Dr. S.A. Sannasiraj	Shore protection works along Ennore Expressway, Chennai Design of Shore protection measures between groyne field 1&2	TNRDC Chennai	2.75
24.	Prof. V Sundar	Rock dredging at Vishakapatnam Port Trust	DCI Vishakhapatnam	10.70
25.	Prof. V.G. Idichandy	Stress Analysis and Proof Testing of Toroidal Titanium Bottles	M/s TEAM Chennai – 48	0.35
26.	Dr. V. Anantha Subramanian Dr. K. Murali	Experimental study on DCI survey launch and suggestions for required modifications assignment	DCI Vishakhapatnam	7.00
27.	Prof. R Sundaravadivelu	Design of Tank foundation for SPM projects of Kochi Refineries Ltd.,	Kochi Refineries Ltd., Kerala	1.65
28.	Prof. R Sundaravadivelu	Study the effects of Tsunami waves on sea shore structures	Kochi Refineries Ltd., Kerala	1.70
29.	Prof. R. Sundaravadivelu	Modification of Breakwater at Vishakapatnam	Mr. TSN Raju Vishakhapatnam -16	0.27
30.	Prof. S Narasimha Rao	Training in Soil Dredge Pump etc., at DCIL,	Dredging Corporation of India Vishakhapatnam	1.00
31.	Prof. S Narasimha Rao	Construction of Raw Water Reservoir for Nagarjuna Fertilizers and Chemicals	Nagarjuna Fertilizers and Chemicals Ltd., Kakinada	0.50

32.	Prof. R Sundaravadivelu Prof. S.R. Gandhi	Design of jetty at Hutbay and Campbell	Andaman and Lakshadweep Harbour works Port Blair	11.96
33.	Prof. R Sundaravadivelu	Structural Adequacy of Finger jetty at Chennai Port	Chennai Port Trust Chennai	4.40
34.	Prof. R Sundaravadivelu Prof. S.R. Gandhi	Design of Cargo berth at Tuticorin Port	Tuticorin Port Trust Tuticorin	4.40
35.	Prof. V. Sundar Dr. S.A. Sannasiraj	LSTK-1 Sea Wter Intake Outfall and product water conveyance system	Navayuga Engg., Company Ltd., Chennai – 8	2.25
36.	Dr. V. Anantha Subramanian	Powering and flow lines estimation of pilot vessel	Corporated Consultancy and Engg., Enterprise Pvt Ltd., Kolkatta	0.40
37.	Prof. R. Sundaravadivelu Prof. V. Sundar	Design of break water and rehabilitation of diaphragm wall at Nagapatinam Port	Tamil Nadu Maritime Board, Chennai – 17	2.20
38.	Prof. V. Sundar Dr. K. Murali	EIA study for fishing harbour of Nizampatnam	Fisheries Department Nizampatnam	3.30
39.	Prof. V. Sundar Dr. S.A. Sannasiraj	EIA study for fishing harbour at Anthervedi-pallipalem	Fisheries Dept. Anthervedi- pallipalem	3.30
40.	Prof. R. Sundaravadivelu Prof. SP Subramanian	Status Report on Chilika Lagoon	Chilika Development Authority Bhubaneshwar	0.55
41.	Prof. R. Sundaravadivelu Prof. S.R. Gandhi	Modification of East Quay and South Quay III berths	Chennai Port Trust Chennai	13.80
42.	Prof. R. Sundaravadivelu Prof. S.R. Gandhi	Design of 13 th Cargo berth at Kandla	Kandla Port Trust Gujarat	14.32
43.	Prof. R. Sundaravadivelu Dr. P. Alagusundaramurthy	Rehabilitation of Iron ore jetty at Ennore Port	Anand Transport Chennai – 4	1.10
44.	Prof. R Sundaravadivelu Dr. K. Murali	Provision of OTM ACCN for AD Arty Centre at Gopalpur	Military Engineer Services Jabalpur	2.00
45.	Prof. V. Sundar Dr. R. Natarajan Dr. S.A. Sannasiraj	Repairing the damaged slipway – redesigning the structure at Chennai Fishing Harbour	Chennai Port Trust Chennai	3.30
46.	Prof. S Narasimha Rao	Dredging & detailed Engineering for construction of Foundation for 10000MT Ammonia Storage Tank	M/s Godavari Fertilizers Kakinada 533 003	1.25
47.	Prof. V.G. Idichandy	Stress Analysis of Titanium Air Bottles during proof test	M/s TEAM Chennai – 48	0.90
48.	Prof. V. Sundar Dr. S.A. Sannasiraj	Fisheries – Improvement at Pondicherry Fishing Harbour preparation at Feasibility Report for the proposed construction of Quay in the existing Fishing Harbour, Pondicherry	Dept. of Fisheries Pondicherry	5.51
49.	Prof. R. Sundaravadivelu	Construction Monitoring of Marine Terminal Facility at Karaikal	M/s Chemplast Sanmar, Chennai	1.10
50.	Prof. R Sundaravadivelu	Technical Evaluation of detailed design of wharves	Naval Dockyard Mumbai – 23	2.00
51.	Prof. S Narasimha Rao	Professional Advice on Dredging Quantities	M/s Vizag Sea Port Ltd., Vishakapatnam	0.10
52.	Prof. R Sundaravadivelu	Development of Koteswar Port	M/s Good Earth Maritime Ltd., Chennai	1.00
53.	Prof. R Sundaravadivelu	Seismic retrofit and rehabilitation of piles in Marine environment using FRP composites	M/s FOSRIC Chemicals (India) Pvt Ltd., Bangalore	4.38
54.	Prof. R Sundaravadivelu Dr. P Alagusundaramoorthy	Checking of the design of Tubular roof	PWD Yanam – 533 464	1.10

55.	Prof. V. Sundar Prof. R Sundaravadivelu Dr. S.A. Sannasiraj	Shore Protection Measure for Kerala Coastline	STED Thiruvananthapuram	3.30
56.	Prof. R Sundaravadivelu Dr. P Alagusundaramoorthy	Assessment of health of sea water intake pump house and approach jetty	National Thermal Power Corporation Ltd., Vishakapatnam	1.40
57.	Prof. R Sundaravadivelu Prof. S.R. Gandhi Dr. P Alagusundaramoorthy	Widening of the Entrance at Jawahar Dock	Chennai Port Trust Chennai – 1	20.00
58.	Prof. V.G. Idichandy	Stress Analysis at proof pressure of Titanium components	M/s TEAM Vandalur, Chennai	2.00
59.	Prof. V. Sundar Prof. R Sundaravadivelu Dr. S.A. Sannasiraj	Coastal Protection works – Construction of Groyne at Rachagar Street in Kanyakumari	Public Works Department Nagercoil	4.95
60.	Prof. R Sundaravadivelu	Ultrasonic Pulse Velocity Testing on beams	Gemini Foundation Pvt Ltd., Chennai -6	0.25
61.	Prof. V. Sundar Dr. S.A. Sannasiraj	Erosion Protection at Minor Fishing Harbour at Sultanpur	West Bengal Fisheries Corp., Ltd., Kolkata	1.65
62.	Prof. R Sundaravadivelu Prof. V. Sundar Dr. S.A. Sannasiraj	Design of breakwater at Cuddalore Port	Tamilnadu Maritime Board, Chennai	2.20
63.	Prof. R Sundaravadivelu	Conceptual design of coal and general cargo berths for Karaikal Port	M/s Consolidated Construction Consortium Ltd., Chennai – 4	2.20
64.	Prof. V. Sundar Dr. K. Murali	LSTK-1 sea water intake, outfall and product water conveyance system of CPCL project Manalai, Chennai	M/s Navayuga Engineering Co., Ltd., Chennai – 8	2.25
65.	Prof. V. Sundar Dr. S.A. Sannasiraj	Bid preparation of Design and construction of break water for the proposed port facility at Karaikal	M/s RDS Project Ltd., Chennai – 4	1.92
66.	Prof. R Sundaravadivelu Prof. V. Sundar Dr. S.A. Sannasiraj	Advisory assistance for EIA to Ennore Port	M/s Ennore Port Ltd., Chennai – 8	10.02
67.	Prof. V.G. Idichandy	Stress Analysis at proof pressure of Titanium components	M/s TEAM Co., Ltd., Chennai – 48	4.56
68.	Prof. V. Sundar Dr. S.A. Sannasiraj	H.E.D. Road – Numerical study	Govt. of Kerala TVM	3.30
69.	Prof. V. Sundar Dr. K. Murali	Dispersion of high saline discharge studies for Chennai water desalination Ltd.,	Central Marine Fisheries Research Institute, Chennai – 28	4.90
70.	Prof. R Sundaravadivelu	Coastal protection of foundation of transmission towers at Port Blair	Andaman and Nicobar Administration Port Blair	2.00
71.	Prof. R. Sundaravadivelu	Proof checking of form work for railway bridge	Navayuga Engg., Ltd., Chennai	1.10

Journal Editorial Boards: / Institution

Sl. No.	Name of faculty	Chairman / Member	Journal / Institution
1	Prof. V. Sundar	Member	Expert Committee for the Strategic Programme for Coastal Protection of the Kerala State by the Kerala State Council for Science, Technology and Environment
2	Prof. V. Sundar	Member	Technical Advisory Committee of Chilika Development Authority
3	Prof. S. Narasimha Rao	Member	Geotechnical Testing Journal Editorial Board
4	Prof. V. Sundar	Member	Tamil Nadu State Coastal Zone Management Authority
5	Prof. V. Sundar	Member	Coastal Protection Development Advisory Committee (CPDAC) Ministry of Water Resources, Govt. of India
6	Prof. R Sundaravadivelu	Member	Board of Studies in Faculty of Engineering, Anna University

4.14.5 Research and Consultancy:

Research Publications:

No. of papers published in Refereed National Journals	....	04
No. of papers published in Refereed International Journals	....	20
No. of papers presented in National Conferences	....	14
No. of papers presented in International Conferences	....	36

In Refereed National Journals:

1. S.A.N. Prasad, C.P. Vendhan and S. Swarmani, Analysis of Underwater Plate Panels for Active Control of Sound Radiation, *Journal of the Acoustical Society of India*, Vol.33, pp. 535-540, 2005
2. A. Srinivas, C.P. Vendhan and S.K. Bhattacharyya, Dynamic analysis of articulated floating bridges, *Journal of Ship Technology*, Vol. 2, No.1, Jan. 2006, pp 1-21.
3. Subramanian V.A., Amminikutty V., Numerical modeling of marine screw propeller with comparison for series data, *Journal of Ship Technology*, Vol.1, March 2005, 50 – 55.
4. Munireddy, M.G., Sannasiraj, S.A., Natarajan, R. and Neelamani, S. 2005. Wave run-up on coastal protection structures defenced by rubble mound breakwater. First International Conference on Environmental Management (ICEM 2005) Hyderabad, India, 28-30 Oct.

In Refereed International Journals:

1. M.Ram Babu, S. Narasimha Rao and V.Sundar -"Scour Due to Waves and Currents around Piles in Clay", *Oceanic Engineering International*, NRC Canada, Vol.9, No.1, 2005; pp. 42-53.
2. A.Vijaya Kumar, S.Neelamani and S.Narasimha Rao - "Wave interaction with a submarine pipe line in clayey soil due to random waves", *Journal of Ocean Engineering*, Elsevier, Vol.32, Sept 2005, pp. 1517-1542.
3. G.Rajasekharan and S.Narasimha Rao -" Sulphate Attack on Lime treated Marine clay", *Marine Georesources and Geotechnology* , Taylor & Francis , Vol.22, 2005, pp. 93-116.
4. S.Narasimha Rao, K.Hemalettha and S.Surendran -"Studies on Pullout Behaviour of Pile Anchors under oblique loading", *geotechnical Engineering*, South east Asian Geotechnical Society, Bangkok, Vol.36, No.3, Dec 2005.
5. Suneel Kumar, M., Alagusundaramoorthy, P. and Sundaravadivelu R., (2006) "Ultimate Strength of Ship Plating under Axial Compression" *Ocean Engineering*, Vol. 33, No. 8-9, pp. 1249-1259.
6. Subramanian V.A., Vijaykumar R., (2005) An inverse design approach for minimizing wake at propeller plane using CFD, *International Journal of Ocean Engineering*, Vol.33, 2006, 119 – 136. (Web: www.sciencedirect.com)
7. Subramanian V.A., Subramanyam P.V.V.,(2005)Effect of tunnel on the resistance of high speed craft, *International Journal of Naval Architecture and Marine Engineering*, Dhaka, June 2005, 1 -14 (<http://jname.8m.net>).
8. Subramanian V.A., Asokumar G., Mohamed T., (2005) Virtual Instrumentation Based Active Fin Control for Roll Stabilization, *International Journal of Naval Architecture and Marine Engineering*, Dhaka, December 2005, pp1-14.
9. Rambabu A.C., and J.S. Mani, Numerical prediction of performance of submerged breakwater., *Journal of Ocean Engineering* , Volume 32, July 2005, Pages 1235 – 1246.
10. Shafiuddin Amer S and Mani, J.S. (2004),"Performance of rigidly interconnected Multiple Floating Pontoon," *Journal of Naval Architecture and Marine Engineers*, Vol.1, No.1, pp. 3-17.
11. Murali, K. Shafiuddin Amer S and Mani, J.S."Dynamics of cage Floating Breakwater," *Journal of offshore Mechanics and Arctic Engineering*, ASME, Paper No. OMAE – 04 - 1027.
12. Balasubramanyam Y and R. Natarajan "Effect of bow and stern shapes on the resistance characteristics of a catamaran", *International Ship building Progress*, Vol.52, No.4, pp.391-406, December 2005
13. Rajesh Kannah T and R. Natarajan., "Experimental Study on the Hydrodynamics of a Floating, Production, Storage, and Offloading System", *Journal of Waterway, Port, Coastal and Ocean Engineering*, ASCE, Vol.132, No.1, January 1, 2006
14. Surendran S, S.K. Lee, JVR Reddy, Gyoungwoo Lee. Non-linear roll dynamics of a Ro-Ro ship in waves. *Ocean Engg.* 32 (2005)1818-1828
15. S. K. Lee, S. Surendran, Gyoungwoo Lee. Roll performance of a small fishing vessel with live fish tank .*Ocean Engg.* 32 (2005) 1873-1885

- 16 S. Surendran, T. Pramod. Non-linear analysis of a dynamically positioned platform in stochastic seaway. Article in press in Ocean Engineering.
- 17 Sriram, V., Sannasiraj, S.A. and Sundar, V. 2006. Simulation of Nonlinear waves using Finite Element Method with cubic spline approximation. *Journal of Fluids and Structures*.
- 18 Sriram, V., Sannasiraj, S.A. and Sundar, V. 2006. Numerical simulation of 2D sloshing waves due to horizontal and vertical random excitation. *Applied Ocean Research*.
- 19 Jagadeesh.P and Murali.K, (2005), "Application of Low-Re Turbulence Models for Flow Simulations Past Underwater Vehicles Hull Forms", *Journal of Naval Architecture and Marine Engineering*, 1(2005), pp.41-54.
- 20 Sudharsan,N.M and K. Murali (2006), "On the transient modelling of hydro-elastic interaction of Gravity Waves with an Underwater Elastic Structure". *ANZIAM Journal*,46(E),pp. C1311-C1328.

In Proceedings of National Conferences

- 1 S. Narasimha Rao, N.Darga kumar , K.Hemalatha and B.Nagendra kumar-" Geotechnical Investigations of Tsunami damage along the Indian Coast", National Conference Geopractice, Indian Institute of Science., August 2005.
- 2 V.V.Ravi, S.Narasimha Rao and P.Srinivasa Rao-"Effect of Installation of Granular pile of Large Pile group", Indian Geotechnical Conference, Ahmedabad, Dec 2005.
- 3 Gomathy Nayagam, S., Lakshmanan, N. and Vendhan C.P., Random wind loading on structures close to ground – a field approach in natural wind', Proc. National Symposium on Structural Dynamics, Random Vibration and Earthquake Engineering, Bangalore, pp. 125-132, July 2005
- 4 Sundar, V. & Sannasiraj, S.A., "Tsunami – Generation, Propagation and Effects" Workshop on Tsunami effects and mitigation measures" Dec' 05
- 5 Sriram, V., Balaji, R., Sannasiraj, S.A. & Sundar, V. "Tsunami Wave Simulation through experimental and numerical studies" Workshop on Tsunami effects and mitigation measures" Dec' 05
- 6 Sundar, V. & Sundaravadivelu, R, "Layout of groin field shoreline changes (Kurumbanai, Vaniyakudi and Simon colony)" Workshop on Tsunami effects and mitigation measures" Dec' 05.
- 7 Sundar, V. "Planning of Coastal protection measures considering the effect of tsunami along the coast of Tamilnadu, India" Workshop on Tsunami effects and mitigation measures" Dec' 05.
- 8 Sundar, V. "Behaviour of shoreline between groin field and its effect on the tsunami Propagation" Workshop on Tsunami effects and mitigation measures" Dec' 05.
9. Sannasiraj, S.A. & Sundar, V. "26th Dec' 2004 Tsunami field survey along Tamilnadu coast" Workshop on Tsunami effects and mitigation measures" Dec' 05.
10. R.Sundaravadivelu, "Tsunami Effects on Coastal structures" National workshop on Tsunami Effects and mitigation measures, Dept. of Ocean engineering, IIT Madras pp99-116, December 26, 2005
11. R.Sundaravadivelu, "Tsunami Effects on Coastal structures" National workshop on Tsunami Effects and mitigation measures, Dept. of Ocean engineering, IIT Madras pp117-142, December 26, 2005
12. R.Sundaravadivelu, "Tsunami Effects on Coastal structures" Seminar on "Impact of Earthquake and Tsunami on architecture structural design and costal problems" Military Engineering Service, port Blair, March 3-4, 2006
13. Shafiuddin Amer S, and Mani, J.S. "Performance of multiple pontoon floating breakwater – A Numerical approach," *Civil Engineering in Oceans* 6, ASCE, 20 – 22 October 2004, Baltimore, Maryland, U.S.A, paper no 40775 – 6537.
14. Munireddy, M.G., Sannasiraj, S.A., Natarajan, R. and Neelamani, S. 2005. Wave run-up on coastal protection structures defenced by rubble mound breakwater. First International Conference on Environmental Management (ICEM 2005), Hyderabad, India, 28-30 Oct.

Proceeding of International Conferences

1. Byung Ho Choi, Absornsuda Siripong, Sundar, V. Janaka Wijetunge and Subandono Diposaptono " Post Runup Survey of the December 26, 2004 Earthquake Tsunami of the Indian Ocean" Proc. Special Asia Tsunami Session at Asian and Pacific Coasts (APAC)Sep 4-8, 2005, Jeju-do, Korea, pp 1-20.
2. Nirupama, N., Ponnambalam, K. and Sundar, V. "Risk Assessment of Large Disasters using Remote Sensing and GIS: a case study" Proc. 2nd Annual Canadian Research and Hazards Networking Symposium, 17-19 Nov'05, Toronto, Canada.
3. Sundar, V, Sannasiraj, S.A.and Chitra Devi,G.V. "Numerical model studies for the proposed fishing harbours along south-west coast of India" Presented in 1st International Conference on Coastal Zone Management and Engineering, Dubai, November 27-29, 2005.

4. SankarBabu, K., Sannasuraj, S.A. and Sundar, V. "Interaction of Directional Waves with Array of Circular Cylinders", Presented in 1st International Conference on Coastal Zone Management and Engineering, Dubai, November 27-29, 2005.
5. Sriram, V., Sannasiraj, S.A. and Sundar, V. "Numerical Wave Tank: Simulation of Shallow Water Waves" Presented in 1st International Conference on Coastal Zone Management and Engineering, Dubai, November 27-29, 2005.
6. Sundar, V. and Sankar Babu, K. "Planning of coastal protection considering the effects of tsunami along the coast" Presented in 1st International Conference on Coastal Zone Management and Engineering, Dubai, November 27-29, 2005.
7. Kannayya Setti, V., Sundar, V. and Murali, K. "Experimental study of random wave impact on deck of an offshore structure" Presented in 1st International Conference on Coastal Zone Management and Engineering, Dubai, November 27-29, 2005.
8. Sannasiraj, S.A. and Sundar, V. "Post-tsunami studies along Tamilnadu coast". Proc. Fifth International Symposium on Ocean Wave measurement and analysis, WAVES2005, Madrid, Spain, 3-7 Jul, 2005, paper No: 321.
9. Sundar, V. "Behaviour of shoreline between groin field and its effect on the tsunami propagation, Proc. Fifth International Symposium on Ocean Wave measurement and analysis, WAVES2005, Madrid, Spain, 3-7 Jul, 2005, paper No: 323.
10. Sriram, V., Sannasiraj, S.A., Sundar, V., Simulation of sloshing waves in a two dimensional tank subjected to transverse regular & random excitation – *Proc. International Conference on Marine Hydrodynamics, Naval Science & Technological Laboratory*, 5-7 Jan 2006, pp 911-922.
11. Kannayya Setti, V., Murali, K. and Sundar, V. "Experimental Studies of Random Wave Pressures On Deck of Flat Bottomed Structures", *Proc. International Conference on Marine Hydrodynamics, Naval Science & Technological Laboratory*, 5-7 Jan 2006, pp 485-492.
12. Sankar Babu, K., Sannasiraj, S.A. and Sundar, V. " Interaction of Waves with an Array of Concentric Porous Dual Circular Cylinders" , *Proc. International Conference on Marine Hydrodynamics, Naval Science & Technological Laboratory*, 5-7 Jan 2006, pp 157-168.
13. Sundar, V., Sannasiraj S A and Balaji R, An experimental study on the assessment of stability of core-loc armoured rubble mound breakwater, First International Conference on Coastal management and Engineering in the middle east, 27-29th November, 2005, Dubai, United Arab Emirates.
14. Nasar T, Balaji R and Sundar V, Stability assessment of rubble mound breakwater and seawall with geosynthetics, First International Conference on Coastal management and Engineering in the middle east, 27-29th November, 2005, Dubai, United Arab Emirates.
15. SuneelKumar, M Alagsundaramoorthy, P. Sundaravadivelu, R. (2005) "Topology of stiffeners on the stability of stiffened plates" *Proc. Intl. Conference on structural and Road Transportation Engineering (START – 2005)*, Ellite Publishers House Pvt Ltd., pp- 216-222
16. Sundaravadivelu, R. Sundar, V., and Nagabhushan, N. (2005) "Shore protection against South West Coast of India" Solutions to Coastal Disasters conference of ASCE, 8-11 May, 2005 Charleston, South California, U.S.A.)
17. Sivasankaravel, M, NagaBhusan, N. Sundaravadivelu, R. Dr. N. Rajeshwara Rao (2005) "Coastal erosion studies in pondicherry using GIS and remote sensing" Solutions to Coastal Disasters conference of ASCE, 8-11 May, 2005 Charleston, South California, U.S.A.)
18. Madhuri, S., Sundaravadivelu, R., and Sannasiraj, S.A (2005) Effect of soil structure interaction on the seismic analysis of berthing structure . First International Conference on Coastal Management and Engineering, Dubai 27-29 November, 2005.
19. Shafiuddin Amer S, and Mani, J.S. "Performance of multiple pontoon floating breakwater – A Numerical approach," *Civil Engineering in Oceans 6*, ASCE, 20 – 22 October 2004, Baltimore, Maryland, U.S.A, paper no 40775 – 6537.
20. T. Rajesh Kannah and R. Natarajan., "An Experimental investigation on the dynamic behaviour of an external turrent moored FPSO system by calm arrangement with two lines in regular sea waves", International conference on marine research and transportation (ICMRT '05), 19th – 21st September 2005, Naples (Italy)
21. J. Vimal Doss and R. Natarajan., "Experimental investigations on the effectiveness of Hydroski as a take off Aid for WIG Crafts", *Proceedings of International Conference in Marine Hydrodynamics (MAHY 2006)*, 5th – 7th January 2006, NSTL, Visakhapatnam
22. KNV. Satyanarayana and R. Natarajan., "Experimental investigation on the resistance characteristics of a Flotilla unit for Inland Waterways", *Proceedings of International Conference in Marine Hydrodynamics (MAHY 2006)*, 5th – 7th January 2006, NSTL, Visakhapatnam

23. M.G. Muni Reddy, S.A. Sannasiraj and R. Natarajan., "Hydrodynamic characteristics of submerged barrier and a vertical wall", Proceedings of International Conference in Marine Hydrodynamics (MAHY 2006), 5th – 7th January 2006, NSTL, Visakhapatnam
24. KNV. Satyanarayana and R. Natarajan., "Experimental Investigation on the Operating Modes of an Integrated Tug-Barge System", Proceedings of International Conference in Coastal Ships & Inland Waterways 2, 15th – 16th March 2006, RINA HQ, London, UK.
25. Subramanian, V.A., Asokumar, G., Jagdeesh Kumar, V., Thaju Mohamed, (2006), Virtual Instrumentation based control of fins for roll motion stabilization, International Conference in Marine Hydrodynamics, MAHY 2006, NSTL, India, 107-118.
26. Subramanian, V.A., Sulficker Ali, N., Subramnyam, P.V.V., Murali, K., (2006), Study of free surface effect on the resistance of planing crafts using volume of fluid method, International Conference in Marine Hydrodynamics, MAHY 2006, NSTL, India, 859-866.
27. Sannasiraj, S.A. and Babovic, V. 2005. Wave data assimilation using error covariances with measurement forecast. *Fifth International Symposium on Ocean Wave measurement and analysis, WAVES2005*, Madrid, Spain, 3-7 Jul.
28. Sundar, V., Sannasiraj, S.A. and Balaji, R. 2005. An experimental study on the assessment of stability of core-loc armoured rubble mound breakwater. First International Conference on Coastal Management and Engineering, Arabian Coast 2005, Dubai, 27-29 Nov.
29. Madhuri, S., Sundaravadivelu, R. and Sannasiraj, S.A. 2005. Effect of soil-structure interaction on the seismic analysis of berthing structures. First International Conference on Coastal Management and Engineering, Arabian Coast 2005, Dubai, 27-29 Nov.
30. Munireddy, M.G., Sannasiraj, S.A. and Natarajan, R. 2005. Performance of an Offshore Low-Crested Rubble mound Breakwater as a Defence Barrier in front of seawall. First International Conference on Coastal Management and Engineering, Arabian Coast 2005, Dubai, 27-29 Nov.
31. Sriram, V., Sannasiraj, S.A. and Sundar, V. 2006. Numerical simulation of sloshing waves in horizontal direction due to regular and random waves. First International conference on Maritime Hydrodynamics, MAHY2006, Vishakapatnam, India, 6-9 Jan.
32. Sankar Babu, K., Sannasiraj, S.A. and Sundar, V. 2006. Interaction of waves with an array of concentric porous dual circular cylinders. MAHY, Vishakapatnam, India, 6-9 Jan.
33. Munireddy, M.G., Sannasiraj, S.A. and Natarajan, R. 2006. Hydrodynamic characteristics of submerged barrier and a vertical wall. MAHY, Vishakapatnam, India, 6-9 Jan.
34. Behera, M. R. and Murali., K., "Numerical simulation of removal of trapped saltwater from a bar blocked estuary" IAHR-2005, Seoul, Korea.
35. Behera, M. R. and Murali., K., "Application of front tracking methods in marine hydrodynamics" MAHY-2006, NSTL, Visakhapatnam, India.
36. Sulficker, N., Subramanian, P.V.V., Murali., K. and Ananatha Subramanian, V., "Study of the free surface effect on the resistance of planing craft using volume of fluid method" MAHY-2006, NSTL, Visakhapatnam, India.

Distinguished Visitors to the Department:

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
1.	Lt. CDR Ripon Paul Naval Officer In-charge Naval Construction Wing, Cochin	April 1, 2005	Delivered a seminar talk on "Welding in Ship building"
2.	Dr.N.E. Shanmugam	May 30, 2005	Delivered a seminar talk on "Thin Walled Structural Elements Containing Openings"
3.	Dr. A.E. Muthunayagam Chairman, Board of Governors	June 7, 2005	Department visit
4.	Trade Commissioner Consulate of Finland	July 20, 2005	Department visit
5.	Mr. Shankar Sundararaman, Purdue University, USA	August 17, 2005	Delivered a seminar talk on "Damage Diagnosis in Structural Materials using Wave Propagation"
6.	Dr. G. Kemble Bennett Vice Chancellor for Engineering Texas A & M University System	November 16, 2005	Department visit
7.	Dr. Qingwei Ma City University, London	December 7, 2005	Delivered a talk on "FEM for Simulating the interaction between Nonlinear Waves and Floating structures"

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
8.	Science Camp 2005 students From Science City	December 29, 2005	Department visit
9.	Prof. Shenoi University of Southampton England	January 16, 2006	Department visit and discussed the possibility for collaborative research
10.	Mr. Julius George Luy Acting Ambassador, FRG Dr. Ulrich Podewils Director, DAAD, New Delhi Mr. Heinz Kopp Consulate General of Germany Chennai	January 31, 2006	Department visit
11.	Er. K. Sekar Chief Engineer Andaman & Lakshadweep Harbour Works	February 01, 2006	Delivered a talk on "Effects of Tsunami and Rehabilitation Measures in Andaman and Nicobar Islands"

4.14.6 Other Activities:

An on-line Multimedia using on "Natures Fury – Indian Ocean Tsunami" by Prof. V. Sundar included in the media library of International Association of Hydraulic Research.
<http://www.iahrmedialibrary.net/ind-2.htm>

4.15 DEPARTMENT OF PHYSICS

4.15.1 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.

4.15.2 Academic programmes:

Engg. Physics (B.Tech), M.Sc., M.Tech, (Solid State Technology) and Ph.D.

New Course Introduced:

Sl.No	Course No.	Title
1.	PH 203	Waves and Oscillations
2.	PH 586	Atmospheric & Environmental Physics

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

Sl.No.	Name of the Student/ Scholar	Programme	Name of the Conference/Seminar/ Symposia	Period/ Venue
Conferences				
1.	J.Arout Chelvane	Ph.D	International Magnetics Conference - InterMag 2005	04.04.05 to 08.04.05 Nagoya, Japan
2.	C.Sudheesh		ICSSUR'05: 9 th International Conference on Squeezed States and Uncertainty Relations	02.05.05 to 05.05.05 Besancon, France
3.	Sanjit Kumar Debnath		Optics & Photonics-05 Conference	29.07.05 to 10.08.05 San Diego California, USA
4.	V.Jagadeesh Babu		National Conference on Recent Trends in Material Science & Technology	10.08.05 to 12.08.05 VIT, Vellore
5.	G.Santhosh Babu			
6.	T.Vishwam		50 th Annual Conference on Magnetism and Magnetic Materials 2005.	30.10.2005 – 03.11.2005 San Jose, California
7.	S.Venkatash			
8.	K.Sathyamoorthy		ICOL 2005 – International Conference on Optics and Opto Electronics	12.12.05 to 15.12.05 Dehradun
9.	Suhas Poyil Veetil			
10.	Sanjith Kumar Debnath		Tropical Conference on Atomic Molecular & Optical Physics	13.12.05 to 15 12,05 IACS, Kolkatta
11.	Hari R. Verma			
12.	Tanima Banerjee		International Conference on Electronics & Photonics Materials Device and Systems 2006	03.01.06 to 07.01.06 Kolkatta
13.	Shubra Singh			
14.	Zahera Jabeen		National Conference on Non Linear Systems & Dynamics-2006	06.02.06 to 08.02.06 RIASM, Univ. of Madras
15.	Bibekananda Sundaray		International Conference on Nano Science & Technology 2006	16.03.06 to 18.03.06 IIT, Delhi
16.	M.R.Ananthan			
Workshop				
1.	V.Krishna	Ph.D	National Workshop on Advanced techniques for Characterization of Nano Materials	26.06.05 to 03.07.05. Indian Physics Association, Pune
2.	K. Muthu Karuppasamy			
3.	K.P.Biju			
4.	V.Krishna		PSSI National workshop	28.08.05 to 04.09.05 Birla Institute of Technology, Jaipur
5.	A.L.Mohana Reddy		10 th International Workshop on the Physics of Semiconductor Devices	12.12.05 to 17.12.05 New Delhi

6	Sanoop Ramachandran	Ph.D	Common Trends and Traffic Systems: Physical & Computational Models in transportation Engg. & Biological Sciences	08.02.06 to 10.02.06 IIT Kanpur		
Symposia						
1	K.Mohan Kant	Ph.D.	International Symposium on Physics of Magnetic Materials – ISPMM-2005	14.09.05 to 16.09.05, Singapore		
2	S.Savitha Pillai		International Symposium on Frontiers in Design of Materials	12.11.05 to 13.11.05, IIT Madras		
3	Dibyarajan Rout		50 th Golden Jubilee DAE Solid State Physics Symposium	05.12.05 to 09.12.05 BARC, Mumbai		
4	C.Krishnamoorthy					
5	R.Srilatha					
6	Amritha Bhide					
7	S.Venkatesh					
8	V.Satyanarayana Murty					
9	G.Srinivas					
10	R.B.Rakhi					
11	R.Venkatesh					
12	R.Savitha Pillai					
13	J.Suriyanarayana					
14	K.Mohan Kant					
15	Kailash Chandra Jena				National Symposium on recent trends in fluorescence spectroscopy and its application	01.12.05 to 03.12.05
					National Laser Symposium	07.12.05 to 10.12.05, Nainital, India
16	R.Sailaja		-do-	-do-		
17	K.Ramesh Kumar		National Symposium on Current Trends on Material Characterisation	05.12.05 to 07.12.05 IIT Kanpur		
18	Benson K.Money		National Symposium on Spectroscopy and its applications	17.01.06 to 21.01.06 IACS,Jothpur, Kolkatta		
19	Ummal Momeen,M		International Symposium on Recent development in metal oxide and related materials	09.01.06 to 11.01.06 IISc, Bangalore		
20	G.Santhosh Babu					

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

Sl.No.	Coordinator(s)	Title	Period
Seminar:			
1.	N. Krishna Mohan	One day seminar on Optics and Photonics	6-1-2006
Short term course:			
1.	V.R.K. Murthy and V. Subramanian	Novel studies and Applications of Microwave Frequency radiation for Science and Technology of future”	5-11/12/2005

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

Sl.No	Name of the Faculty	Title	Institution	Period
Workshop:				
1	K.Sethupathi	International Workshop on Crystal Growth and Characterization of Advanced Materials	Anna University, Chennai	(9-13, January 2006)
2	Santhosh P.N	XIIth Workshop on "Neutrons as Probes of Condensed Matter"(NPCM-XII)	BARC	February 24-25

Seminar:				
1	N. Krishna Mohan	DRDO PI Seminar	Osmania University Hyderabad	24-25 Jan 2006
2	P B BISHT	National Symposium on Recent trends in fluorescence spectroscopy and its application	Kumaun University, Nainital	Dec. 1-3, 2005
3	P B BISHT	National Seminar & Group discussion meeting of DRDO sponsored research project PIs in Physics	Osmania University, Hyderabad	Jan 24-25, 2006
Symposia:				
1	M. S. Ramachandra Rao	DAE BARNs 3 rd National Symposium on Pulsed Laser Deposition of the thin films and nanostructured materials	S.V. University Tirupathi	Nov 7-8 th , 2005.
2	M. S. Ramachandra Rao	National symposium on Advances in Materials	PEC, Pondicherry	August 2005.
Conference:				
1	M.P.Kothiyal	ICOL-2005	IRDE Dehradun	12-15 Dec 2005
	N. Krishna Mohan	ICOL - 2005	IRDE Dehradun	12-15 Dec 2005
2	P. B. Sunil Kumar	Third Indo-Israeli meeting in condensed matter Physics	SNBNCBS-Kolkota IOPB-Bhubaneswar	17-21 April 2005
3	Sonjoy Majumder	Tropical Conference on Atomic, Molecular and Optical Physics	Indian Association for Cultivation of Science, Kolkata	13-15 Dec., 2005
4	V. Sankaranarayanan	MMM2006, 50 th Int. Conf. on Magnetism Magnetic materials San Jose, USA		October 30-November 3, 2005
5	Nirmal Viswanathan K	INDICON	IIT Madras	11-13 Dec 2005
6	Neelima M.Gupte	International conference NEXT-SigmaPhi Kolymbari,		August 13th - 18 th , 2005
7	Neelima M.Gupte	International conference on Statistical Mechanics of Plasticity and Related Instabilities	IISc Bangalore	August 29-September 2, 2005
8	Neelima M.Gupte	Conference on 'Synchronisation and its applications'	Dept. of Physics, Bharathidasan University, Trichy	6th-7th December 2005

Special Lectures delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
1	Dr.V.S.Murty	Environmental Pollution and effects	Kambam University - 01.04.05
2	Dr.Suresh Govindarajan	A quantum McKay correspondence for Fractional 2p-branes on LG orbifolds	HRI, Hyderabad 11.04.2005
		D-branes as solitons in string theory	IIT Kanpur - 15.04.2005
3	Dr. P.B. Sunil Kumar	Distribution Functions, Loop Formation Probabilities and Force-Extension Relations in a Model for Short Double- Stranded DNA Molecules	17.04.05 – 21.04.05 SNBNCBS, Kolkota
4	Dr.V.R.K.Murthy	Characteristics of Materials for Microwave devices	VIT, Vellore 10.08.05 & 12.08.05
5	Dr.M.P.Kothiyal	"Optical Instrumentation" Workshop on Optics & Photonics	17.08.05 & 18.08.05 NIT, Trichy
6	Dr.T.S.Natarajan	International Conference on Physics Education	New Delhi 21.08.05 to 26.08.05
7	Dr.Neelima M Gupte	International Conference on Physics Education	New Delhi 24.08.05
8	Dr.A.Subrahmanyam	PSSI National workshop	29.08.05 to 04.09.05 Birla Institute of Technology, Jaipur

9	Dr.V.Balakrishnan	Concepts of Theoretical Physics.	Pondicherry Univ. - 23.9.05
		Non-linear dynamics at the IASc Refresher course	SB.College Changanassery, Kerala. - 26.9.05 -30.9.05
10	Dr.A.Subrahmanyam	Inauguration of Ethiraj College Association and talk on "nano optical read – write memory".	Ethiraj College, Teynampet 29.09.05
11	Dr.A.Subrahmanyam	To deliver a lecture on "Challenges in tribiological coating inside the tubes."	Cochin Univ. 24-30, Oct.2005
12	Dr.S.Ramaprabhu	To deliver a lecture on "Carbon nanotubes : Synthesis & Characterization"	Viswesvaraya Technical University, Bangalore 6.10.2005
13	Dr.V.S.Murthy	To deliver a lecture on "MOSFETS"	S.V.College of PG Studies , Kadapa - 15 & 16 Oct.2005
14	Dr.V.S.Murty	To attend Annual Convention of IAPT Symposium and to deliver a lecture on "Out reach programme of Physics"	Ramadevi College, Bhubaneswar 18.-24, Oct.2005
15	Dr.Arul Lakshminarayan	Chaos & Quantum Entanglement	Nov. 3-7, 2005 – Physics 2005: 100 yrs after Einstein's Revolution at IIT Kanpur
16	Dr.V.Balakrishnan	Diffusion Processes and their Generalizations	21.11.2005
		Diffusion Energy Transport, Velocity Correlations and Stochasticity in a One-dimensional Systems"	23.11.2005 at Saha Institute of Nuclear Physics, Kolkata.
17	Dr.V.Balakrishnan	Non-equilibrium Statistical Mechanics of a One-dimensional Hard-core gas	25.11.2005
		From Brownian Motion to Fractal Flights	26.11.2005 – at School of Physics, University of Hyderabad.
18	Dr.N.Harish Kumar	Half Metallic Ferromagnets - A potential Spintronic Material	Nov. 3-5, 2005. National Symposium on "Recent Trends in Physics" BITS – PILANI
19	Dr.V.Balakrishnan	To deliver a lecture on Threshold Crossing and movement Evolution in Stochastic Dynamics with Time-dependent Control Parameters	Dec. 5, 2005. School of Physics, JNU, New Delhi
20	Dr. M.P.Kothiyal	To attend and deliver an invited talk on "Spectrally resolved white light interferometry" at the International Conference on Optics and Opto Electroncis	Dec.12-15, 2005 IRDE, Dehradun
21	Dr.M.V.Satyanarayana	To deliver a lecture on the following topics "Error Analysis", Research , Methodology & Optical Coherence	Dec.20-21, 2005 Pondichery University
22	Dr.Sonjoy Majumder	To attend the Topical Conference on AMO Physics	Dec.13-15, 2005 IACS, Kolkata
23	Dr.Yugal Khajuria	To attend the Topical Conference on AMO Physics	Dec.13-15, 2005 IACS, Kolkata
24	Dr.A.Subrahmanyam	To evaluate the project of Technology Development Board , Govt. of India (PEC Member)	Hyderabad Dec. 29-30, 2005
25	Dr.T.S.Natarajan	To deliver a lecture on Preparation of conducting nanowires by electrospinning	23.1.06 to 25.1.06 NIT, Goa
26	Dr.,V.Subramanian	To deliver a lecture on Microwave Imaging at 94 GHz	23.1.06 to 24.1.06 Osmania University Hyderabad
27	Dr.P.B.Bisht	To deliver a lecture on Development of femto-second pulses and their applications in science in India	24.1.06 to 25.1.06 Osmania University Hyderabad
28	Dr.Yugal Khajuria	To deliver a lecture on Synchrotron Radiation Spectroscopic Studies of Rare gas Atoms-a status report	19.1.06 to 20.1.06 Jadavpur, Kolkata

29	Dr.P.C.Deshmukh	To attend the National Symposium on Spectroscopy	27. 1.06 to 29.1.06 IACS, Kolkata.
		To deliver a Key Note in National Seminar on Recent Advanced in Physics & Mathematics	Nagpur 27.1.06 to 29.1.06
30	Dr.C.Vijayan	To deliver a lecture on Optical Properties of Semiconductor nanostructures	Osmania Univ. 24.1.06 to 26.1.06
31	Arul Lakshminarayan	To deliver a lecture in the National conference on Fourier Transform of the Hadam and Transform: Sequences, Multifractals and Quantum Chaos.	Feb.6-8, 2006. Madras Univ.
32	Dr.A.Subrahmanyam	To deliver a lecture in the National Conference on Advanced Materials	Feb. 17-18, 2006 SV Univ. Tirupathi
33	Dr.G.Rangarajan	To deliver a lecture in the National Conference on Novel Materials and Technologies	Feb. 17-18, 2006 SV Univ. Tirupathi
34	Dr.V.S.Murty	To present the paper in the National Space Science Symposium	Feb.9-12,2006 Andhra Univ. Visakhapatnam
35	Dr.P.N.Santhosh	To attend the XII Workshop on Neutrons as probes of condensed Matter	Feb,24-25, 2006 BARC, Mumbai
36	Dr.V.Balakrishnan	To deliver a lecture in the III National Conference on Nonlinear Systems and Dynamics and deliver a lecture on Statistics of Extremes and Threshold Crossings in Deterministic and Stochastic Dynamics	Feb.6-8, 2006 RIASM, Univ. of Madras.
		To deliver the lecture in the State-level Seminar on Aspects of Non-Equilibrium Phenomena: In Einstein's Footsteps	Feb.17-18, 2006 S.Philomena's College Mysore
		To deliver a lecture in the National Science Day on "Diffusion Processes and Related Non-Equilibrium Phenomena"	Feb. 28, 2006 SCSVM Vishvavidhyalaya (Deemed Univ.) Kanchipuram
37	Dr.N.Harish Kumar	To attend the XII Workshop on Neutrons as probes of condensed Matter	Feb,24-25, 2006 BARC, Mumbai
38	Dr. S. Lakshmi Bala	Ergodicity properties of quantum expectation values in entangled states	NCNSD Conference, Ramanujan Institute Chennai-7 th February 2006
39	Dr.Arvind	To attend the International Conference and deliver a lecture on Quantum Computing Back-Action	06.03.06 – 12.03.06 IIT, Kanpur
40	Dr.T.S.Natarajan	To attend the International Conference on Nano Science & Technology	16.03.06 to 18.03.06, IIT, Delhi
41	Dr.C.Vijayan	To attend the national seminar and deliver a lecture in Advance of in Non linear optics and Interesting optics of nano clusters	17.03.06 Govt Victoria College, Palakkad
42	Dr.P.C.Deshmukh	To attend the 2 nd International conference on "Current Developments in Atomic, Molecular & Optical Physics with Applications" CDAMOP	20.03.06 – 22.03.06 K.M.College, Delhi Univ. Delhi.
43	Dr.V.S.Murty	To deliver a lecture on Lidar studies of atmospheric aerosols and clouds	22.03.06 Easwari Engg. College
		To deliver a lecture in the National symposium on "ESR studies on free radicals	25.03.06 Pondicherry Univ. Pondicherry
44	Dr.Arul Lakshminarayan	To deliver a lecture on Entanglement and Quantum Chaos	31.03.06 Bharathidasan University, Trichy
45	Santhosh P.N	New Magnetic Materials	University of Kerala, October 24 th 2005 (as part of UGC referesh course for college teachers)

46	Dr. M. S. Ramachandra Rao	Diluted magnetic semiconductors: New Perspectives,	National symposium on Advances in Materials. PEC, Pondicherry, August 2005.
47	Dr. M. S. Ramachandra Rao	Pulsed laser deposition: From High temperature superconductors to spintronics Review Talk	(Nov 7,8, 2005), PLD 2005 (organized by DAE-BRNS) , S.V. University, Tirupati.
48	Dr. M. S. Ramachandra Rao	Ferroelectric thin films for microwave applications	Short term course organized by the Dept. of Physics, IIT Madras
49	Dr. K.Sethupathi	Invited talk in the International Workshop on Crystal Growth and Characterization of Advanced Materials	Anna University, Chennai
41	Dr. C. Vijayan	Nonlinear optical reponse of semiconductor nanomaterials	Univ. of Stuttgart, Germny 12 September 2005
42	Dr. C. Vijayan	Advances in Nonlinear Optics	Govt. Victoria College, Palghat, Kerala, 17 March 2006
43	Dr. C. Vijayan	Optical properties of Nanostructures	Madras University, Chennai, 20 March 2006

Visits Abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of Visit
1	Dr.V.Balakrishnan	Trieste, Italy MIT USA, Limburgs Universtair Centrum, Bengium	09.05.05- 03.06.05 June 4-6, 05 21.06.05 – 20.07.05	Professional Visit
2	Dr.S.Lakshmi Bala	Besancon, France	02.05.05 to 06.05.05	Present paper at 9 th International Conference
3	Dr.NeelimaM.Gupte	Trieste, Italy	21.05.05 to 25.05.05	Professional Visit
4	Dr.NeelimaM.Gupte		23.05.05 to 25.05.05	'Women in Physics 2005' conference held in Rio de Janeiro, Brazil, as a member of the Indian delegation.
5	Dr.A.Subrahmanyam	M/s.Essilor, Singapore	31.05.05 to 03.06.05	Brief visit
6	Dr.V.Subramanian	Italy and Germany	12.06.05 to 08.07.05	Professional Visit
7	Dr.Arul Lakshminarayan	University of Pierre and Marie Curie, Paris, France	23.06.05 to 05.07.05	Present Paper at International Conference
8	A.T.Seshadri	Moscow, Russia	27.06.05 to 02.07.05	Present Paper at XV International Conference
9	Dr.P.B.Sunil Kumar	Denmark	07.07.05 to 08.07.06	Sabbatical leave
10	Dr.Suresh Govindarajan	Switzerland	01.08.05 to 31.07.06	Sabbatical leave
11	Dr.C.Vijayan	Germany	05.09.05 to 15.09.05	Under DAAD exchange programme
12	Dr T.R. Kesavan	Mexico	21.09.05 to 25.08.05	Gave an Invited Talk & Chaired a Session in the International Symposium on Solar-Hydrogen Fuel Cell-9 (XIV International Materials Research Congress) [CANCUN 2005].
13	Dr T.R. Kesavan	USA	27.08.05 to 01.09.05	Visited Southern University and A&M College, Baton Rouge, Louisiana on invitation.
14	Dr. N. Krishna Mohan	U.S.A	28.07.05 to 15.08.05	To present a paper at 50 th SPIE Annual meeting at San Diego
15	Dr.V.Sankaranarayana n	San Jose, California	30.10.05 to 03.11.05	To attend and present paper at 50 th Annual Conference on Magnetism and Magnetic Materials 2005.
16	Dr.V.Balakrishnan	Mexico	04.10.05 to 07.10.05	To Attend and present papers at International Conference on Control & Synchronization of Dynamical Systems

17	Dr.P.C.Deshmukh	Taiwan	01.10.05 to 09.10.05	For possible Research Collaboration under Brief Visit
18	Dr.A.Subrahmanyam	USA	28.11.05 - 02.12.05	To attend and present a paper in the Material Research Society 2005 Fall meeting held at Boston.
19	Dr.T.S.Natarajan	USA	25.11.05 - 02.12.05	To attend and present a paper in the Material Research Society 2005 Fall meeting held at Boston.
20	Dr.P.C.Deshmukh	USA	01.12.05 -- 30.12.05	To visit Georgia State Univ. Atlanta, USA under Brief Visit
21	Dr.A.Subrahmanyam	USA	03.12.05 - 23.12.05	Visit Universities in USA under Brief visit
22	Dr.T.S.Natarajan	USA	03.12.05 - 15.12.05	Visit Universities in USA
23	Dr.Prem B.Bisht	Italy	27.03.06 to 31.03.06	To attend the training programme conducted by M/S. Quanta System, Italy
24	Dr.M.S.Ramachandra Rao	UK	23.03.06 to 24.03.06	To attend the Editorial Board meeting of Journal of Physics D: Institute of Physics, London

Honours and Awards obtained:

Sl. No.	Name of the Faculty	Name of the Award	Awarded by	Awarded for	Date of Award
1.	Dr. M. S. Ramachandra Rao	Elected as the Editorial Board Member	Institute of Physics (IoP), UK	-	Dec 2005
		Bharat Jyoti award	Indian International friendship society, New Delhi	Excellence in academics	Jan 2005

Awards:

The paper titled Spectroscopic and Chromatographic Applications in Standardisation of Selected Ayurvedic Preparations by Shri M.Pavan Kumar, JRF, RuTAG Project, Dr.V.S.Murty, Department of Physics, Prof. T.S.Chandra, Department of Biotechnology, presented at the International Conference on Globalization of Traditional Complimentary and Alternative Systems of Medicine held at Tamilnadu Agricultural University, Coimbatore during March 16-18,2006 was Conferred the Best Paper Presentation Award.

Books, Monographs authored/co-authored:

SI.No.	Name of Faculty	Title	Publisher	Author / Co-author
Books:				
1	Dr. N. Krishna Mohan	Speckle techniques for Optical Metrology	Nova Science publishers	Chapter Author
2	Dr. Nirmal K Viswanathan	Guided wave optical components: Enhancing photosensitivity in optical fibers and devices	Academic Press, USA	Chapter Author
3.	Dr.NeelimaM.Gupte	Perspectives in Nonlinear Dynamics	Indian Academy of Sciences, 2005.	Edited by R. Ramaswamy, R. Roy and N. Gupte
4	Dr.NeelimaM.Gupte	A report on the current status of Indian women in Physics.		Co-authored

Fellowships of Academies and Professional Societies:

Sl. No.	Name of Faculty	Name of Academy / Professional Society	Level	Year of Admission
ISTE/CSI & others:				
1.	Dr. M.P. Kothiyal	SPIE- The International Society of Optical Engineering (USA)	Fellow	2006
2.	Dr.V. Sankaranarayanan	Magnetic Society of India	Life Member	

4.15.4 Design and Development Activities:

- Design and development of a CNT based field emission setup
- Development of experimental facility for the synthesis of carbon nanocoils by pyrolysis technique
- Development of facility for micro fuel cell
- Development of facility for DMFC
- Development of materials for CNT based alkaline fuel cell.

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

- TV holography and Shearography for measurement and non destructive evaluation

New facilities added or major equipment procured through project funds:

Sl.No.	Name of Equipment	Value (Rs. in lacs)
1.	Frequency doubled Diode pumped solid state laser (532 nm)	7.0
2.	Long working distance microscope	2.5
3.	TV Holography system with phase shifting facility	7.5
4.	A vibration isolation table (Kinetic systems)	3.5
5.	HindHivac High Temperature arc Melting Furnace	7.86
6.	Hot press	8.0
7.	Vacuum oven	4.0
8.	Micro fuel cell test station	4.0
9.	DMFC test station	4.0
10.	Electrochemical work station	10.0

Patents awarded:

- Patent:- S. Ramaprabhu and M. M. Shaijumon (No:1129/CHE/05)

Patents filed:

- Dr. Bisht: A method of detecting the change in concentration of an organic dye in a sample: 602/CHE/2005 Dated 19/05/2005 03:50:09.

4.15.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs in lacs)	Co-ordinators
1.	Study of Electrochemical Storage of Energy in Carbon Nanotubes for Supercapacitors Applications	2 years	MHRD	14.00	Dr.S.Ramaprabhu
2.	New Multiferroic Materials as Multiple State Memory Elements	2 years	MHRD	12.00	Dr.P.N.Santhosh
3	Development of Micro Fuel Cell with Pt/Multi walled Carbon Nanotubes Electrocatalysis	1 year	DRDO	17.71	Dr.S.Ramaprabhu
4	Development of Passive and Illuminated Microwave Imaging at 94 GHz	3 years	DRDO	44.48	Dr.V.Subramanian (PI) Dr.V.R.K.Murthy (Co-PI)
5	Active Membranes and Membrane-Polymer complexes	01-06-2004 to 31-05-07	CSIR	67.5	P. B. Sunil Kumar Arul Lakshminarayan
6	The Emergent Dynamics and Structure of Networks	01-09-2005 to 31-08-06	DST	27.00	Dr.Neelima M.Gupte and Dr.P.B.Sunil Kumar
7	Microlidar Studies on Tropospheric Aerosols & Clouds	3 Yrs	ISRO	7.24	Dr V.S.Murty and Dr. G.Markandeyulu
8	Dynamics of Membranes and Micellar Solutions	01-07-2005 to 30-06-08	DST	17.5	Dr. P.B.Sunil Kumar
9	Implementation of phase shifting techniques for speckle fringe analysis	1-09-2004 to 31-08-06	ISRO	14.82	Dr.N. Krishna Mohan Dr.M.P.Kothiyal

10	Microscopic TV holography for non destructive evaluation of Micro Electro Mechanical Systems (MEMS)	30-05-05 to 29-05-08	DRDO	27.71	Dr. N. Krishna Mohan Dr. M.P.Kothiyal D.K.Sharma
11	Investigations of spectral anomalies and demonstration of spectral sensitivities in Michelson interferometer using polychromatic light	21-10-05 to 20-10-07	ICSR-IITM	5.00	Nirmal K Viswanathan
12	Origin and Influence of Phase separation in Perovskites and Related Structures	3 years	IC&SR	5	Dr.Santhosh P.N
13	Development of Nanocrystalline Oxide Dilute Magnetic Semiconductor Films for Novel Magneto-Electronic Sensor/Device Applications	2 Yrs	NRB	21.72	Dr.N.Harish Kumar and Dr. G.Markandeyulu
14	Development of biocompatible thin films for surface plasmon resonance based bio sensors	April, 2004 To Aug 2007	MHRD	15	S.Kasiviswanathan (PI) Prof. Damodaradass (Co investigator)
15	Magnetic & Superconductivity Aspects of few RU-Based Double Pervoskites	3 Yrs	CSIR	8.6	Dr.P.N.Santhosh
16	Information, randomness and entropy in classical and quantum dynamics	Dec 2002- Dec 2006	DST	22	S. Lakshimbala M.V. Satyanaraya na V. Balakrishnan
17	Study of Magnetocaloric Effect for Magnetic Refrigeration Applications	3 Years	MHRD	14.0	V. Sankaranarayanan K. Sethupathi S.. Ramaprabhu
18	Proposal for a Research Facility at Low Temperature and High magnetic Fields	3 years	DST	65	G. Rangarajan V. Sankaranarayanan K. Sethupathi
19	Four wave mixing and multiphoton studies with simultaneous development of femtosecond pulses	18.8 2005-17.8. 2007	DRDO, New Delhi	45.37	P B Bisht
20	Studies on generation of tunable femtosecond pulses by picosecond chirped pulse optical parametric amplification	06.08.2003 - 05.08.2006	DRDO, New Delhi	22.56	P. B Bisht
21	Hydrogen storage properties of CNTs synthesized by alloy hydride catalytic route of pyrolysis	DST	Jun 2003- May 2006	14.4 6.75	S . Ramaprabhu N. Rajalakshmi
22	Development of thin film metal hydrides for optical switching devices	DRDO	Dec 2003- Nov 2006	13.19	Dr. S . Ramaprabhu
23	Development of electroluminescent (EL) phosphors for thin film EL (TFEL) displays	(2002 – 2005)	MHRD, New Delhi	12	Dr. M. S. Ramachandra Rao
24	Diamond like carbon hard wear resistant coatings for applications	-	ARDB, New Delhi.	11	Dr. B. Ramamoorthy, Mech.Engg. Dept. IIT Madras and Dr. M.S. Ramachandra Rao
25	Development of thin film fiber-optic hydrogen sensors	Completed (Feb. 2006)	MNES, New Delhi	19.27	Prof. S. Ramaprabhu, Dept. of Physics Dr.M.S.R. Rao
26	Active Membranes and Membrane-Polymer complexes	01-06-2004 to 31-05-2007	CSIR	67.5	P. B. Sunil Kumar Arul Lakshminarayan
27	Dynamics of membranes and micellar solutions	01-07-2005 to 30-06-2008	DST	17.5	P.B. Sunil Kumar
28	The emergent dynamics and structure of networks	01-09-2005 to 31-08-2006	DST	27	Neelima M Gupte P.B. Sunil Kumar
29	Control of Radiative Rate of Molecules by using Morphology Dependent Resonances of a Microcavity	3 Yrs	DST	37.1	Dr.P.B.Bisht

30	Physico-bio-chemical Standardization of selected Ayurvedic Preparations	6 Months	Rural Technological Action Group	2.14	Dr.T.S.Chandra Principal Investigator Dr.V.S.Murty Co-Investigator
31	Quantum Confinement Effects on the Optical Properties of Semiconductor Nanostructures	2001-2005	DRDO	25.00	PI : Dr. C. Vijayan Co-I : Dr. P.B. Bisht
32	Theoretical and Experimental Spectroscopic Studies of Atomic systems in Atypical States	2003-2006	DRDO	Rs. 25.50	PI: Dr. P. C. Deshmukh Co-I : Dr. C. Vijayan

Industrial Consultancy projects:

Sl. No.	Name of the Faculty	Title	Industry	Amount (Rs. in lacs)
1	S.Kasiviswanathan	Development of a surface plasmon resonance unit	Honeywell Technology and Solution Limited, Bangalore	5.1
2	P B Bisht	Lasers and electronics in lasers	Techno Services, Chennai	0.05

RBIC projects:

Sl No.	Name of the Faculty	Title	Industry	Year	Amount (Rs. in Lacs)
1.	Dr.S.Ramaprabhu	Development of CNTs for micro fuel cells	HEB	Nov 2005 - Jun 2007	5.0
		Development of metal hydride materials, CNT and hydrogen gas cartridges	HEB	July 2005 - Dec 2005	3.0
		Investigation of electrocatalyst properties of MWNT based electrodes for DMFC	RCI	July 2005 - Dec 2006	9.0
		Development of Hydrogen storage materials	VSSC	Feb 2006 - Aug 2007	10.0
		Synthesis of MWNTs and SWNTs	VSSC	April 2006 - October 2007	29.0

Journal Editorial Boards:

Sl. No.	Name of the Faculty	Level	Journal
1.	Dr.M.S.Ramachandra Rao Associate Professor	Editor	Journal of Physics D: Applied Physics Institute of Physics (IoP), UK
2.	Dr.Neelima M.Gupte	Editorial Board member	Pramana
3	Dr.Neelima M.Gupte	Associate Editor	Proceedings of the NCNSD 2006, Chennai
4	S.Ramaprabhu	Member	Nanotrends-A Journal of Nanotechnology and its applications
5	C. Vijayan	editor	International Journal of Nanotechnology

Research Publications:

Total No. of papers published in Referred National Journals	...	05
Total No. of Papers published in Referred International Journals	...	62
Total No. of Papers presented in National Conferences	...	22
Total No. of Papers presented in International Conferences	...	31

In Refereed National Journals:

1. A perspective in Nonlinear Dynamics, N. Gupte, R. Ramaswamy and R. Roy Pramana, 65, 307 (2005).
2. Spatio-temporal intermittency and scaling laws in coupled map lattices N. Gupte and Z. Jabeen, Proc. Indian National Science Academy, 71A, 75 (2005).

3. Studies of self-phase modulation under cw and picosecond laser pumping: White light continuum generation in water, Rallabandi Sailaja, V. Sreeja and Prem B. Bisht, *Ind. J. Phys* 79, pp 1299-1304 (2005).
4. Entanglement production in Quantized Chaotic Systems, J. N. Bandyopadhyay, A. Lakshminarayan, *Pramana*, 64, 577 (2005)
5. Two dimensional microwave band gap structures of different dielectric materials E. D. V. Nagesh, G. Santosh Babu, V. Subramanian, V. Sivasubramanian and V. R. K. Murthy *Pramana Journal of Physics*, 65, 1115-1120, 2005.

In Refereed International Journals:

1. Networks: structure, function and optimization, N. Gupte, B.K. Singh and T.M. Janaki, *Physica A* 346, 75 (2005).
2. Congestion and de-congestion in a communication network, B.K. Singh and N. Gupte, *Phys. Rev. E* 71, 055103(R)(2005).
3. Dynamical characterisers of spatiotemporal intermittency patio-temporal intermittency and scaling laws in coupled map lattices, Z. Jabeen and N. Gupte, *Phys. Rev. E* 72, 016202 (2005).
4. Multipartite entanglement in a one-dimensional time-dependent Ising model, Arul Lakshminarayan and V. Subrahmanyam *Phys. Rev. A* 71, 062334 (2005)
5. Multifractal eigenstates of quantum chaos and the Thue-Morse sequence, N. Meenakshisundaram and Arul Lakshminarayan, *Phys. Rev. E* 71, 065303 (2005)
6. Distribution Functions, Loop Formation Probabilities and Force-Extension Relations in a Model for Short Double-Stranded DNA Molecules, P. Ranjith , P. B. Sunil Kumar, Gautam I. Menon, *Phys. Rev. Lett.* 94, 138102-1 to 4 (2005)
7. Domain Growth, Budding, and Fission in Phase Separating Self-Assembled Fluid Bilayers., Mohamed Laradji and P. B. Sunil Kumar, *J. Chem. Phys.* 123, 224902-1 to 10 (2005)
8. Shuffling cards; factoring numbers; and the quantum baker's mapⁿ A. Lakshminarayan, *J. Phys. A* 38, L597-L605 (2005).
9. Transport of Entanglement Through a Heisenberg-XY Spin Chain, V. Subrahmanyam, A. Lakshminarayan, *Phys. Lett. A* 349, (2006).
10. Dielectric and Raman studies in $(\text{Ba}_x\text{Pb}_{1-x})(\text{Yb}_{0.5}\text{Nb}_{0.5})\text{O}_3$: R. R. Vedantam, V. Subramanian, V. Sivasubramanian and V. R. K. Murthy, *J. Physics: Condensed Matter*, 17, 361-372, 2005.
11. Post-sintering annealing effect on the diffuse phase transition in $(\text{Pb}_{1-x}\text{Ba}_x)(\text{Yb}_{0.5}\text{Ta}_{0.5})\text{O}_3$, Dibyanjan Rout, V. Subramanian, K. Hariharan, V. Sivasubramanian and V. R. K. Murthy, *Journal of Physics and Chemistry of Solids*, 66, 809-816, 2005.
12. Microstructure and dielectric properties of $(1-x)\text{Pb}(\text{Yb}_{1/2}\text{Ta}_{1/2})\text{O}_3-x\text{Pb}(\text{Fe}_{1/2}\text{Ta}_{1/2})\text{O}_3$, $0 \leq x \leq 0.2$ solid solution ceramics, Dibyanjan Rout, V. Subramanian, K. Hariharan and V. Sivasubramanian, *Materials Science and Engineering B*, 123, 107 – 114, 2005.
13. Study of one-dimensional photonic band gaps at microwave frequencies for microwave filters, G. Santosh Babu, V. Subramanian, V. Sivasubramanian and V. R. K. Murthy, *Ferroelectrics*, 327, 19-25, 2005.
14. Microwave propagation in a square dielectric lattice for device applications, E. D. V. Nagesh, V. Subramanian, V. Sivasubramanian and V. R. K. Murthy, *Ferroelectrics*, 327, 11-17, 2005.
15. Raman spectroscopic study of $(\text{Pb}_{1-x}\text{Ba}_x)(\text{Yb}_{1/2}\text{Ta}_{1/2})\text{O}_3$ ceramics, Dibyanjan Rout, V. Subramanian, K. Hariharan, V. Sivasubramanian and V. R. K. Murthy, *Journal of Applied Physics*, 98, 103503 1-6, 2005.
16. Diffuse phase transition of Fe doped lead ytterbium tantalate ceramics, Dibyanjan Rout, V. Subramanian, K. Hariharan and V. Sivasubramanian, *Solid State Communication*, 137, 446-450, 2006.
17. Optical Profiler based on Spectrally Resolved White Light Interferometry, S. K. Debnath, and M. P. Kothiyal, *Optical Engineering*, 44, 013606(2005).
18. Photorefractive phase reversal speckle photography for evaluation of in plane displacement, N. Krishna Mohan and Rekha Mathews, *Lasers in Engineering*, 15, 91-105 (2005).
19. *Wave packet dynamics of photon-added coherent states*, C. Sudheesh, S. Lakshimbala and V. Balakrishnan *Europhys. Lett.* 71, 744-750 (2005).
20. *Squeezing and higher-order squeezing of photon-added coherent states propagating in a Kerr-like medium*, J. Opt. B: Quant. Semiclass. C. Sudheesh, S. Lakshimbala and V. Balakrishnan, *Opt.* 7, S728-S735 (2005).
21. *On the connection between biased dichotomous diffusion and the one-dimensional Dirac equation*, V. Balakrishnan and S. Lakshimbala, *New Jour. of Physics* Vol. 7, Issue 11, 1 (2005).

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27. Synthesis and luminescence properties of $\text{Ca}_3\text{MgSi}_2\text{O}_8:\text{Eu}$ phosphor for near UV LED converted green light emission P.Thiyagarajan M.M.K.Samy and M.S.R.Rao Presented in International Conference on Optoelectronic Materials and Thin films for Advanced Technology, OMTAT-2005 held at Kochi, Kerala, India during October 24-27, 2005.
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Distinguished Visitors to the Department:

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
1	Professor Richard H.Pratt University of Pittsburgh, USA	4 th April 2005	To deliver a lecture
2	Dr.Narendra Kumar Sahu Theory Group, IIT Bombay	8 th April 2005	"
3	Dr.P.V.Parimi Principal Research Scientist Northeastern university ,Boston.	11.05.05	"
4	Nirmal K.Viswanathan IRDE, Dehradun	18.05.05	"
5	Dr.Narasimha Rao Head, Material Characterization, International Advanced Research Centre for Powder Metallurgy and New Materials, Hyderabad	25.05.05	"
6	Dr.Surjit Sengupta SN Bose National Centre for Basic Sciences, Kolkotta	13.06.2005	To deliver a lecture
7	Dri Sripad Ram Univ. of Texas Southwestern Medical Center (Dallas) USA	27.06.2005	"

8	Dr.R.Mukhopadhyay Solid State Physics Division, BARC, Mumbai	18.07.2005	To deliver a lecture
9	Dr.Aditi Sen (De) ICFO – Institut de Chinces Fotoniques Barcelona, Spain.	10.08.05	To deliver a lecture on Quantum Information Processing on Spin Models
10	Dr. Sankalpa Ghosh Physics Department Technion Israel Institute of Technology Haifa, Israel.	16.08.05	To deliver a lecture on One dimensional Bose-Einstein systems in the presence of a disordered potential: Results from mean field theory
11	Dr.Chitra Rangan Dept. of Physics, University of Windsor, Windsor, Canada	31.08.05	To deliver a lecture on Quantum Information Processing in Atomic Systems
12	Dr. Rajarshi Ray Saha Institute of Nuclear Physics, Kolkata.	08.09.2005	To deliver a lecture on "Production of Topological Defects"
13	Dr. Kausik S Das. University of Strathclyde Glasgow.	15.09.2005	To deliver a lecture "A Mathematical Model for the Explosive Growth of a Vapour Bubble Confined in a Uniformly Heated Capillary Tube."
14	Dr. Radha Balakrishnan The Institute of Mathematical Sciences Chennai	21.09. 2005	To deliver a lecture on "Geometry of Phase Trajectories in Dynamical Systems"
16	Dr. Purushottam Chakraborty Saha Institute of Nuclear Physics, Kolkata.	27.09.2005	To deliver a lecture on "Ion Microbeam Analysis of Quantum Confined Systems"
17	Prof. Rajaram Nityananda, TIFR, Pune	07.10.2005	To deliver a lecture on "Optics and Astronomy: A century of symbiosis"
18	M.Satyanarayana Vikram Sarabhai Space Centre - ISRO, Trivandrum	14.10.2005	To deliver a lecture on "Lidar Applications in Remote Sensing of the Atmosphere"
19	M V N Murthy Institute of Mathematical Sciences Taramani, Chennai	19.10.2005	To deliver a lecture on "A Physicist's view of number partitions"
20	John Mahan Colorado State University Fort Collins, CO, U.S.A.. (Fulbright Fellow)	20.10.2005	To deliver a lecture on "Understanding Sputter Yield Data in the Film Deposition Regime"
21	Ashok Vudayagiri Raman Research Institute Bangalore	20.10.2005	To deliver a lecture on "Quantum Computation using Coherent Population Trap (CPT) states"
22	Dr. Burkhard Fechner (Lamdbda Physik, Germany)	09.11.2005	To deliver a lecture on Pulsed laser deposition techniques
23	Dr.Rajesh Narayan Institute of Nanotechnology, Forschungszentrum, Karlsruhe, Germany	10.11.2005	To deliver a lecture on "Griffiths Phase in Unconventional Quantum Hall Effect"
24	Arnab K Ray Harish-Chandra Research Institute Allahabad	30.11.2005	To deliver a lecture on A time-dependent perturbative study of the shallow water hydraulic jump.
25	Patrick M Woodward Dept. of Chemistry, Ohio State University, Columbus, Ohio, USA.	13 th January 2006	To deliver a lecture on Investigations of Complex Perovskites: Synthesis, Structure and Properties
26	S. B. Ota Institute of Physics Bhubaneswar	18 th January 2006	To deliver a lecture on Temperature measurement using semiconductor diodes
27	Avinash Khare Institute of Physics Bhubaneswar	23 rd January 2006	To deliver a lecture on Linear Superposition for Nonlinear Equations and New Identities for Jacobi Elliptic Functions
28	Dr. Prasanta Kr. Das Institute of Mathematical Science Chennai	01.02.2006	To deliver a lecture on Probing radiation at the Large Hadron Collider: a saga for New Physics
29	Dr. Sanjay Puri School of Physical Sciences Jawaharlal Nehru Univ. New Delhi	08.02.2006	To deliver a lecture on Pattern Formation in Granular Materials

30	Dr. P. B. Radha Lab. for Laser Energetics University of Rochester Rochester, NY	10.02.2006	To deliver a lecture on The Physics of Inertial Confinement Fusion
31	Dr.Sanjib Sabhapandit (Laboratoire de Physique Theoriqueet Modeles Statistiques (LPTMS))	16.02.2006	To deliver a lecture on Functionals of the Paths of a Particle Diffusing in a One-Dimensional Random Potential
32	Dr. Matteo Marsili The Abdus Salam International Centre for Theoretical Physics Trieste, Italy.	21.02.2006	To deliver a lecture on Maximum likelihood data clustering with application to financial markets and bio-informatics
33	Prof. Wei Ji Singapore National University of Singapore, Singapore,	27.02.2006	To deliver a lecture on Femtosecond Multiphoton Absorption Spectroscopy
34	S. Srinath Functional Materials lab., Univ. of South Florida, Tampa, FL USA	01.03.06	To deliver a lecture on Static and dynamic magnetic properties of oxides and nanomaterials
35	Tarun Kanti Ghosh Dept. of Physics Okayama University Okayama, Japan.	07.03.06	To deliver a lecture on Sound propagation in a Fermi superfluid along the BEC-BCS crossover
36	Arun Aiyer Verity Instruments Inc., Carrollton, Texas, USA.	08.03.06	To deliver a lecture on Heterodyne Reflectometer for Gate Dielectric Integrated Metrology
37	Udit Chatterjee Physics Department, Laser Lab, Burdwan University, Burdwan-713104, West Bengal	22.03.06	To deliver a lecture on Characterization of Nonlinear Crystals and Improvement of Frequency Conversion Efficiency in Them
38	Jurgen Kurths University of Potsdam & Max Planck Institute for Physics of Complex Systems, Dresden, Germany.	23.03.06	To deliver a lecture on Complex Synchronization - A General Concept in Nonlinear Science
39	Shobhana Narasimhan JNC SAR, Bangalore	29.03.06	To deliver a lecture on Stiffness and Thermal Stability of Very Small Objects
40	Prof. David Jiles, Ames Lab, Iowa State Univ. USA	Jan 15. 2006	Seminar
41	Dr. R. Suryanarayanan, CNRS, Orsay France	Jan 2006	Seminar
42	Prof. R. Pinto, Elec. Engg. Dept., IIT Bombay	Feb. 2006	Seminar
43	Dr. Pratap Roychaudhury, Condensed Matter and Materials Division, TIFR Mumbai	Jan 2006	Seminar
44	Dr. Dhananjay Kumar, Univ. A&T, Texas, USA	Nov. 2005	Seminar
45	Prof. John Paul Attfield, University of Edinburgh, UK	Jan 13, 2006	Seminar

5.1 COMPOSITES TECHNOLOGY CENTRE

5.1.1. Introduction:

Composites Technology Centre formerly known as Fibre Reinforced Plastics (FRP) Research Centre was established in 1974 as an interdisciplinary Centre for carrying out teaching, research, design and development in the field of Composite Materials and their applications. The centre was renamed as Composites Technology Centre in 1997.

The centre currently works on polymer, metal and ceramic matrix composites and their applications. The areas of expertise of the Centre include: -

- Materials Research and Development
- Composites Manufacturing Technology
- Composite Product Design and Development
- Quality Assurance of Composites

The Centre has undertaken a large number of sponsored projects and established close interaction with the industries by offering consultancy and technical guidance.

5.1.2 Academic Programmes:

Students on roll:

This Centre enrolls the students/scholars for M.Tech, M.S. and Ph.D. programs. However, they are admitted in the respective departments for award of degree. Currently 7 M.Tech, 1 M.S and 4 Ph.D. students/scholars are working in the Centre.

Names of student / scholar attended conference / seminar and symposia abroad / India:

S.No.	Name of the student	Programme	Name of the conference/seminar/symposia	Date and venue
Conference				
1.	P.Jawahar	Ph.D	Intl. Conf. on Materials for Advanced Technologies	July 3-8,2005 Singapore
2.	J.Chandradass	Ph.D	Intl. Conf. on Materials for Advanced Technologies	July 3-8,2005 Singapore
3.	P.Jawahar	Ph.D	National Conference on Composites (INCCOM – IV)	Dec9-10,2005 Coimbatore.
4.	R.Varatharajan	Ph.D	National Conference on Composites (INCCOM – IV)	Dec9-10 2005 Coimbatore
5.	R.Varatharajan	Ph.D	Intl. Conf. on Materials for Advanced Technologies.	July 3-8, 2005 Singapore
6.	R.V.Sudarsana Reddy	Ph.D	Intl.Conf. on Advances in Structural dynamics & its applications.	Dec.7-9, 2005 Visakhapatnam
7.	R.V.Sudarsana Reddy	Ph.D	Intl. Conf. on Computational & Experimental Engg&Sciences	Dec.1-6, 2005 Chennai
8.	K.N.S.Susmitha	M.S	Intl. Conf. on Structural Engg.	Dec.14-16, 2005 Bangalore
9.	B.Purushotham Reddy	Ph.D	National Workshop on creation & management of Infrastructure Facilities in Educational Institutions	Dec. 6-8, 2005 Chennai

5.1.3 Faculty and their activities:

Faculty:

Name and Qualification	Major area of specialization
Dr.S.K.Malhotra, Ph.D (IIT, Madras) (Head)	Composite Materials Research, Analysis and Design of Composite Products, Quality Control of Composites.
Dr.M.Balasubramanian, Ph.D (IIT, Madras)	Ceramics and Ceramic Composites, Polymer Composites, Sol-gel Process
Dr.P.Alagusundaramoorthy, Ph.D (IIT, Madras)	FRP Composites for Civil Engg. FRP Chemical Plant Structures, Retrofitting and Rehabilitation of Concrete Structures.
Dr.R.Velmurugan, Ph.D (IIT, Delhi)	Composite Structures Analysis and Design, Impact Mechanics, 3-D Composites

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

S.No.	Coordinator(s)	Title	Period
Workshop			
1.	Dr.M.Balasubramanian & Dr.Alagusundaramoorthy	Fibre Reinforced Thermoset Plastics	July,11-16 2005
2.	Dr.M.Balasubramanian	FRP Composites in Infrastructure Systems	Feb.22, 2006

Short term courses/Workshops/Seminars/Conferences/Training attended by faculty members in Academic Institutions and public sector undertaking:

S.No.	Name of Faculty	Title	Period & Venue
1.	Dr.S.K.Malhotra	National Conference on Composite Materials (INCCOM – iv)	Dec.9-10, 2005 Coimbatore
2.	Dr.M.Balasubramanian	69 th Annual Session of Indian Ceramic Society	Dec.28-29,2005 Jamshedpur
3.	Dr.R.Velmurugan	National Conference on Composite Materials (INCCOM – iv)	Dec. 9-10,2005 Coimbatore
4.	Dr.P.Alagusundaramoorthy	Intl. Conf. on Computational & Experimental Engg & Sci.	Dec. 1-6, 2005 Coimbatore
5.	Dr.P.Alagusundaramoorthy	National Workshop on creation & management of Infrastructure Facilities in Educational Institutions	Dec. 6-8, 2005. Chennai

Special Lectures delivered by the faculty in other Institutions:

S.No.	Name of Faculty	Topic of Lecture	Venue & Date
1.	Dr.S.K.Malhotra	Fabrication Processes and Testing of FRP Composites	Bishop Moore College, Mavelikara, Feb.14-15, 2006
2.	Dr.M.Balasubramanian	Epoxy Resins	Goa Glass Fibre Ltd, Goa, June 3, 2006.
3.	Dr.M.Balasubramanian	Epoxy & Phenolic Resins	Vellore Inst. of Tech. Vellore, Oct.5, 2005.
4.	Dr R.Velmurugan	Epoxy-clay nanocomposites	SACE, Trichendur, August 18-19, 2005.

Honour and Awards obtained:

Dr.P.Alagusundaramoorthy was awarded Vijay Shree by India International Friendship Society on 24th June, 2005.

5.1.4 Design and Development Activities:

New facilities added or major equipment procured through project funds:

S.No.	Equipment	Value (Rs)
1.	Caterpillar Puller	3.50 lacs.
2.	Pultrusion die	1.50 lacs.

5.1.5 Research and Consultancy:

Sponsored Research Projects:

S.No	Title	Period	Funding agency	Amount (Rs. in lacs)	Co-ordinators
1.	Development of solgel protective coating on metals	Oct. 2002- Sept.2005	UGC	3.3	Dr.M.Balasubramanian
2.	Development of FRP rebars for reinforcing concrete structures	April 2003- March 2006	MHRD	12.0	Dr.P.Alagusundaramoorthy Dr.M.Balasubramanian
3.	Vibration Control of	March 2004-	MHRD	17.0	Dr.R.Velmurugan

	Nano Composites	Feb.2006			Dr.R.Sarathi
4.	Low & Medium vel impact of projectiles on laminated plates	August 2003- July 2006	ARMREB	14.83	Dr.R.Velmurugan
5.	Investigations of Ti-lined composite pressure bottles	Oct, 2004- Sept.2006	ISRO-Respond	12.32	Dr.R.Velmurugan Dr.R.Palaninathan
6.	Development of Ankle support	2005-2006	RuTAG	3.05	Dr.R.Velmurugan

Industrial Consultancy Projects:

S.No	Name of Faculty	Title	Industry	Amount (Rs in lacs)
1.	S.K.Malhotra R.Velmurugan	Design of Kevlar Vibration test fixture	SDSC, Shar Sriharikota	2.50
2.	P.Alagusundaramoorthy	Eccentricity in WEG foundation of windmill	DNV, Chennai	1.00
3.	P.Alagusundaramoorthy	Damage of approach bridge – Assessment & repair	JNPT, Mumbai	3.00
4.	P.Alagusundaramoorthy	Inspection of concrete beams	VATECH, Chennai	1.50
5.	R.Velmurugan	Energy absorbing characteristic of dual phase steel tubes	Tubes India Ltd, Chennai	4.90
6.	R.Velmurugan	Testing of Insulating Materials	L & T, Chennai	0.60
7.	R.Velmurugan	Analysis of Composite Trays	EID Parry, Chennai	0.50

RBIC Projects:

S.No.	Name of Faculty	Title	Industry	Amount (Rs in lacs)
1.	Dr.M.Balasubramanian	Development & Characterisation of alum. Matrix composites for tracked vehicle appln.	CVRDE, Chennai	4.50

Research Publications:

Total No. of papers published in Refereed National Journals	.....	04
Total No. of papers published in Refereed International Journals	.....	11
Total No. of papers published in proceedings of National Conferences	.....	04
Total No. of papers published in proceedings of International Conferences	.....	06

In Refereed National Journals:

1. P.Alagusundaramoorthy, K.A.B. Lakshman Kumar, R.V.Sudarsana Reddy, "Pultruded fibre reinforced polymer composite deck panels for highway bridges", The Bridge & Structural Engineer, India pp.17-28,2005.
2. R.V.Sudarasana Reddy and P.Alagusundaramoorthy, "Static behaviour of contact moulding GFRP Composite Highway Bridge Deck panels" Jl. of Institution of Engineers, v-86, pp.177-181, 2006.
3. R.Velmurugan and K.Karthikeyan, "The effect of reinforcement of nanoclay on the damping characteristics of hybrid laminated composites", Jl. of Aerospace Science & Technologies, v-55, n-3, pp.345-353,2005.
4. R.Velmurugan and V.Manikandan, "Mechanical properties of glass/palmyra fibre waste sandwich composites", India Jl. of Engg & Materials Sciences, v-12, pp.563-570, 2005.

In Refereed International Journals:

1. Maries Idicula, S.K.Malhotra, Kuruvilla Josph Sabu Thomas "Dynamical mechanical analysis of randomly oriented intimately mixed short banana/sisal hybrid fibre reinforced polymer compositities," Composites Science & Technology v-65, pp.1077-1087, 2005.
2. Maries Idicula, S.K.,Malhotra, Kuruvilla Joseph, Sabu Thomas, "Effect of layering pattern on dynamic mechanical properties of randomly oriented short banana / sisal hybrid fibre-reinforced polymer composites", Jl. of Applied polymer science, v-97, Issue-5, pp.2168-2174,2005.

3. J.Ramkumar, S.K.Malhotra, R.Krishnamurthy, "Effect of microwave treatment on WC inserts for drilling of GFRP composites", *Machining Science & Technology*, v-9, pp.263-269,2005.
4. V.Vinothini, Paramanand Singh and M. Balasubramanian, "Synthesis of barium titanate nanopowder using polymeric precursor method", *Ceramics International* V-32,n-2,pp.99-103, 2006.
5. J. Chandradass and M.Balasubramanian, "Solgel processing of alumina-zirconia minispheres", *Ceramics International*, v-31, n-5,pp.743-748, 2005.
6. P.Jawahar, R.Gnanamoorthy and M.Balasubramanian, "Flexural and tribological properties of polyester-clay nanocomposites", *Jl. of Materials Science*, v-40,n-16,pp.4391-4393, 2005.
7. J.Chandradass and M.Balasubramanian, "Solgel based extrusion of alumina-zirconia fibres", *Material Science & Engg - A*, v-408, n-1-2, pp.165-168, 2005.
8. J. Chandradass and M.Balasubramanian, "Solgel processing of alumina fibres", *Jl. of Materials Processing Technology*, v-173, n-3 pp.275-280, 2006.
9. Jawahar and M.Balasubramanian, "Thermal, mechanical and water barrier properties of clay – unsaturated polyester nano composites" *Intl. Jl of Plastics Technology*, v-9, pp.472-481,2005
10. M.Suneel Kumar P.Alagusundaramoorthy and R.Sundaravadivelu "Ultimate strength of ship plating under axial compression", *Jl. of Ocean Engg.* v-33, pp.1249-1259,2006.
11. T.P.Mohan, M.Ramesh Kumar and R.Velmurugan, "Rheology and curing characteristics of epoxy-clay nanocomposites", *Jl. Polymer International*, v-54, pp.1653-1659, 2005.

In Proceedings of National Conferences:

1. R.Varatharajan, S.K. Malhotra and L.Vijayaraghavan, "Experimental and analytical evaluation of drilling of FRTP Composites" *Proc. of National Conf. on Composites (INCCOM-iv)*, Coimbatore, Dec 9-10,2005, pp. 176-186.
2. J. Chandradass and M. Balasubramanian, "Effect of CaO addition on the properties of solgel spun alumina-zirconia fibres" *Proc. of 69th annual session of Indian Ceramic Society*, Jamshedpur, Dec.28-19, 2005,pp.26.30.
3. V.Manikandan and R.Velmurugan, " Absorption studies on palmyra/polyester composites", *Proc. of sacoferece conf*, Tiruchendur, August 2005, pp.154-159
4. R.Velmurugan and V.Vijaya Kumar, "Mechanical and thermal properties of Nylon / Clay Composites", *proc. of National conf. on composites (INCCOM iv)*, Coimbatore Dec 9-10, 2005, pp.340-341.

In Proceedings of International Conferences:

1. S.Dhanalakshmi, P.Sivakumar and M.Balasubramanian", Influence of processing parameters in SiCp-aluminium alloy composite produced by stir casting method", *Proc. of Intl. conf. on Emerging Trends in Mineral Processing & Extractive Metallurgy*, Bhubaneswar, June 13-14, 2005,pp.490-495.
2. A.Dudhmande, Th.Schubert, M.Balasubramanian and B.Kieback, "Sintering and properties of new P/M aluminium alloys and composites", *Proc. of Euro PM2005. Congress & Exhibition*, Prague, Czech Republic, Oct.2-5,2005., pp.293-300
3. R.V.Sudarsana Reddy and P.Alagusundaramoorthy, "Fatigue behaviour of prototype hand layup GFRP composite bridge deck panels", *Proc. of Advances in Structural Dynamics & its applications*, ICCES-05, IIT, Madras,Dec.2005, pp.3229-3234.
4. R.V.Sudarsana Reddy, P.Alagusundaramoorthy, K.Rama Rao, M.P.Muthuraj, "Finite element analysis of prototype GFRP composite bridge deck panels", *Proc. of Intl. Conf. on Advances in Structural Dynamics & its applications*, Visakhapatnam, Dec.2005, pp.249-255.
5. R.V.Sudarasana Reddy and P.Alagusundaramoorthy, "Experimental study on fatigue of prototype GFRP composite bridge deck panels under enhanced fatigue loading", *Proc. of Intl. Conf. on Advances in Structural Dynamics & its applications*, Visakhapatnam, Dec,2005, pp.67-73.
6. R.Velmurugan and M.Ganeshbabu, "Medium velocity impact on FRP composite panels", *Proc. of Intl. Conf. on Impact loading of light weight structures*, Florianopolis, Brazil, pp.103-120, 2005.

5.2 MATERIALS SCIENCE RESEARCH CENTRE

5.2.1 Introduction:

Materials Science Research Centre (MSRC) was established in 1975 as an interdisciplinary centre for carrying out research in the frontier areas of advanced ceramics and solid state materials. The major research areas of the Centre are:

- Electrode Materials for Li-batteries and Fuel Cells
- Thermoelectric Materials
- Magnetoresistance oxides
- PLZT Ferroelectric Ceramics
- Luminescent materials
- Self-assembled nanostructures
- Rare Earth based Colourants
- Thin film Multilayers/Heterostructures
- Electroluminescent (EL) thin films
- Spintronics
- Multiferroics
- Nanostructured thin films for sensor applications

5.2.2 Academic Programs:

This Centre enrolls the students/scholars for M.Tech, M.S. and Ph.D. programs. However, they are admitted in the respective departments for award of degree. Currently 11 Ph. D. scholars are working in the Centre.

Names of student/scholar attended conference/seminar and symposia abroad/India:

S.No.	Name of the student	Programme	Name of the Conference/ seminar/ symposia	Date and venue		
1	M. Anji Reddy, and U.V. Varadaraju (poster)	NbSb ₂ as an anode material for Li-ion batteries	International Conference on Materials for Advanced Technologies 2005	3 - 8 July 2005, Singapore		
2	M.Anji Reddy, V. Badri and U. V. Varadaraju (oral)	Electrochemical Lithium Insertion Studies on a New Compound Nb ₂ Se ₂ C				
3	Dr. M.M.K.Samy (Invited talk)	Phosphor materials for lighting and Displays – Past –present –future	National Conference on Science and Technology of Advanced Materials (STAM05)	Pondicherry University July 27-29, 2005		
4	B.Tiwari, M.Kottaisamy, and M.S.Ramachandra Rao (oral)	Eu doped Sr ₂ P ₂ O ₇ -B ₂ O ₃ blue-green phosphor for near UV converting white light emitting diodes.	International Conference on Optoelectronic Materials and Thin Films for Advanced Technology (OMTAT-2005), Won the best paper award in the oral presentation category	Oct. 24-27, 2005 Cochin		
5	J. Misra, M.Kottaisamy and M.S.Ramachandra Rao (poster)	Effect of co-dopants on the colour tuning properties of YAG:Ce yellow phosphor for application in White light emitting phosphor converted Light Emitting Diodes (pcLEDs)				
6	P. Thyagarajan, Atish Agrawal, M.Kottaisamy and M.S.R.Rao (poster)	Synthesis and luminescent properties of Ca ₃ MgSi ₂ O ₈ : Eu phosphor for Near UV LED Converted green light emission				
7	Krishnendu Biswas and U.V.Varadaraju (oral)	Thermopower and electrical conductivity studies in the transparent Conducting oxide Sn doped MgIn ₂ O ₄				
8	V. Sivakumar and U.V. Varadaraju (oral)	Novel green phosphor in the system NaY _{0.95} Tb _{0.05} (WO ₄) _{2-x} (MoO ₄) _x (x = 0.25 – 2)				
9	M. Anji Reddy and U.V. Varadaraju. (poster)	NbSbSn as an Anode Material for Li-ion				
10	M. Pardha Saradhi N.Lakshminarasimhan and U.V.Varadaraju (poster)	BaSi ₂ O ₅ :Eu ²⁺ , Ce ³⁺ - A white light emitting phosphor for solid state lightings				
11	V. Sivakumar and U.V. Varadaraju (poster)	Synthesis and optical properties of BiMgVO ₅ :Eu ₃₊				

12	M.M.K.Samy (invited talk)	Development of phosphors for 21st century lighting and display devices		
13	N.Rama, V.Sankaranarayanan and M.S.Ramachandra Rao (poster)	Role of double exchange interaction on the magnetic and electrical properties of $\text{Pr}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$ ferromagnetic insulating manganite	50th annual conference on Magnetism and Magnetic Materials	San Jose California from Oct. 30th to Nov. 3 2005
14	V. Sivakumar and U. V. Varadaraju (oral)	A Novel green Phosphor for Three Band White LEDs	Fifth International Conference on Solid State Lighting, SPIE 2005	San Diego, California, USA, Nov. 2005
15	Shubra Singh, N.Rama and M.S.Ramachandra Rao (poster)	Physical properties of doped ZnO by pulsed laser deposition	DAE-BRNS 3rd National symposium on pulsed laser deposition of thin films and nanostructured material	S.V.Univer sity, Tirupathi Nov 7 th - 8 th 2005
16	M.Kottaisamy, P.Thiyagarajan, M.S. Ramachandra Rao (poster)	Pulsed laser deposited YAG:Ce thin film phosphor for blue LED converted white light emitting diodes		
17	P.Thiyagarajan, M.Kottaisamy, M.S.Ramachandra Rao (poster)	Pulsed laser deposited $\text{Ca}_3\text{MgSi}_2\text{O}_8$:Ce phosphor thin films for near UV LED converted blue light emission		
18	K.Mohan Kant, K.Sethupathi, and M.S.Ramachandra Rao (poster)	PLD grown nanostructure n-Carbon/p-Si thin film interfaces		
19	Shubra Singh, N. Rama and M.S. Ramachandra Rao (poster)	Effect of transition metal ion doping on the electrical, optical and magnetic properties of ZnO	International Workshop on Physics of Semiconductor devices (IWPSD 2005)	New Delhi Dec 2005
20	K. Mohan Kant, N. Rama, K. Sethupathi and M. S.Ramachandra Rao (poster)	Magnetization studies on 4f studies on 4f elements doped $\text{Sn}_{0.95}\text{RE}_{0.05}\text{O}_2$ (RE = Gd, Dy, Er) magnetic semiconductor	50th Golden Jubilee DAE Solid State Physics Symposium	BARC, Bombay 5-9 th December 2005
21	N. Rama, V. Sankaranarayanan and M.S. Ramachandra Rao (poster)	Electron Spin Resonance Studies on $\text{Pr}_{1-x}\text{Sr}_x\text{MnO}_3$ (x = 0.2, 0.26 and 0.3)		
22	P.Thiyagarajan, Atish Agrawal, M.Kottiasamy, M.S.R.Rao	Preparation and luminescence properties of $\text{Ca}_3\text{MgSi}_2\text{O}_8$:Ce phosphor for near UV LED converted blue light emission	International Conference on Advanced Materials Design and Development (ICAMDD 2005)	Goa, India December 14 th 16 th 2005
23	V. Sivakumar and U. V. Varadaraju (poster)	A new orange-red phosphor for white LEDs		
24	V. Sivakumar and U.V. Varadaraju (poster)	New Eu Activated Phosphor for White LED's		
25	Shubra Singh, N.Rama and M.S. Ramachandra Rao (oral)	Electrical and magnetic properties of $\text{Zn}_{1-x}\text{Dy}_x\text{O}$	International conference on Electronic and Photonic Materials, Devices and Systems" EPMDs-2006	January 4-6, 2006, Kolkata, India
26	Dr.M.M.K.Samy (Invited talk)	Development of phosphors for phosphor converted white light emitting diodes (pcWLEDs)-21st Century lighting system	International Workshop on Crystal Growth & Characterization of Advanced materials	January 9-13, 2006 Anna University, Chennai.
27	V.Sivakumar and U. V. Varadaraju (poster)	A novel orange-red phosphor for white LEDs	National Conference on Luminescence and its Applications	Amaravathi University, Amaravathi Feb-7-9, 2006

5.2.3. Faculty and their activities:

Faculty:

Name and Qualification	Major Areas of Specilization
Prof.G.Sundararajan (Head) PhD (Rutgers University, USA)	Organometallic chemistry, Polymer synthesis
Prof. U.V. Varadaraju Ph.D. (IISc., Bangalore)	Thermoelectric materials, Materials for lithium ion batteries, Luminescent materials, Inorganic Colourants.
Prof.M.S. Ramachandra Rao, Ph.D. (IIT Kharagpur)	Spintronics, Multilayers, Heterostructures growth of nano structured films, manganites, PLZT ferroelectrics for sensor applications, Electroluminescent films, Self assembled nanostructures
Dr. K. Chandrasekaran S.O.- I, Ph.D. (IIT Madras)	Perovskite, Pyrochlore type oxides, Double perovskites and multiferroics

Special Lectures delivered by the faculty in other Institutions:

S.No.	Name of Faculty	Topic of lecture	Venue and Date
1.	Dr. M.S. Ramachandra Rao,	Dilute Magnetic Semiconductors (DMS): New Perspectives	National Conference on Science and Technology of Advanced Materials (STAM05), Pondicherry University July 27-29, 2005
2.	Prof U.V.Varadaraju	Materials for Li batteries	Meenakshi College for Women, Chennai-24
3.	Prof.M.S.Ramachandra Rao	The evolution of PLD: From High T _c Superconductors to Spintronics"	DAE-BRNS 3 rd on pulsed laser deposition of thin films and nanostructured materials Nov 7-8 2005 S.V.University,Tirupati
4	Prof.U.V.Varadaraju	Key note address on Phosphors for Solid State Lighting	National Conference on Luminescence and its Applications at Amaravati University, India on Feb 7 th 2006

Visits abroad by faculty:

S.No.	Name of faculty	Country visited	Date	Purpose of visit
1.	Prof. U.V.Varadaraju	France	Oct-Dec, 2005	CRISMAT, CAEN, France under the aegis of the Indo-French laboratory for Solid State Chemistry programme.
2.	Prof. U. V.Varadaraju	France	Feb, 2006	3rd Indo-French lab for solid state chemistry workshop at ICMCB
3.	Prof.M.S.Ramachandra Rao	Great Britain	Mar, 24, 2006	Annual board meeting of the Editorial Board members at Institute of Physics, London held on March,24

5.2.4 Research and Consultancy:

Sponsored Research Projects:

S. No.	Title	Period	Funding Agency	Amount (Rs. in Lakhs)	Co-ordinators
1.	Design and Development of Environmentally secure rare earth based colorants for surface coating applications.	3 years	NMITLI, CSIR, New Delhi	52.20	U.V. Varadaraju
2.	Research on New Materials used for energy storage	3 years	IFCPAR, New Delhi	16.73	U.V. Varadaraju
3.	Investigation of New Type of Ionic Liquid Electrolytes	1 year	MOTOROLA, India	9.46	U.V. Varadaraju, M.V. Sangaranarayanan S. Baskaran
4.	Indo-French Laboratory for Solid State Chemistry	1 year	IISc/DST, India	1.6	U.V. Varadaraju

Research Publications:

No. of papers published in Refereed International Journals	...	16
No of papers presented in national conferences	...	17
No. papers presented in International Conferences	...	07

In Refereed International Journals:

1. Intense Red Phosphor for White LEDs Based on Blue GaN LEDs. Sivakumar, V.; Varadaraju, U. V. *Journal of the Electrochemical Society* (2006), 153(3), H54-H57
2. Effect of Ar annealing on the magnetic and transport properties of $\text{Pr}_{0.7}\text{Sr}_{0.3}\text{MnO}_3$. Rama, N.; Kant, K. Mohan; Sankaranarayanan, V.; Rao, M. S. Ramachandra., *Journal of Magnetism and Magnetic Materials* (2006), 303(2), e342-e346.
3. Ferroelectric and magnetic properties of $\text{Ho}_2\text{CuTiO}_6$ double perovskite, Reddy, S. Bhaskar; Kant, K. Mohan; Rao, K. Prasad; Opel, Matthias; Gross, R.; Rao, M. S. Ramachandra. *Journal of Magnetism and Magnetic Materials* (2006), 303(2), e332-e334.
4. Search for ferromagnetism in undoped and cobalt-doped HfO_{2-x} , Rao, M. S. Ramachandra; Kundaliya, Darshan C.; Ogale, S. B.; Fu, L. F.; Welz, S. J.; Browning, N. D.; Zaitsev, V.; Varughese, B.; Cardoso, C. A.; Curtin, A.; Dhar, S.; Shinde, S. R.; Venkatesan, T.; Lofland, S. E.; Schwarz, S. A., *Applied Physics Letters* (2006), 88(14)
5. Solid state studies on $\text{Bi}_{1.7-x}\text{Hg}_x\text{V}_8\text{O}_{16}$ (x : 0.4) and magnetic properties of alkali metal inserted $\text{A}_x\text{Bi}_{1.7}\text{V}_8\text{O}_{16}$ ($A = \text{Li}$ and Na) hollandite type phases. Marimuthu, K. N.; Varadaraju, U. V., *Materials Chemistry and Physics* (2006), 96(1), 22-28.
6. Synthesis, characterization and electrochemical studies on LiCoAsO_4 Satya Kishore, M.V.V.M.; Varadaraju, U. V., *Materials Research Bulletin* (2006), 41(3), 601-607.
7. Luminescent host lattices, LaInO_3 and LaGaO_3 - A reinvestigation of luminescence of d10 metal ions. Lakshminarasimhan, N.; Varadaraju, U. V. *Materials Research Bulletin* (2006), 41(4), 724-731
8. A Promising Orange-Red Phosphor Under Near UV Excitation. Sivakumar, V.; Varadaraju, U. V. *Electrochemical and Solid-State Letters* (2006), 9(6), H35-H38.
9. Role of double exchange interaction on the magnetic and electrical properties of $\text{Pr}_{0.8}\text{Sr}_{0.2}\text{MnO}_3$ ferromagnetic insulating manganite". N. Rama, V. Sankaranarayanan and M.S. Ramachandra Rao *J App Phys* 99 08Q315 (2006).
10. Thin film luminescence of $\text{ZnGa}_2\text{O}_4:\text{Mn}$ deposited by PLD. Ahmad Md., Imteyaz; Kottaisamy, M.; Rama, N.; Rao, M. S. Ramachandra; Bhattacharya, S. S. *Scripta Materialia* (2006), 54(2), 237-240.
11. Synthesis and Eu_3+ luminescence in new oxysilicates, $\text{Ala}_3\text{Bi}(\text{SiO}_4)_3\text{O}$ and $\text{Ala}_2\text{Bi}_2(\text{SiO}_4)_3\text{O}$ [$A = \text{Ca}, \text{Sr}$ and Ba] with apatite-related structure. Lakshminarasimhan, N.; Varadaraju, U. V.. *Journal of Solid State Chemistry* (2005), 178(11), 3284-3292
12. Exhibition of structural flexibility of the infinite layer framework of the prototype compound $\text{Ca}_{0.85}\text{Sr}_{0.15}\text{CuO}_2$ prepared under ambient conditions. Kiruthika, G. V. M.; Varadaraju, U. V.. *Materials Research Bulletin* (2005), 40(9), 1460-1467.
13. Electrochemical reaction of lithium with Zn_3P_2 . Satya Kishore, M. V. V. M.; Varadaraju, U. V.. *Journal of Power Sources* (2005), 144(1), 204-207
14. Frustrated exchange interactions in the $\text{Dy}_6\text{Al}_3\text{Si}$ system. Kiruthika, G. V. M.; Varadaraju, U. V.. *Physica B: Condensed Matter* (2005), 359-361, 217-219.
15. Growth of highly oriented HfO_2 thin films of monoclinic phase on yttrium-stabilized ZrO_2 and Si substrates by pulsed-laser deposition. Dhar, S.; Rao, M. S. Ramachandra; Ogale, S. B.; Kundaliya, Darshan C.; Shinde, S. R.; Venkatesan, T.; Welz, S. J.; Erni, R.; Browning, N. D. *Applied Physics Letters* (2005), 87(24), 241504/1-241504/3.
16. A-site dependent percolative thermopower and Griffiths phase in $\text{Pr}_{(0.7-x)}\text{Ho}_x\text{Sr}_{0.3}\text{MnO}_3$ ($x = 0.0, 0.04, 0.08,$ and 0.1). Rama, N.; Opel, M.; Sankaranarayanan, V.; Gross, R.; Ogale, S. B.; Venkatesan, T.; Rao, M. S. Ramachandra. *Journal of Applied Physics* (2005), 97(10), 10H713/1-10H713/3.

Distinguished Visitors to the Centre:

S.No.	Name of the visitor and designation	Date of visit	Purpose of visit
1.	Dr. R. Suryanarayanan Laboratoire de physico-Chimie de l'Etat Solide University of Paris-Sud, France	Feb, 2006	Ferromagnetism above 300 K in Co doped TiO ₂ and ZnO films
2.	Prof. John Paul Attfield University of Edinburgh Scotland, UK	Jan, 2006	Chemical Control of Electronic Oxides
3.	Dr. Pratap Raychaudhuri, TIFR, Mumbai	26 th Jan 2006	Probing Superconductors using Point Contact Andreev Reflection
4.	Prof. David Jiles, USA	Feb. 2006	Non-linear magnetic materials

Other Activities/Achievements:

- Dr. M.S. Ramachandra Rao joins the editorial board of the J.Phys.D:Appl.Phys (Institute of Physics (IoP) journal). Prof. M.S.Ananth, Director, IIT Madras had recommended Dr.Rao's name and subsequently the journal editorial committee has chosen him as a member (from India) of the editorial board of JPD.
- Dr.M.S. Ramachandra Rao was invited as a Materials Panel Member, of The Naval Research Board (NRB), to a meeting held at Ambarnath, Mumbai on 25th November.
- PhD thesis: A PhD thesis entitled "Magnetic and Electrical transport studies on Pr_{1-x}Sr_xMnO₃ (0.2 ≤ x ≤ 0.3) colossal magnetoresistive manganites" under the supervision of Dr.M.S.Ramachandra Rao has been completed in March 2006

5.3 SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY

5.3.1 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.

5.3.2 Academic Programmes :

New Courses Introduced :

Sl. No.	Title	Faculty
1.	Special Course on EPR spectroscopy to students in Biotechnology/ Chemistry Departments started in March- May 2005	Dr.P.T.Manoharan

5.3.3 Faculty and their activities:

Faculty:

Name and Qualification	Major area of specialization (only 3 areas)
Professor: Dr. A.K.Mishra (HEAD)	Flourescence Spectroscopy, Physical Photochemistry
Associate Professor: Dr.T.Pradeep, Ph.D	Chemical Physics, Spectroscopy, Ion Chemistry, Monolayers, Clusters
Assistant Professor: T.S.Sampath Kumar, Ph.D	Biometerials, Surface Sciences, Analytical Instrumentation.
Visiting Faculty: Dr. P T Manoharan, INSA Sr. Scientist FNA, FASc, FTWAS, FWIF	Spectroscopy, Bioinorganic Chemistry
Scientific Officers: Dr.M.S.Moni Dr.R.Murugesan Dr.Babu Varghese	NMR Spectroscopy Mass Spectroscopy X-ray crystallography

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

Sl. No.	Co-ordinators	Title	Period & Venue
Short – Term Course			
1.	Prof. P.T.Manoharan	A Course on EPR spectroscopy given to the students of Biotechnology/Chemistry Departments.	April-May 2005

Short-term courses /Workshops/Seminars/Symposia/Conference /Training attended by the faculty members in Academic institutions and Public Sector undertakings:

Sl. No.	Name of faculty	Title	Period	Venue
(i) Workshop:				
1.	Dr. R. Murugesan	DST Meeting on Mass Spectrometry.	12 th September 2005	SAIF, CDRI, Lucknow
2.	Dr. R. Murugesan	Theme Meeting on Mass Spectrometry	21 - 23 rd December 2005	IGCAR, Kalpakkam

(ii) Seminar:				
1.	Dr. R. Murugesan	National Seminar on crystal growth and characterization of single crystals.	20-22 January 2006	Hindu College, Nagercoil

Special Lectures delivered by the faculty in other Institutions:

Sl.No.	Name of faculty	Topic of Lecture	Venue & Date
1.	P.T.Manoharan	Mechanism of Radical Production in Hemoglobin under Hypoxic condition	University of East Anglia, Norwich, UK June 1, 2005
2.		G-Tensor_theory and Applications	University of Stuttgart, Germany May-24, 2005
3.		Exchange Interactions in Transition Metal Complexes	University of Stuttgart, Germany, May 25, 2005
4.		Multi-spectroscopic Approach to the study of Hemoglobin	University of Stuttgart, Germany, May 26, 2005
5.		A perspective of Biodiesel in India	Chem. Engg. Dept, Michigan State University, USA, June 3, 2005
6.	Dr. R. Murugesan	Applications of Nano Materials	November 20 th 2005 Erode Arts and Science College, Erode
7.		History of Science	Feb 15 th 2006 Vellare Arts and Science College, Erode

Visit abroad by faculty

Sl.No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	P.T.Manoharan	Germany	May 22-29, 2005	Collaborative Research Project + Lectures at Stuttgart University
2.		UK	May 30-June 2, 2005	Lecture in the UK University

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Societies	Level	Author/ Co-author
INSA				
1.	P.T.Manoharan	-	F.N.A.	1985
Indian Academy of Sciences				
2.	P.T.Manoharan	-	F.A.Sc.	1982
Third World Academy of Sciences				
3.	P.T.Manoharan	-	FIWAS	2002
World Innovation Foundation				
4.	P.T.Manoharan	-	FWIF	2002
Chemical Research Society of India				
5.	P.T.Manoharan	-	Treasurer/Vice President	1999-2002 2002-2004
Patron of the Indian EPR Society				
6.	P.T.Manoharan	Indian EPR Society	Patron	2005

5.3.4 Research and Consultancy:

Research Publications:

Total No. of papers published in Refereed International Journals 10

In Refereed International Journals:

Sl. No	Name of Faculty	Title of the paper	Name of the Journal
1.	Sivaji, Krishnan Arulchakkaravarthi Arjunan, Selvakumar, Sellaiyan, Ramasamy, perumalsamy, Sankar, Sambasivam, Babu Varghese	Electron momentum distribution mapping of trans-stilbene single crystal by positron annihilation	Chemical Physics Letters (2005)
2.	Boaz, B.Milton, Mary Linet, J., Babu Varghese, Palanichamy, M., Das, S. Jerome	Growth and characterization of a new nonlinear optical material: Potassium p-nitrophenolate dihydrate (NO ₂ -C ₆ H ₄ -OK-2H ₂ O) with new bonding properties.	Dept. of Physics Journal of Crystal Growth (2005), 280(3-4) 448-454
3.	Mahalingam, Sakkarapalayam, Vijayasradhi, Sivalenka, Aidhen, Indrapat; Babu Varghese	Unambiguous Assignment of the Stereochemistry at the Anomeric Carbon in Methyl--D-C-Aryl-glucopyranoside Derivatives. Department of Chemistry, I.I.T., Chennai, India.	Journal of Carbohydrate Chemistry (2005) 24(3), 321-325.
4.	Siluvai, Gnana Sutha; Babu Varghese; Murthy, Narasimha N.	The perchlorate salt of the novel diprotonated dinucleating ligand 1,3-bis([2-(2-pyridinio)ethyl][2-(2-pyridyl)ethyl]amino)benzene.	Acta Crystallographica, Section C: Crystal Structure Communications (2005), C 61(6) 0380-0382
5.	Rajnikant; Dinesh; Mousmi; Aziz, Nusrat; Babu Varghese;	Structure analysis of 3 β -acetoxy-12-keto-(25R)-5 β - spirostanyl acetate.	Indian Journal of Physics (2005), 79(3), 285-287
6.	Srimurugan, Sankareswaran; Viswanathan, Balasubramanian; Varadarajan, Thirukkallam Kanthadai; Babu Varghese	Microwave assisted cyclocondensation of dialdehydes with chiral diamines forming calixsalen type macrocycles	Tetrahedron Letters (2005), 46(18), 3151-3155
7.	Prasad, M.Arun; Babu Varghese; Sangaranarayanan, M.V.	4-Bromo-2,6-dichloroaniline	Acta Crystallographica, Section E: Structure Reports Online (2005), E61(3), 0758-0759
8.	Tangellamudi, Neelima D.; Varghese, Babu; Sundararajan, Govindarajan	Highly efficient resolution of racemic diethanolamine using (-) camphor-10-sulfonic acid.	ARKIVOC (Gainesville, FL, United States (2005), (11), 137-145)
9.	Rajnikant; Dinesh; Mousami; Varghese, Babu, Sharma, Bandhan	X-ray structural analysis of 1H, 4H-terahydroquinolizino-(9, 9a, 1gh) coumarin.	Indian Journal of Physics (2005), 79(1), 73-75.
10.	Sankar, Muniappan, Bhyrappa, Puttaiah, Babu Varghese, Praneeth, K.K.Vaijyanthimala, G.Meso-tetrakis	3', 5' - di-substituted-phenyl) porphyrins: Structural, electrochemical redox and axial ligation properties.	Journal of Porphyrins and Phthalocyanines (2005), 9(6), 413-422

Distinguished Visitors to the Centre:

Sl.No	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
1.	Professor A. Samuni, Hebrew University, Jerusalem, Israel	March 3-5, 2006	Seminar + Discussion
2.	Professor P.Kuppusamy, Ohio State University, Columbus, Ohio	January 22-23	Academic discussions
3.	Professor C.N.N.R.Rao, JNCASR, Bangalore	August 7, 2005	Academic

5.3.6 Other Activities:

P.T. Manoharan

Member, Standing Peer Review Committee CSIR
 Honorary Professor, JNCASR, Bangalore
 Member, Executive Committee of CONCERT

6.1 CENTRE FOR CONTINUING EDUCATION

6.1.1 Introduction:

The Centre for Continuing Education (CCE) at IIT Madras was established in June 1986 and co-ordinates the Continuing Education Programs of the Institute. The activities of the centre are in-line with the IIT Mission.

- 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

There are several activities in which the faculty can effectively participate and contribute to the Institute's commitment of providing a broad base of learning opportunities. The major activities are:

- Academic Programmes under the Quality Improvement Programme (QIP)
- Short Term Courses under QIP
- Curriculum Development (CD Cell)
- Early Faculty Induction Programme (EFIP)
- Continuing Education Programmes (CEP)
- Web Studio
- Educational Technology Cell
- National Programme on Technology Enhanced Learning

The details of the activities are updated regularly on the website <http://www.cce.iitm.ac.in>

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, 403 faculty members from other institutions have obtained Ph.D degrees and 506 faculty members M.Tech degrees under this programme till 2005 – 06.

Following are the data on Quality Improvement Programme for the year 2005 – 06:

S.No	Detail	Ph. D			M. Tech		
		Admitted	On Roll	Awarded	Admitted	On Roll	Awarded
1	2005-06	25	82	9	17	51	34
2	From inception to till date (2005-06) Ph.D	543	-	403	564	-	506

IIT Madras has been identified as the nodal agency for coordinating the overall admission in the country under QIP for the years 2006 – 07 and 2007 – 08. During the year 2005 – 06, the processing of applications and conduct of interviews by all Major (8) and Minor (17) QIP centre have been completed. The recommendations are being consolidated for presenting to NQCC.

Prog.	No. of Applns.	Rejected	Consd.	Called	Attended	Recomd.	Selected
Ph.D (QIP) 2006 – 07	1222	61	1161	876	580	244	Will be finalized by NQCC-13.04.06
M.Tech (QIP) 2006 - 07	1036	56	980	794	582	338	

6.1.3 Short Term Training Programmes under QIP:

Organization 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 program, 9 courses for a total duration of 12 weeks were held in 2005-06 and 259 teachers of Engineering Institutions as well as a few professionals from industries / R & D organisations have participated in these programmes.

From 1970-71 to 2005-06, 225 programs have been held and 5335 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 such projects were sanctioned during 2005 – 06.

6.1.5 Book Writing Scheme (BWS):

The BWS scheme is designed to encourage text book writing by teachers. During the year 2005-06, 5 faculty members have come forward to write book under this scheme. Five books have been published during the year. 46 books have so far been published under this scheme.

6.1.6 Early Faculty Induction Programme (EFIP):

The quality of technical education basically depends on the quality of teachers. Adequately qualified, highly competent and motivated faculty are becoming scarce in technical institutions all over the country. AICTE has given a high priority to attract bright young persons to teaching profession by launching the Early Faculty Induction Programme (EFIP).

For EFIP – 2004 Training Programme in the Area of Pedagogy and Teaching Skill was conducted by IIT Madras during January 2006. 12 EFIP and 34 QIP Candidates attended AICTE has nominated IISc Bangalore as the organizing institute for the EFIP -2005 scheme in the QIP coordinators' meeting held on 14th June 2005 at AICTE, New Delhi Prof. M.Singaperumal handed over the back up material of EFIP to Prof. Venkatram, Principal EFIP Coordinator.

Under EFIP 2005 totally 78 candidates belong to IIT Madras Zone and all of them were called for interview. Out of these 49 attended the Interview. Finally 32 were recommended under IIT Madras Zone.

6.1.7 Continuing Education Programme (CEP):

Several Short Term Courses were organized under Continuing Education Programme for the professionals from industry and R & D establishments on need-basis. The programmes were conducted as tailor – made programme to suit the requirements of the Industries. Long duration (1 year) certificate programmes and even 2 year 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 2005-06, 710 STCs were conducted benefiting 15803 participants. Approximately 70 to 80 such programmes are organised every year. During the year under review, 81 Short Term Courses have been conducted and 2175 participants attended these programmes.

Under the title Digital Signal Processing 15 courses were conducted during the year. Two certificate programmes of about one year duration were conducted one for BHEL, Tiruchirapalli and another for HAL Management Training Academy Bangalore. IACITE 2006 was conducted with Australian Sponsorship. One SERC Course was conducted during this year. Under the title Telecom Training 9 courses were conducted. Currently 7 User Oriented Programmes (UoP) M.Tech programmes are being offered. One DST Course was conducted during this year.

6.1.8 Other Activities:

IITM COURSES ON THE WEB:

The Web Studio was established by IIT Madras is in operation since last two years to assist faculty members in the creation of course contents supplements / Lecture notes / Quizzes electronically and make them available to the student community. The studio has, through its project associates, offered help in the creation of a total of 21 Courses in the year 2005 and 11 Courses since January 2006.

The web Studio continued to obtain / renew licensed software and upgraded its facilities which now include four Mac G5 workstations and five iMacs. In addition, several PCs were upgraded and new ones bought to ensure that its facilities are extended to meet all content creation activities.

The intranet course and other web sites under management by CCE have all been moved to the e-learning hardware platform, the SUNFIRE 15 K.

Several lectures were delivered by Dr. K. Mangala Sunder, Coordinator, Web Studio, in both National and International Conferences organized by engineering institutions and CDAC'S E- learning activities in Hyderabad. The IT Ministry's E – learning task force was reconstituted by Mr. Pankaj Agarwal, Joint Secretary, Ministry of Information Technology, and Dr. K. Mangala Sunder was requested to continue as its member.

Two Projects were sanctioned, one by the Sun Microsystems as equipment grant to create an e- Learning environment awareness in Schools and another by the Alumni association, IIT Madras to create interactive learning environment in Mathematics, Physics and Chemistry jointly with Carnegie Mellon University, Pittsburgh. The total value of the two Projects is approximately US\$ 1, 30,000/-. Prof. K. Ramesh, Dept of Applied Mechanics had completed the course on, "Advanced Fracture Mechanics" entirely in Flash and received all the support that the Web Studio could offer. The CD is about to be marketed by a private company.

The web Studio and the Educational Technology Cell worked together to deliver the Courses on Computational Engineering through the Internet synchronously to students selected by BHEL, Tiruchirapalli. The network link was established and is functioning quite well.

The web Studio took an important step in the direction of academic collaboration of IIT Madras with Massachusetts Institute of Technology, Cambridge, USA by providing IIT Madras a mirror site for MIT open courseware. The site is being currently updated with the help of MIT and every effort is being made to offer this program along with IIT M Courseware to the students all over the country.

NATIONAL PROGRAMME ON TECHNOLOGY ENHANCED LEARNING (NPTEL):

The concept of distance learning has assumed worldwide acceptance and is becoming quite popular in India. The National Programme on Technology Enhanced Learning, started by all IITs and IISc in June 2003, will provide the country's most important e-learning programme in the coming months.

In the year April 2005 – March 2006, IIT Madras has coordinated the NPTEL Programme through its Web Studio to the point of near-completion. Bulk of IIT Madras commitment to NPTEL Programme (18 Web and 17 Video Courses) have been completed. Four Video Courses and three Pre- NPTEL Courses have been aired in the Ekalavya Channel already. Totally 24 Courses with 762 Units have been telecast.

IIT Madras provided technical assistance in finding suitable Project Associates for IIT Roorkee and also trained four of them before transferring the Associates to IIT Roorkee. In addition, Project Associates from IIT Guwahati associated with NPTEL spent about a month in IIT Madras and trained themselves in content creation through Macromedia and Adobe.

NPTEL Programme implementation committee meetings held in IIT Kanpur, IIT Bombay and IISc Bangalore were coordinated by IIT Madras the NPTEL Website and the IIT Madras NPTEL Web Courses templates were redesigned. The sites are being uploaded with content created under the NPTEL Programme.

The non-linear Video editing facility was completely redesigned during the year and the facilities were fully modernized. The editing facility in IITM is rated as first class facility in the country. The delivery of content to the web is scheduled to be held sometime during May / June of 2006.

6.1.9 Educational Technology Cell:

The Educational Technology Cell was established in 1989 by the Ministry of Human Resources Development, Government of India with an objective to provide the expertise of the faculty of IIT Madras to the Students of IIT Madras as well as several Educational Institutions and Industrial organizations across the country by means of Professional audio Visual equipment.

With its unwavering thirst for technical excellence, ETC has grown to include High end non linear Editing systems to meet the Broadcast requirement of NPTEL video lectures. To meet the additional demands the centre has developed its second broadcast standard studio complementing with the latest lighting systems and integrating equipment with a seating capacity of over 100 students. The studio has facilities for video conferencing too.

The latest inclusion in the studio is a facility for linking EDUSAT – the exclusive Educational satellite Inaugurated by the President of India during 2005.

Total time of Video recording (inclusive of trials & finals)	: 415 hrs
Total time of Post Production	: 1950 hrs
Video Lectures	: 310 hrs (includes online format conversions)
Video for documentaries / Seminars / Conferences	: 105 hrs
Non-linear Editing	: 1750 hrs (includes format conversions)
LCD Projection	: 310 hrs

About 1148 lectures in video have been supplied to various Engineering Institutions and R&D establishments.

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. V. Kalyanaraman (Upto 5.3.2006)
Prof. T. T. Narendran (From 6.3.2006)

Staffs:

Dr. D. Balakrishnan Chief Techno Economic Officer
Sri R. Sundaram Senior Techno Economic Officer
Sri V Suresh Senior Techno Economic Officer
Sri G. Ravichandran Assistant Registrar (F&A)

6.2.2 Sponsored Research:

113 projects of value totaling to Rs. 2837.81 lakhs were taken up by the Institute during 2005 -2006 as given below.

Sl. No.	Sponsoring Agency	No. of Projects	Sanctioned Value (Rupees lakhs)
1.	Aeronautical Development Agency	1	85.00
2.	Aeronauticas Research & Development Board	2	17.07
3.	All India Council for Technical Education	1	10.50
4.	Alumni Association	3	73.21
5.	Combat Vehicles Research and Development Establishment	1	3.30
6.	Council of Scientific and Industrial Research	9	125.85
7.	Defence Research and Development Laboratory	1	195.96
8.	Defence Research and Development Organization	6	133.13
9.	Department of Biotechnology	3	85.09
10.	Department of Information Technology	2	131.08
11.	Department of Science & Technology	25	922.64
12.	European Union	1	14.20
13.	FCP	1	6.83
14.	Heavy Water Board	1	3.26
15.	Indian Institute of Science, Bangalore	1	1.60
16.	Indian Space Research Organization (including Respond)	12	224.87
17.	Indira Gandhi Centre for Atomic Research	9	107.07
18.	Indo-French Centre for the Promotion of Advanced Research	1	16.73
19.	International Foundation for Science	1	2.95
20.	London School of Hygiene & Tropical Medicine	1	74.26
21.	Microsoft Research Labs India Private Ltd.	1	6.45
22.	Ministry of Human Resource & Development	19	295.50
23.	Naval Research Board	6	127.53
24.	Novatium	1	36.60
25.	Open Silicon Research Pvt. Ltd.	1	2.76
26.	Silicon Laboratories Inc.	1	4.36
27.	Space Application Centre	1	14.60
28.	Technology Information Forecasting and Assessment Council	1	110.00
29.	Others & Additional grants	-	6.00
Total		113	2837.81

This includes International Collaborative and Industry Sponsored Projects.

6.2.3 Consultancy Programmes:

533 Consultancy assignments of value totaling to Rs 1324.33 lakhs, 52 Research Based Industrial Consultancy for a total value of Rs. 532.66 lakhs and 465 Institutional Consultancy assignments for a total value of Rs. 694.28 lakhs were taken up during 2005-2006, apart from additional grants to the tune of Rs. 54.31 lakhs for the on-going consultancy assignments. Also 16 faculty members were retained as consultants by various industries for a total fee of Rs. 42.96 lakhs.

6.2.4 New Faculty Scheme:

A new faculty member is given a seed money of upto Rs. 5.00 lakhs by IIT Madras to initiate activities in the field of his research interest and to enable the faculty members to interact with organizations that sponsor R & D projects. 22 proposals were approved for funding under the New Faculty Scheme for a total sum of Rs. 108.70 lakhs.

6.2.5 Industrial Associateship Scheme:

258 Industries are members of this Scheme (Large scale 31, Medium scale 128 and Small Scale 99). The following six Technology Appreciation Programmes were organized during the period under report:

- Acoustics and Noise control for Industry
- Bio Process Technologies for New Generation Bio Pharmaceuticals
- Ergonomics of Computer Centric Workplaces
- Reverse Engineering
- Fuel Cells
- Engine Technology

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. 18 on-going projects totaling to a value of Rs. 271.72 lakhs were continued and 11 new projects for a value of Rs. 178.06 lakhs were taken up during the year 2005-2006.

Short Term Courses on "Computer Networking" by Dr. Hema A Murthy, Dept. of Computer Science and Engg. And "Digital Signal Processing" by Prof. K.M.M. Prabhu, Dept. of Electrical Engg., were arranged during August - October 2005, for Scientists from SDRC, ISRO.

IGCAR-IITM Cell:

Two on-going projects were continued during 2005-2006, totaling to a value of Rs. 31.03 lakhs and 9 new projects for a value of Rs. 107.07 lakhs were taken up during the year 2005 – 2006.

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. A write-up on the activities of the projects are given below.

Socially Relevant Projects:

S.No	Title of the Proposal	Name of NGO
1.	Self Powered Palmyrah Tree Climber	SEVA, Madurai
2.	Treatment of Sullage in Rural Areas	Byrraju Foundation
3.	White clay disposable cups	Individual Entrepreneur
4.	Design and development of a ventilation system for the soap unit	Gandhigram Trust
5.	Design and development of a ventilation system for the Sidha medicine unit	Gandhigram Trust
6.	Development of a Humane sewer cleaning system	Public request
7.	Housing and Rehabilitation for Tsunami Victims	Initiated by IIT Madras
8.	Development of Devices for individuals with Cerebral Palsy	Initiated by IIT Madras

Rural Technology Action Group:

Projects in Progress:

Preparation of database and a web site on rural technologies have been initiated to bridge information gap on technologies.

Formation of a few Village Knowledge centers is also in the offing. One or two villages are proposed to be taken up as model villages and technological inputs given for the overall benefit.

Sub-Projects:

The following sub projects have been initiated under the project so far.

Sl.No.	Title of the proposal	NGO	Expert Institutions
1	Natural Dyes	Gandhigram Trust	IIT Madras
2	Developing Physical and Bio-chemical parameters to determine the quality standards in selected Siddha and Ayurvedic Preparations	Gandhigram Trust	IIT Madras
3	Modernization of coir spinning rath	Small Industries Service Institute	IIT Madras
4	Lighting system with solar powered LED based Lamps for remote and rural houses	Tribal health initiative Kuthambakkam Village	NIOT
5	Delineating surface fracture and shear zones in rock terrain for identifying potential for ground water in Dindigul District	Gandhigram Trust	NIOT
6	Sanitary Napkins	Gandhigram Trust	Kumaraguru College of Technology
7	Artificial Foot	Gandhigram Trust	CLRI
8	Mud Blocks for Low cost Housing	Pothu Vivasayeegal Sangam	IIT Madras
9	Low Bed Tractor Trailer	Pothu Vivasayeegal Sangam	IIT Madras
10	Banana Fibre Extraction Machine	Industree crafts foundation	PSG College of Technology, Coimbatore
11	Solar Energy Operated Tricycle for rural Physically Challenged	The Spastic Society of Tamil Nadu	Anna University

L-RAMP – Key Activities and Achievements:

Applications Received for Incubation: Seventy (70) Applications Received by L-RAMP as of 22nd Feb. 2006; Of these thirty seven (37) have been received since Oct. 1st 2005.

Applications Screened at Steering Committee (SC) Meetings: Forty (40) Applications have been presented to the SC. Of these, five (5) have been selected by SC for presentation to Advisory Board for incubation support.¹ Two applications have been selected for proposal development².

Applications Selected by Advisory Board (AB): Three (3) Applications³ presented to AB and selected by the AB on 31st Oct 2005. Two (2) Applications to be presented to AB on 1st March 2006.

MoUs with Four Nodal Institutions have been signed. These Institutions are PSG-Tech (Coimbatore), Tamil Nadu Agricultural University (Coimbatore), Gandhigram Rural Institute (Dindigul) and Vellore Institute of Technology (Vellore).

MoUs for Innovation Incubation have been signed with Three (3) Innovators Selected by AB on 31st Oct. 2005. First Installment has been Disbursed to all three innovators.

Innovator Familiarization Workshops were held at PSG-Tech, Gandhigram, and IIT-M in Dec. 2005 and Jan. 2006. Participants for these workshops were selected from the Innovator Awards database.

Business Plan Competition was conducted by L-RAMP in association with the TANSTIA-FNF centre of Tamil Nadu Small and Tiny Industries Association (TANSTIA). Thirty five applications were received. Eleven Finalists were invited for presentation before a jury at IIT-M on 18th January. Awards were given to 3 selected finalists at an Awards Ceremony held on 25th Feb. 2006.

L-RAMP participated in Shaastra 2005, an annual event organized by students at IIT-Madras focused on technical design competitions, lectures and workshops. L-RAMP sponsored prizes for the open category of ENGENIOUS, a design competition conducted during Shaastra 2005. An information stall was set up by L-RAMP during the three-day event.

¹ Two more (Sugarcane detraser and Incense Stick Making Machine) were selected by the Steering Committee. However, in both these cases, specific issues pertaining to the innovators arose preventing further support from L-RAMP. These innovations could still be taken up by L-RAMP if these issues are sorted out in the near future.

² These innovations are (1) Multipurpose Stove and (2) Mini Power Weeder

³ These innovations are (1) Asthma Inhaler, (2) Fuel+ and (3) Suncon Cooker.

A Survey of Innovators was conducted by the L-RAMP team, with the lead taken by Anand Krishnaswamy. Thirty seven innovators, randomly selected from the Innovation Awards database, were interviewed for this study. A report has been compiled.

Workshop on Intellectual Property Rights (IPR) was conducted for the L-RAMP Team by Global Business Solutions, a Chennai-based firm that offers a full-range of services related to IPR.

Workshop on Preparing and Evaluating Business Plans, was conducted for the L-RAMP team by two members of IndiaCo , a for-profit technology and business incubator based in Pune.

First L-RAMP Newsletter (to be launched at 4th AB meeting on 1st March 2006)!

6.2.7 Distinguished Visitors to the Centre:

The following visited the Institute during the year 2005-06, for Collaborative Research.

S.No	Visitor(s)	Organization	Date
1.	Dr. R. R. Sonde, Executive Director	NTPC	22.07.05
2.	High Level Executives	Caterpillar, USA	07.08.05
3.	A team of executives	M/s. Satyam Computer Services Limited	09.08.05
4.	Shri. B. Siddarthan, Adviser	Royal Norwegian Embassy, New Delhi	05.09.05
5.	Shri. R. Krishnan, General Manager & Shri. D.K. Laad, Addl. General Manager (E.M.E)	BHEL, Bhopal	September & October 2005
6.	A team of executives	M.s, W R Grace Construction Chemicals (Mass) USA	14.09.05
7.	Shri. P. R. Bindhumadhavan IAS, Member-Secretary & Nodal Officer	State Planning Commission	21.09.05
8.	Brig AVM VK Verma	DRDO	04.10.05
9.	Dr. Ramkumar Saptharishi Manager, Product Innovation	GE Healthcare Technologies	14.10.05
10.	Dr. Vedagiri Velpari & Dr. N.G. Nair former Head, CTC, IIT Madras	M/s. PPG Corporation, USA	18.10.05
11.	Dr. Vida Ilderem Vice President & Director	Motorola Inc., USA	25.10.05
12.	A team of delegates	M/s. Mahindra & Mahindra	16.11.05
13.	Prof. Lynn Orr, Director and Dr. Richard Sassoon, C.E.O	M/s. Global Climate and Energy Project (GCEP), Stanford University	30.11.05
14.	Ms. Mary Koshy, General Manager	M/s. Extreme Network India	08.02.06
15.	Dr. S. Paramasivam	M/s. Vestas RRB India Ltd., Chennai	March 2006
16.	Mr. Jean Claude & Mr. S. Nachiappan	M/s. Saipem India Projects Services Limited, Chennai	March 2006
17.	Mr. G. Krishnan	M/s. Sundaram Fasteners Ltd. (Autolec Division)	March 2006

6.2.8 MoUs Agreements signed

31 new MoUs / Agreements have been signed by IIT Madras with the following 29 organizations / Institutions during 2005-06:

1. Bruker BioSpin AG Fallanden, Switzerland
2. Altera International Limited (ALTERA), Hong Kong
3. High Energy Batteries (India) Ltd.
4. Institute of Cardio Vascular Diseases, Madras Medical Mission
5. TIFAC
6. DRDL, Hyderabad
7. Latticebridge Info Tech (P) Ltd, Chennai
8. Vikram Sarabhai Space Centre (VSSC), ISRO
9. Motorola India Electronics P Ltd., Bangalore
10. Thermax Limited, Pune
11. Siemens Ltd., Bangalore
12. Degussa Construction Chemicals Italia spa, Italy.

13. Steel Authority of India Ltd., R&D Centre for Iron and Steel, Ranchi
14. Tata Motors Ltd., Mumbai
15. Combat Vehicles Research and Development Establishment (CVRDE)
16. Bharat Heavy Electricals Limited, (BHEL) Trichy & Bhopal.
17. Essilor International, France & M/s. Essilor Research and Development Centre, Singapore
18. Corning Incorporated, USA
19. National Institute of Design, (Ahmedabad, Gandhinagar, Bangalore)
20. Heavy Water Board, Mumbai & IGCAR, Kalpakkam
21. HTSL Technology Solutions Laboratory Pvt. Ltd., Bangalore
22. Madras Institute of Nephrology, Chennai
23. Water Resource Organization, Public Works Department, Madurai
24. DRDO, Delhi.
25. Bajaj Auto Limited, Pune
26. Novatium Solutions (P) Ltd.
27. Central Pollution Control Board (CPCB), Delhi.
28. BHEL, Bhopal.
29. Nexge Technologies (P) Ltd., Chennai.

6.2.9 Patents:

Details of patent applications filed during the year are given below:

Sl. No.	Title of the Invention	Inventor(s)	Dept.	Date of filing the application
1.	A Method of Manufacture of a Device to Monitor the Flow of Liquids & a Device Manufactured by the said Method	Prof. T. Pradeep	CY	11.8.05
2.	Boron Carbide Powder & a Method of Manufacture thereof	Dr. T.S. Sampath Kumar	MM	12.5.05
3.	A Method of Detecting the Change in Concentration of an Organic Dye in a Sample	Dr. Prem B. Bisht	PH	19.5.05
4.	Carbon Nanotubes and Their Synthesis	Dr. S. Ramaprabhu	PH	12.8.05
5.	A Novel Shoot Culture Bioreactor System for Cultivating Shootlets under Controlled Conditions	Prof. G. K. Suraish Kumar	BT	12.5.05
6.	A Device for Converting Single Phase AC to Three Phase Balanced AC	Prof. P. Sasidhara Rao	EE	28.9.05
7.	An Axial Flow Impeller with Twistless or Single Curvature Shape Vanes or Blades particularly, though not Exclusively, for Axial Flow Turbomachines	Prof. S. Kumaraswamy	ME	14.9.05
8.	An Improved Stage Procedure for the Synthesis of Cross-linked Polyallylamine Hydrochloride	Prof. S. Sankararaman	CY	20.2.06
9.	Synthesis of Various Salts of Cross-linked Polyallylamine Polymer by Ion Exchange Metathesis			20.2.06
10.	A Device and a Method for the Preparation of Oxygen for Artificial Infusion in Human Blood	Prof. A. Subrahmanyam	PH	13.3.06
11.	Power and Area Efficient Adaptive Equalization	Dr. Y. Shanthi Pavan	EE	
12.	Improved Integrated Circuit Implementation for Power and Area Efficient Adaptive Equalization			
13.	Manufacture of Single Walled Carbon Nanotubes Providing Visible Emission for Imaging of nanostructures	Prof. T. Pradeep	CY	13.3.2006
14.	A Broad Band Wireless Communication System	Prof. Bhaskar Ramamurthi, & CEWT	EE	20.3.2006

6.2.10 Publications:

- The quarterly publication titled IIT Madras News was continued.
- An updated version of the publication on "Research and Consultancy Expertise and Facilities" was brought out.

6.2.11 Industrial Lectures:

Industrial lecture by Prof. Klein on the following topics were held between 14th and 15th February 2006 for our industrial associate members, which was organized by Dr. N. Siva Prasad, Dept. of Mechanical Engg.

- Progress in Hydroforming Technology – A special kind of sheet metal forming.
- Shell Design Strength of Industrial Valves.
- Progress in Simulation Technology of Mechanical Structures for Automotive, Nuclear and General Mechanical Engineering Applications.

6.2.12 Other information:

- An International Workshop on "Modelling of Tsunamis: Generation, Propagation and Impact", was organized jointly by IIT Madras and Tata Consultancy Services, at IIT Madras on 1st and 2nd April 2005.
- IPR Policy of IIT Madras was released on 26th April 2005 being IPR Day. De Penning & De Penning, the patent attorneys gave a lecture about the new Patent Act and its implications.
- Technology day was held on 11th May 2005 with Shri. B. Santhanam, Managing Director, M/s. Saint-Gobain Glass India Ltd. as the Chief Guest and gave a lecture on "Technology as an Enabler".

6.3 CENTRAL ELECTRONICS CENTRE

6.3.1 Introduction:

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 need for training service engineers for maintaining the electronic equipment was felt and an 18 month training program, the first of its kind, in the country was started in the same year. Since then, conducting such long term Training Programs has become one of the important activities of the Centre. 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.

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.

This Centre has lent its expertise in the above areas to more than 225 industries and other organizations in and outside the country.

As a part of Tailor Made Training Programs, four special 12 weeks Training Programs of unique in nature have been organized to retrain the Radio Officers of Merchant Navy to become Electro-Technical Officers. The project was sponsored by AMET (Academy of Maritime Education and Training), Chennai.

In the area of Renewable Energy too, this Centre has been playing a key role by conducting several Training Programs in the area of Solar Photo Voltaic (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 its services. Also, the Centre received NABL Accreditation for Testing and Calibration Laboratories in accordance with ISO/IEC 17025 Standards.

6.3.2 Activities:

Training Programs:

Long Term CEC Training Program

XXI Batch of Training Program (2 years duration) with 20 candidates commenced on 24th October 2005. The total number of candidates in XX and XXI Batch of CEC Training Programs are thirty nine.

6.3.3 Design and Development activities:

a. Following Laboratories have been expanded and a part of them have been moved to the newly constructed Extension of the Centre.

1. Training Laboratories
2. Calibration Laboratories
3. Testing Laboratories
4. Solar Photo Voltaics Laboratories

b. List of Major Equipment procured

1. Microprocessor Trainer Kits
2. PIC series Microcontroller Kits
3. GSM Development Kits
4. 30 kVA UPS
5. Wheelflow Meter
6. 1 kVA AC Drives
7. Digital Oscilloscopes

6.3.4 Research and Consultancy:

S.No.	Co-ordinator	Title of Project	Organisation	No of Assign.	Project value Rs. in Lakhs
1	Dr.M.Kumaravel	Fault Analysis of Intelligent Battery Chargers/Torque Wrenches/Indicators	Ford India P. Ltd	9	2.22
2	Dr.M.Kumaravel	Fault Analysis of MGC and F/E Boards	Kody Tech. Ltd.	2	0.65
3	Dr.M.Kumaravel	Fault Analysis of MGC, F/E Boards for Ultra Scanner and CRT Boards	Welcare Electronics	3	0.93
4	Dr.M.Kumaravel	Fault Analysis of RF Impedance Analysers	TT Electronics	1	0.50
5	Dr.M.Kumaravel	Evaluation of UPS	LIC of India	9	0.40
6	Dr.M.Kumaravel	Common Approval	Airbees, Tetra Controls and Kodytechn Ltd	3	0.33
7	Dr.M.Kumaravel	Fault Analysis of Video Control Board	TNCA	7	12.44

Research Publications:

Dr.M.Kumaravel attended the International Conference on "2005 ISES Solar World Congress" at Orlando, USA from 5.8.05 to 12.8.05. He presented a paper on "Solar Photo Voltaic Powered Seawater Desalination Plants" during this Conference.

He was invited to serve in the PV Expert Committee to draw the Project Proposal for Installation of the Large scale PV Plant. He attended the meetings at Rashtrapathi Bhavan on 24.10.05 to 25.10.05, 11.12.05 to 12.12.05 and 13.1.06 to 14.1.06.

Dr.M.Kumaravel and Mr.C.R.Jeevandoss attended the International Conference on Renewable Energy (ICORE) 2006 at Hyderabad from 9.2.06 to 11.2.06 and presented the following two papers.

- "Performance of SPV – BioDiesel Hybrid System Powered Seawater Desalination Plant" by Dr.M.Kumaravel, Mr.C.R.Jeevandoss and Mr.P.Sadasivam.
- "Portable I-V Curve tester for Field Performance Evaluation of SPV Modules" by Dr.M.Kumaravel, Mr.C.R.Jeevandoss and Ms.G.Amutha.

Dr.M.Kumaravel participated in Round Table Discussion during this Conference on 10.2.06 for preparation of "SPV Road Map" in India as an invited Expert. He delivered an invited talk on "Training of Technical Personnel in the area of SPV" on 11.2.06. Also he chaired one Technical Session on "Solar Products and Interaction with Solar Industries" on 11.2.06.

In recognition of conducting SPV Training Programs and building the manpower in the area of SPV, Solar Energy Society of India (SESI) Award in the area of "Training and Capacity Building" was presented to IIT Madras by Union Minister for MNES during this conference.

Ms.N.Karthiyayini, MR.C.R.Jeevandoss and MS.K.Sulochana have been qualified by NABL to serve as their Assessors for conducting the Audits at NABL Accredited Laboratories.

Ms.N.Karthiyayini visited Sriram Institute for Industrial Research, Bangalore on 11.3.06 and 12.3.06 to conduct NABL Audit.

Mr.C.R.Jeevandoss visited ETDC, Chennai on 5.4.06 and 6.4.06 to conduct NABL Audit.

6.3.5 Other Activities:

IIT Madras HRD Programs:

Following 14 Training Programs for IIT staff have been conducted and a total of 146 staff members were trained.

S.No	Date	Course Title
1.	12.09.05	Overview of ISO 9001:2000
2.	19.09.05	Measurement of Electrical Parameters
3.	03.10.05	Laboratory Quality System Management Practices
4.	31.10.05	Reliable Soldering Practices
5.	14.11.05	Basics of Electronics and Equipment Maintenance
6.	28.11.05	Calibration Philosophy and Estimation of Uncertainty in Measurements
7.	08.12.05	Testing and Performance Evaluation of Stabilizers and UPS
8.	19.12.05	Multimeter Calibration Practices
9.	09.01.06	Basics of Oscilloscope Measurements
10.	23.01.06	Transducers and Their Applications
11.	06.02.06	Electronic circuits – Basics
12.	20.02.06	Maintenance Aspects of Stabilizers and UPS
13.	06.03.06	Wiring and Testing of Basic Electronic Circuits
14.	23.03.06	Basics of Digital Circuits

Ongoing Development Activities

- Solar Photo Voltaic powered Seawater Desalination ('Suryajal') Systems.

Staff Strength

- The Centre has 10 Technical and 4 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. The Centre started its services in 1974 with an IBM 370 Mainframe for batch processing, and graduated to SIEMENS 7580-E interactive computing in 1985, after nearly a decade. The Siemens system was complemented with an MX500 Unix system for the local and remote terminal management. In line with technology changes, Mini Computers and Personal Computers were introduced in a modest way.

The system services were expanded to include application services starting with payroll processing, and over a period of time were extended to applications such as admissions and academic enrolment across the Institute. In 1995, the client-server environment involving IBM RS 6000 models 590 and 370, and a cluster of servers on a high-speed network replaced the Siemens system. Now in 2005, the High Performance Computing Environment in the Centre is defined by a 2x32-CPU IBM p690+ servers, 2x64 CPU SUN Fire 15K servers, and an Itanium-based 2x16 CPU SGI Altix 350 servers with an aggregate of about 200 RISC/ITANIUM CPU power, and is poised for a growth to ~2000 64-bit CPU system to tackle problems in the Bio & Nano age.

Whereas this provides support to scientific computing on the campus, the administrative computing is currently being enlarged through a data centre concept, leading to an institute-wide paperless office through seamless integration of the departmental and central administration units. A high end server consisting of a 64-CPU Xeon Cluster based on HP system including 6 TB SAN storage forms the core of this implementation.

With its administrative merger with the Dept. of Computer Science & Engineering in 2004-2005 and through the concept of ICE: Integrated Computing Environment, Computer Center has made a paradigm shift by re-defining its role to provide Central Computing and Information facilities and distributed access through a very powerful and seamless networking infrastructure — whereby significant portion of the Logical Infrastructure from Cable Plant to the Directory Services are shared across the campus by one and all.

The network of the campus today has four parts: a Central Core running at the speed of 10 Gigabits per second, and three zones – Academic, Hostel and Residential. The spread of nodes in the last count was about 2000, 4000 and 1050 respectively. The bandwidth of the Internet was upgraded to 32 Mbps.

In view of the proliferation of the use of desktop PC's, the Centre runs a PC Maintenance cell to provide services through repairs and maintenance of PCs and peripheral devices in the institute, including those used in projects. The on-going administrative computerization efforts through data centre will typically 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 |

6.4.2 Details of Staff:

Title/Name and Qualification

Major Area of Specialization

Head

Prof. T.A. Gonsalves

Design and performance of computer and Telecom networks. With emphasis on Innovative and low-cost product and technology development for Indian and International Industry. Fostering software development in Small towns and rural areas.

Senior Systems Engineers

Jayaprakash S, Ph.D.
Ramesh S.K, M.S

Software Engineering / Computer Networks
System Administration, MIS, Data Management, Data Processing, System Programming.

Systems Officer Gr.I

Sourirajan C.S., M.Sc.

System Administration, Programming Languages, Application Software Development, Data Centre infrastructure and related activities

Assistant System Engineer

Baman Banavath B.Tech.

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(C.S)

Computer Networks, Database Management Systems, Systems Administration.

PC Maintenance Cell

In-Charge - *Mr. V. Ravichandran*, Technical Officer Gr.I (Systems). The PC Maintenance Cell shifted from Mechanical Sciences Block to Computer Centre (First floor).

Senior Technical Assistant

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).

Technical Assistants

Venkata Subba Rao T., B.Tech. (CSE)

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 and Repair to PC Cell Trainees.

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

Selection of Trainees for the PC Maintenance Cell:

PC Cell Trainee selection was done on 21.12.05. 95 candidates were called for written test (out of 155) and 62 attended. 35 candidates were selected for practical test. 25 were short listed for interview, and finally the following 10 candidates were selected.

Trainees:

- | | |
|-----------------------|---------------------|
| 1. V. Senthil Murugan | 6. E. Deivasankar |
| 2. C.M. Jothilingam | 7. S. Kalyanaraman |
| 3. C.K. Prabhakaran | 8. P. Srinivasan |
| 4. R. Jaya Ganesh | 9. R. Palanivel |
| 5. T. Balasundaram | 10. B. Buvaneshwari |

GATE and JMET Examinations

Mr. S.K. Ramesh and Mr. V. Ravichandran assisted in the successful conduct of the GATE 2005 and JMET 2006 examinations.

JEE 2005-2006 Data Processing

Mr. Sreekumar P Y assisted in the successful conduct of the JEE 2006 related computer operations that included Applications query on Web/IVR, Data Processing, and results publishing in Web/IVR.

McAfee Antivirus

Server-based McAfee Antivirus Security Suite (AVSS) software from McAfee 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. This activity is co-ordinated by Dr. S. Jayaprakash and is executed by Mr. D. Hariharan.

Seminars / Lectures / Other activities

- SGI Altix System Administration Training was conducted by M/s. SGI for CC Staff members/ System Trainees during March 2005
- 14 Systems Trainees were recruited and deputed to various Departments during May 2005.
- Residential Zone Network has been established on 31.05.2005.
- Computer Centre staff conducted Orientation for incoming Ph.D and M.S. Scholars, M.Tech. and M.Sc. students on 12.08.2005.
- PC Maintenance Cell has been shifted to the first floor of Computer Centre.
- Computer Centre conducted Star CD Basic Training Programme during September 2005.
- Internet connectivity is upgraded from 8 Mbps to 34 Mbps during October 2005.
- Microsoft conducted a Workshop Technologies for MSDN Academic Alliance on 16.11.2005 in Computer Centre. 50 participants from various departments attended the Workshop.
- Fluent software enhanced with additional features during December 2005.
- Matlab Workshop held on 31.01.2006. 60 nos. of participants attended the same.
- Training on Active Directory Service (ADS) conducted by Microsoft on 13.03.06-17.03.06.
- Training on DOT Net conducted by Microsoft on 20.03.06-24.03.06.
- Delivered a Lecture on Internet & Security at Policy Training College, Chennai on 19.12.05 and 27.02.06.
- Dr. S. Jayaprakash Conducted Ph.D Viva-voce Examination as Examiner at Bharathiar Univ., Coimbatore on 30.12.2006.
- Institute payroll related computerization, which called for some modifications, was attended to by Mr.S.K. Ramesh.
- A Software was developed by Mr.S.K. Ramesh for the Centre for Continuing Education towards online application processing and selection of QIP Candidates across the country.

Memberships of Committees:

Dr. S. Jayaprakash was invited to serve as an Expert Member, 'e-Governance Advisory Committee', Govt. of Pondicherry.

Dr. S. Jayaprakash was invited to serve as a Technical Member 'e-Governance Advisory Committee' at University of Madras

Mr. C.S. Venkatesan, Asst. Systems Engineer was enrolled as a Life Member in ISTE from 2004.

Institute Projects:

S.No.	Title	Coordinators/ Staff
1.	Campus Network	Dr. S. Jayaprakash Mr.P.Y. Sreekumar Mr.C.N. Vijayaraghavan Mr. Banavath Baman Mr. D.Hariharan & Mr. Sriram Bhaskar
2.	Hospital Information System, BBS	Mr. S.K. Ramesh & Mr. Banavath Baman
3.	JEE Data Processing	Mr. P.Y. Sreekumar
4.	GATE Data Processing	Mr. S.K. Ramesh & Mr. V. Ravichandran
5.	M. Tech Admission	Mr. S.K. Ramesh & Mr. V. Ravichandran
6.	Academic Processing	Mr. S.K. Ramesh & Mr.C.S. Venkatesan
7.	Hostel Pay roll System	Mr. C.S. Sourirajan & Mr. V. Ravichandran
8.	Teachers Evaluation (processing)	Mr. C.S. Sourirajan
9.	Teachers Evaluation (on line feedback)	Mr. P.Y. Sreekumar
10.	Anti-virus facility	Mr. D. Hariharan & Mr. Sriram Bhaskar
11.	Institute pay roll	Mr. S.K. Ramesh

7. CENTRAL FACILITIES

7.1 Central Workshop Facilities

Central Workshop was established in the year 1959. Initially it consisted of shops associated with three major production processes, i.e. metal cutting, metal joining and metal forming. Later on, sections of other modern production processes were added.

Presently Central Workshop of our Institute is having the following shops and sections and their activities during the period April 2005- March 2006 are given below.

S.No	Shops	Facilities
1.	Carpentry	Planning, crosscutting, turning, thickness reduction, polishing, teeth sharpening, blade sharpening and grinding
2.	Fitting & Tool Room	Filing, drilling, tapping, jig boring, tool milling, engraving, marking, slotting, grinding and cutting
3.	Machine Shop	Shaping, milling, turning, planning, 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	Pressure testing facilities upto 1000 kg, NC trainer lathes, milling machines
7.	Welding Shop	Arc welding, gas welding, brazing, & profile cutting.
8.	Foundry Shop	Oil fired furnace, cupola & sand plant
9.	Smithy Shop	Hand forging, power hammer, heat treatment & hardness testing
Sections		
10.	Pneumatics and Hydraulics	Festo training kits with valves, Electromagnetic Kit, PLC to demonstrate Pneumatics, Practical demonstration like auto wheel brake system. Weight lifting equipment for demonstration from Eukon Bosche. Hydraulic Kit with valves for Students. Bosche 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.	Communication Lab	Introduction to basic communication systems. Need for modulation. Analog modulation techniques. Demonstration for optical fiber communication.
15.	Quality Control Lab	Measurements, Metrology Terminologies, Measuring instruments properties, Calibration Standards, Traceability and Errors in Measurements.

ISO 9001/2000 recertified in 2005 and valid up to October 2008

Besides the above, Central Workshop also bears the responsibility of maintaining institute vehicles (Light and Heavy, 16 Nos.) and the environment friendly Battery powered electrical vans (11 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 527 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.

Sl.No	Department	No. of students	Training received in
1.	Electrical Engineering	99	Fitting Electrical Electronics Carpentry Welding
2.	Engineering Physics	8	
3.	Mechanical Engineering	102	
4.	Metallurgical & Materials Engg.	32	
5.	Aerospace Engineering	31	

6.	Chemical Engineering	60	Turning Pneumatics & Hydraulics Plastics & FRP Milling & Shaping Foundry Smithy Gear & Tool room Quality control & Communication
7.	Naval Architecture & Ocean Engg.	23	
8.	Civil Engineering	63	
9.	Bio- Technology	44	
10.	Computer Science	38	
11.	Engineering Design	27	
Total		527	

ME 209 (3 Credit course) was offered as Advanced Workshop Training for the 3rd & 4th year students of Mechanical Engineering and other department during the summer of 2005 – 2006.

Central Workshop executes fabrication of test set-ups and their accessories related to PhD, PG and UG Projects. 710 Work Orders were executed during the year 2005 – 2006.

Relocation of Shops:

Major rearrangement of various shops in the Central Workshop is being carried out.

Human Resources Development (HRD) Programme for the staff:

Fifteen staff from various shops of the Central workshop were sent for training in fields pertaining to courses conducted in the workshop. These training were offered by

Advanced Training Institute (ATI) ----- Guindy, Chennai

New facilities to be added shortly:

In the year 2005 – 2006 a Microwave test bench was purchased for communication lab to demonstrate to students the use of Microwaves in Communication.

7.2 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 326 Departmental job orders and covered 42 functions as well during 2005-2006.

In addition, Central photographic section has contributed a large percentage of photographs to the Heritage Centre, IIT Madras.

7.3 Air-Conditioning Unit:

The AC Unit is responsible for planning, installations, servicing, maintenance and operation of all central and packaged air conditioning plant, split and window air conditioners, water coolers and refrigerators etc.

7.4 Central Gas Supply Unit:

The Central Gas Supply Unit procures Industrial gases from various manufacturers/suppliers and issues the same to various Departments/Laboratories of the Institute for research and practical deceases.

1. Industrial gases: Oxygen, Nitrogen, Dissolved Acetylene, Hydrogen and Carbon-di-Oxide
2. Special gases : High pure Argon, High pure Oxygen, High pure Nitrogen and Zero Air

The following are two kinds of gases ordered and issued to various Departments during the year 2005-06:

Item	Qty Ordered appropriate	Qty actual Consumption
Industrial gases:		
Oxygen	2500 cm	2079 cm
Dry Nitrogen	3300 cm	4137 cm
Dissolved Acetylene	300 cm	340 cm
Standard Hydrogen	600 cm	588 cm
Carbon –di-Oxide	800 kgs	705 kgs
Special Gases:		
High Pure Argon Gr.I	700 cm	1430 cm
High Pure Oxygen Gr.I	200 cm	196 cm
High Pure Hydrogen	400 cm	59 cm
High Pure Nitrogen Gr.I	1500 cm	2128 cm
Helium	200 cm	130 cm
Zero Air	500 cm	441 cm

7.5 Central Glass Blowing Section:

The Central glass blowing section is one of the important infrastructures facilities of the Institute since 1972. Being a central facility this section undertakes design and fabrication of sophisticated glass apparatus for research and development in various departments.

This section has a range of modern glass working equipments largely procured from Germany as a component of the collaborative program and these include; horizontal cum vertical lathe, universal lathe forming lathe and high vacuum system. The section is also well equipped with a good number of sophisticated burners, drilling and cutting machine, grinding and polishing equipments and such other tools necessary for fashioning out a variety of glass apparatus. The section has adequate facility for quartz working and has developed high level of expertise in this area.

Following are some of the sophisticated apparatus fabricated:

Cryostat, spherical and cylindrical dewer flasks, lugging probe, laser housing tube with water jacker, reactor tube, vacuum tube collector for solar energy and quartz wares.

Senior students from Vanavani Matriculation Higher Secondary School IIT and Sivasamy Kalalaya visited the CGBS and enjoyed a glass working demonstration. A group of 25 students from Singapore University also visited the CGBS during the year and expressed appreciation of quartz working techniques practiced in the section.

During April 2005 to March 2006 the section undertook 359 work orders from various departments.

8. CENTRAL LIBRARY

The Central Library is well equipped with all modern facilities and rich information resources in the forms of CD-ROMs, on-line databases, e-journals, e-books, e-standards, e-patents and various other printed information materials on Applied Science, Engineering, Technology, Humanities, Management, Social Science and other new emerging areas. The Central Library holds 4,04,446 collections and 1208 current journals catering to the information needs of 6,242 members through providing various value added services with the help of modern information handling tools and techniques. The major activities undertaken in the Central Library during the period are given below:

8.1 Library Information Services Statistics

Item	2004-2005	2005-2006
A. Collections		
Books	2,17,281	2,24,199
Ph./D Theses	3,297	3,342
Pamphlets and Reports	3,727	3,853
Microfilms/Fische	1,842	1,842
Book-Bank(General)	6,120	6,163
Book-Bank(Weaker Section)	8,011	8,080
Current Periodicals by Subscription	1,107	1,119
Current Periodicals by Exchange/Gift	86	89
Back Volumes of Periodicals	86,302	89,859
Patents & Specifications	20,000	20,000
German Collection	44,000	44,280
CD-ROMs	787	1,172
Audio/Video Cassettes	436	448
Total	3,93,996	4,04,446
B. Membership		
Staff	576	501
Retired Faculty	325	245
Students	5,285	4,621
Alumni Members	251	269
Corporate Members	88	162
Industrial Associate Members	250	232
Special Members	61	145
Project Co-ordinators	50	67
Total	6,886	6,242
C. Services: Circulation		
Number of Books/Journals issued	92,150	94,395
Number of Books issued Book Bank (GS)	4,673	3,551
Number of Books issued Book Bank (WS)	3,843	3,843
Consultation Cards issued to users	185	190
Overdue & other Charges collected	6,17,243	6,95,154
Xerox Charges collected	3,95,877	2,65,890
D. Permanent Loan to Depts/Centres		
Books Issued	1,554	1,151
E. Inter Library Loan Transactions		
Borrowed from other Libraries	186	250
Loaned to other Libraries	106	128
F. Reprint Service		
Reprints received from other Institutions	566p	824
Reprints supplied to other institutions	1,796p	1,543p
G. Number of Xerox Copies Supplied	5,50,000	5,76,051
H. Expenditure on		
Purchase of Books	Rs.1,35,55,000	Rs.1,14,91,216
Subscription of Journals	Rs.4,74,38,048	Rs.5,02,17,466
I. New Journals Added	60	63

8.2 ISO 9001:2000 Activities:

The Central Library actively participated in ISO-9001: 2000 activities and also maintained quality based library system, services and procedures. Major activities related to ISO-9001: 2000 are listed below:

- Dr. Harish Chandra, Librarian has delivered lecture on ISO Certification and Academic Libraries to the participants of National Workshop on Library and Information Services for Quality Higher Education, organized by NAAC and M.S.Ramaiah Institute of Management, Bangalore on 21-05 2005
- ISO Surveillance Audit was conducted on 02-09-2005
- Various Quality Classification Group meetings were conducted and also rectify 200 books to maintain quality in the classification of books.
- RWTUV Conducted Quality Auditing on 19-10-2005
- Internal Quality Audit was conducted on 22-02-2006

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 programme and policy of the Institute. In this regard, some of the selected initiatives are listed below:

8.3.1 Digital Library Initiatives:

Realizing the importance of digital library in academic and research activities, Central Library has implemented VTLS Library Management Software which has facilitated the integrated workflow and ensuring various value added services, which were a long desire of our users community. Now, users are able to conduct search for the books through i-Portal at their desktops. They can also see their transactions, search history, renew and reserve the books on-line. Users can also request for Inter Library Loan through Document Delivery Service webpage. The software has also facilitated the installation of highly sophisticated facilities as listed below:

- Electronic Book Drop
- Auto Checking and Checkout System
- RFID Gates
- Auto Shelf Checking
- RFID Tagging Station

8.3.2 Smart Card Implementation:

Institute decided to introduce Smart Cards with the objective to provide various users dependent services to the valid stakeholders on the campus. In this regard, the Central Library has been given the responsibility to generate and issue Smart Cards to the entire stakeholders of the Institute. The students admitted during the year 2005 were issued Smart Cards for the first time. The Library software has the capability to issue the books by using Smart Cards through auto checking system. Entry and Exit to the Central Library are also proposed to be controlled by using Smart Cards. The total number of Smart Cards issued is 4628 and the detailed breakup is given below:

Students from 2000 to 2006	-	3847
Faculty	-	240
Staff	-	501
RM	-	25
OM	-	15

Total	-	4628

8.3.3 RFID Implementation:

As projected during 2004-05, the implementation of RFID solutions in the Central Library has been implemented during the month of August 2005. Initially, we placed order for 1 lakh RFID tags for replacing the barcodes. The RFID tagging station has been installed and training has also been provided to the Library staff and Graduate Trainees. We are successfully installing RFID tags on books. So far, we have tagged nearly 30,000 and users are able to issue the books using auto checking system installed near the counter, which does not require manpower. Similarly, the students can also return the books through Electronic Book Drop installed at the entrance, which also does not require any manpower and instantly issue the transaction slip and delete the record from the concerned user's account. On the completion of the project RFID Technology will also help in the identification of misplaced books on the shelves.

8.3.4 Children's Library Corner:

Institute has identified the need to provide special facility to the children of the campus community. With this objective, we have arranged special furniture and 1482 books suiting to the interest of the children. This facility was inaugurated by Prof. M.S. Ananth, Director of the Institute on 10-10-2005. This initiative has been appreciated not only by the campus community but also by external users and library professionals. The facility has become so popular that adults are also using extensively.

8.3.5 Research Carrels:

Research Carrels have great potential to facilitate close interaction among Research Scholars and Faculty members. Due to this fact, we have provided on Level – III (Left Wing) 08 research carrels each provide sitting space for six persons. This facility has been extensively used and attracting more appreciation and users.

8.3.6 Students Discussion Hall:

It has been noted that the students need a place where they can discuss in large groups their academic issues related to their courses. With this objective, a special hall has been created on Level-V (Right Wing) enabling over 100 students to use this newly created facility. They can discuss freely with other students without any maintaining silence restriction with their study materials. They can also use their laptops as wireless network facility is available in all the floors of the Central Library. This facility is extensively used by the students.

8.3.7 Media Resource Centre:

The Central Library has been providing video viewing facility to the users community with the help of nearly 448 educational videocassettes on science, engineering, technology, humanities, social science and management which are screened alternative days. Recently, we have upgraded this facility for accommodating nearly 200 students with internet connectivity, large motorized screen, TV, desktop system, wireless networking. The same facility is also used to conduct various information literacy programme, special meetings, presentations organized by the Central Library & departments of the Institute.

8.3.8 Database Creation:

The VTLS Library Management Software has the facility to provide access to catalogue of books with images, contents, summary and key words through the interface of Synthetic Database. But, the entire book collections are not covered with this facility. To provide on-line access to the abstracts of the books through i-Portal, we have initiated to prepare abstracts of the books with the help of special team of Graduate Trainees w.e.f. August 2005. We have abstracted nearly 2864 books up to March 2006, which are also available for on-line access.

8.3.9 E-Journals:

The Central Library has made arrangements to provide access to the large number of e-Journals under three categories like E-Journals arranged with the help of Institute funds, under INDEST-AICTE scheme and Open Source Arrangement.

a. ASTM Standards:

These resources have been made available for web access under Intranet to the Campus Users under INDEST-AICTE Scheme through Central Library website www.cenlib.iitm.ac.in

b. E-Journals

The following e-journals have been made available for on-line access:

- Cement, Concrete & Aggregates
- Geotechnical Testing Journal
- Journals of ASTM International
- Journal of Composites Technology and Research
- Journal of Forensic Sciences
- Journal of Testing and Evaluation
- International Journal of Web Information Systems
- International Journal of Pervasive Computing & Communication
- International Journal of Information Communication. & Ethics in Society
- Journal of Interactive Technology & Smart Education

In addition to the above e-journals, the web access to the e-Journals of Blackwell (10), Taylor & Francis (12), Maney Publisher (5), Nature Publishing Group (11) has also been arranged in the year of 2005 through Institute funds.

c. Elsevier Back files

Web Access under Intranet Environment have also been made available under INDEST-AICTE Scheme to the following SIX files

- Business Mgmt & Accounting
- Chemical Engineering
- Computer Science
- Energy & Power
- Engineering & Technology
- Material Science

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 work completed during 2005-2006 are given below:

Month	No. of Journals/ Books Bound	Estimated saved amount (in Rupees)
April	60	24,120
May	558	36,810
June	583	33,961
July	547	33,785
August	799	50,977
September	755	48,245
October	547	22,646
November	803	51,329
December	773	49,175
January	720	45,720
February	690	43,830
March	760	48,400
Total	7895	4,88,998

8.5 Staff and their Activities:

Name	Qualifications	Major Area of Specialization (Only Three Areas)
Harish Chandra Librarian	M.A., M.L.I.Sc., Ph.D.	Rural Information System, ISO application in Libraries, Digital Libraries.
M. Koteswara Rao Deputy Librarian	M.Sc., .L.I.Sc., A.D.I.Sc.	Library Management, CD-ROM Networking, Marketing of Information Services.
M. Murugan Assitant Librarian	B.A., M.L.I.Sc., PGDPM	Management, Library Administration, Stacks Management.
P. Natarajan Assistant Librarian	M.A., M.L.I.Sc.	Resource Sharing, Document Delivery, Inter Library Loan.
C.R.Sekar Assistant Librarian	B.A., M.L.I.Sc.	SDI Service, CAS, Bibliographic Compilation.
C.C.Tom Assistant Librarian	M.A., A.I.D.I.Sc.	Library Administration, Books Acquisition, Technical Processing.

8.6 Training/ Lecture/Presentation/Conference Organized:

Sl. No	Name of the Speaker / Organiser	Topic	Date
1.	Dr. B. S. Nigam, Head, Dept. of Library and Information Sci. MCRPV University, Bhopal, Noida Campus, NOIDA	Convincing Multi Faculty users in Modern Learning Resource Centre	09-08-2005
2.	Mr. Ravi Shankar, M/s Informatics Indian Limited	Information Literacy Programme on Web of Science and J-Gate	16-11-2005
3.	Mr. Vishal Verma, Edutech India Limited, Chennai	i-Portal, Self Checking/ Checkout System, Acquisition Systems	16-12-2005
4.	Dr. Harish Chandra	XXV All India Conference of IASLIC and SIG Meetings	26-12 -2005 to 29-12-2005

5.	Prof. R. Parthasarathy, Retd. Professor, Electrical Engg IIT Madras, Chennai	Role of Library in the Preparation of Books	31-01-2006
6.	Mr. Nishant Atri, Product Specialist (S&T) Elsevier	ScienceDirect and Scopus Databases	21-02-2006
7.	Mr. Joe Threlfall, Regional Manager, CSA, Cambridge, UK	Role of Electronic Databases in R & D Excellence	17-03-2006

8.7 Short term Courses / Workshops / Seminars / Symposia / Conferences / Training/ Meeting attended by staff in recognized Academic Institutions

Sl. No	Name of the staff	Title	Institution	Period
1.	All Library Staff	VTLS-Virtua	Edutech, Chennai	07-04-2005 & 12-05-2005
2.	Dr. Harish Chandra Mr. C.R Sekar, K. Sethu Mr. T Natanasigamani	READIT- 2005 Conference	IGCAR Kalpakam	14-07-2005
3.	Mr. M. Murugan Mr. T. Ramakrishnan	Creative Security Management	CSO, IIT Madras	09-09-2005
4.	Dr. Harish Chandra Librarian	International Workshop on Information Skill	UNESCO and IFLA at DLIS, Punjabi Univ.	03-10-2005 to 07-10-2005
5.	Mrs. S. Pavalamani	HRD Training Program	IIT Madras	19-10-2005 To 24-10-2005
6.	Dr. Harish Chandra Mr. C.R. Sekar Mr. K. Sethu & G. Kumar	Library Connect Seminar	Elseiver India Ltd. New Delhi	03-03-2006

8.8 Special Lectures Delivered by staff in other Institutions

Sl.No	Topic of Lecture	Venue and Date
Dr. Harish Chandra, Librarian		
1	ISO Certification and Academic Libraries	NAAC and M.S.Ramaiah Institute of Management, Bangalore on 21-05 2005
2	Future Libraries-High Tech. Gateways	NIT, Trichy on 16-07-2005
3	How Best Libraries can do for Teaching, Learning and Research for S&T Sector	Thiagarajar College of Engineering Madurai, on 30-07-2005
4	Accreditation in Technical Libraries	NITTTR, Chennai on 03-08-2005
5	Library Networking for Education	N.K.T Teacher's Training College, Chennai on 16-09-2005
6	Building Digital Library: Strategy and Solutions	K.C.G. College of Technology, Chennai on 13-10-2005
7	Web Resources in various Disciplines	Crescent Engineering College Chennai on 12-11-2005
8	Library: A Gateway to Knowledge Resources	Guru Shree Shantivijay Jain College for Women Chennai on 20-10-2005
9	Digital Libraries	UGC-ASC Pondicherry University Pondicherry on 19-11-2005
10	Patents Information System and Services	Southern India Chamber of Commerce and Industry (SICCI) on 24-11-2005
11	Migration to e-world: A SWOT Analysis for S&T Library Professionals	University Library of Anna Univ. Chennai on 08-12-2005
12	Visionary Libraries as High-tech Gateways	IASLIC, Kolkata at IIT Madras, Chennai on 28-12-2005
13	Digital Libraries: Concepts and Implementation	NITTTR, Chennai on 03-01-2006
14	Digital Resources Innovative Tools for Modern Libraries	VIT, Vellore on 21-01-2006
15	Standards Information Support Services for R&D	Book Supply Bureau, Chennai on 25-01-2006
16	How Best Librarians can Exploit Internet for Academic Excellence	K.L.N. College of Information Tech. Pottapalayam on 11-02-2006

8.9 Visits abroad by Staff:

Sl.No.	Name of the Staff	Countries Visited	Date	Purpose of visit
1	Dr. Harish Chandra	Colombo, Sri Lanka	26-05-05 to 04-05-05	Attending International Conference on University Librarianship

8.10 Honors and Awards:

Sl	Name of Staff	Name of Award	Awarded by	Awarded for	Date of Award
1.	Dr. Harish Chandra	Dr.S.R. Ranganathan Award	Tamilnadu Library Association,	Best Library Services	02-09-05
2		Plaque	ELSEVIER New Delhi	Highest Usage of ScienceDirect Resources in South Asia	27-12- 05
3		Lifetime Achievement Award and A Gold Medal	SALIS, Chennai	For Outstanding Contribution and Services to the Library Profession	29-12- 05
4		Memento	IASLIC, Kolkata	Successfully organization of XXV All India National Conference at IIT Madras(26-29-12-05)	29-12-05

8.11 Journal Editorial Board

Sl.No	Name of Staff	Level	Journal
1	Dr. Harish Chandra	Member Advisory Editorial Board	OCLC Systems and Services- an International refereed International Journal published by Emerald
2		Secretary- Editorial Board	Journal of Mathematical & Physical Sciences (An International Journal in existence over 30 years & published by IIT Madras
3		Member, Editorial Advisory Board	SALIS Journal of Library and Information Science, SALIS
4.		Member, Editorial Board	New Review of Information Networking - an International refereed Journal, published by Taylor and Francis

8.12 Books, Monographs Authored/ Co-authored/Edited

1. Harish Chandra, LIS Profession in India Vision for 2010 Papers XXV All India Conference of IASLIC and Special Interest Group (SIG) Meetings with Amitabh Chatterjee, Arjun Dasgupta, Ramkrishna Saha, Deepak Kr.Nag, Ms. Sibani Ray, Ms. Kalpna Majumdar, Kolkata, IASLIC, 2005 p 1-392
2. Harish Chandra, Souvenir of XXV All India Conference of IASLIC, Chennai, Central Library, IIT Madras, December 2005 p.1-46

8.13 Paper Published in National Conferences / Festschrift Volume:

1. Harish Chandra, Digital Resources: An Innovative Tools for Modern Libraries, Souvenir of one day Workshop on Digital Information: An Innovative Tool for Modern Libraries, Vellore, Vellore Institute of Technology (Deemed University), 21st January 2006 p. 10-21
2. Harish Chandra, Central Library System of Indian Institute of Technology Madras: From Concept to Completion, Souvenir of XXV All India Conference of IASLIC, Chennai, Central Library, IIT Madras, December 2005 p.14-25
3. Harish Chandra, Role of Digital Libraries in S&T Sector, Seminar on Migration to e-World: Challenges & Opportunities for Library Professionals, Chennai, University Library, Anna University, 8-9, December 2005 p. 83-100
4. Harish Chandra, Usage of E-Books and E-Journals at IIT Madras: Strategy and Initiatives. Electronic Publications-Seminar Papers of National Seminar on Electronic Publications, Hyderabad, MGNIRSA, 23-24 March, 2006, p.101-111

5. Harish Chandra, Development of E-Services for Promoting Education and Research through Digital Library Initiatives, Proceedings of National Convention on Library and Information Networking (NACLIN 2005) held at PES Institute of Technology, Bangalore from August 22-26, 2005, edited by H K Kaul and Gayathri Sen p 1-17.
6. Harish Chandra, Creating e-Information Environment for Academic Excellence through Implementing INDEST Consortia: A Case Study of the Central Library of Indian Institute of Technology Madras. In Digital Information Resources and Networks on India: Essays In Honour of Prof. Jaginder Singh Ramdev edited by Rajwant Singh Chilana, New Delhi, UBSPD, 2006 p 120-130

8.14 Fellowships of Academies and Professional Societies:

Sl. No	Name of Faculty	Name of Academy / Professional Society	Level	Year of Admission
1	Dr. Harish Chandra	IASLIC, Kolkata	Member of the Council	March 2006
2		IASLIC, Kolkata	Convener for Special Interest Group (Industrial Information)	March 2006
3		IASLIC, Kolkata	Life Membership	September 2005

8.15 New Facilities/Equipments added:

- > Reference Books and Text Books collections housed on Level II Left Wing shifted to Level V Left Wing, similarly, all computer science books shifted from Level-I to Level-II w.e.f. 15-04-2005
- > Wireless Networking and 3 Water Coolers were installed on Level – I - V
- > 333 New Chairs, Readers Tables (44), Sofa Sets 3 seats (11) Single seats (14), Center Tables (5), Reception Counters (3), LCD (1) Books Support (3100) Research Carrels (8), Periodicals display racks (164), 3 Seater Steel Chair (2)
- > 50 Numbers HP Workstations installed in Digital Knowledge Centre on 06-06-05

8.16 Distinguished Visitors to the Central Library:

Sl. No.	Name of the Visitor & Designation	Date of visit	Purpose of visit
1.	19 B.L.I.Sc Students, College of Library & Information Science, Sanjay Memorial Institute of Technology, Orissa	21-04-2005	To see the facilities and functioning of the Central Library
2.	Dr. A. Ramachandran, Registrar & Prof. K Poulse Jacob, Dean-Faculty of Engg. Director, School of Computer Science Studies, CUSAT	06-06-2005	To see the facilities and functioning of the Central Library
3.	42 Librarians from Andhra Pradesh led by Librarian, NTTTR, Chennai	03-08-2005	To see the facilities and functioning of the Central Library
4	Mr. K.P. Sadasivan, Library Officer, Regional Research Laboratory, Trivandrum	18-08-2005	To see the facilities and functioning of the Central Library
5.	Dr. J.N. Satpathi, Vice President & Dr. Dipak Kr. Nag, Hony. G.S. IASLIC, Kolkata	02-09-2005	Discussion about hosting IASLIC National Conference at IIT Madras
6.	12 Students & 2 Teachers from P.G. Department of Library and Information Science, Bhavnagar Univ.	18-10-2005	To see the facilities and functioning of the Central Library
7.	Dr. Karl Schneider, Executive Editor, New Scientist, London	19-10-2005	To see the facilities and functioning of the Central Library
8.	Dr. Firdous A Wani, Registrar National Institute of Technology, Jammu and Kashmir, Srinagar	19-10-2005	To see the facilities and functioning of the Central Library and discussing digital libraries

9.	15 Students & 3 Teachers from Department of Mathematics of Aditanar College of Arts & Science, Tiruchendur	10-11-2005	To see the facilities and functioning of the Central Library
10.	Dr. K. Rama Patnaik, Deputy librarian, NALSAR, University of Law, Hyderabad	22-12-2005	To see the implementation of RFID, Smart Card and other Facilities in the Central Library
11.	Director (i/c) & the Staff of Anna University Library, Chennai	22-12-2005	To see the facilities and functioning of the Central Library
12.	22 Polytechnic Librarians from Tamilnadu led by the Librarian, NITTTR,	14-01-2006	To see the facilities and functioning of the Central Library
13	49 Students from the Department of Library & Information Science, BHU, Banaras, UP	20-01-2006	To see the facilities and functioning of the Central Library
14	Mr. Ramakrishna Manja, Registrar & Dr. Paul Pandian, Librarian Institute of Mathematical Sciences.	22-01-2006	To see the implementation of RFID/ Smart Cards In the Central Library
15	Mr. Marty Ferrell, Senior Director, ASTM, USA	25-01-2006	To see the facilities and functioning of the Central Library
16	Mr. B.P. Prakash, Ms. Banaleta Das, Ms.Githanjali Chandrasekhar, Library Information Services from TCS	14-02-2006	To see the facilities, functioning, and discussing Library Development Activities
17	23 Delegates from various countries led by Mr. D.T.S.Raju,NISIET, Hyderabad.	16-02-2006	To see the facilities & functioning of Central Library
18	15 Participants of NIC Training Programme conducted by CS & E	05-03-2006	To see the facilities and functioning of Central Library

8.17 Other Activities

1. Catalogue of Periodicals was updated and sent to all Departments and Centers on 31-10-2005.
2. Dr. Harish Chandra, Librarian attended the Meeting regarding the Improvement of NIT Trichy Library on 09-04-2005
3. Dr. Harish Chandra, Librarian attended Selection Committee Meeting of U.P.S.C in New Delhi on 19th May 2005, 9th and 13th March 2006
4. Dr. Harish Chandra, Librarian attended Governing Board Meeting of DELNET, New Delhi on 26-09-2005
5. Dr. Harish Chandra, Librarian attended Annual General Body Meeting at MALIBNET, Chennai on 28-09-2005
6. Dr. Harish Chandra, Librarian conducted the Public Viva-Voce examination of Ph.D Thesis entitled Expert System for Indian Medicinal Plants, submitted at University of Madras, Chennai on 25-11-2005
7. Dr. Harish Chandra, Librarian participated in the Selection Committee Meeting at Kumaraguru College of Technology, Coimbatore on 28-01-2006
8. Dr. Harish Chandra, Librarian attended Board of Studies Meeting as Special Invitee conducted by Department of Management Studies at Anna University, Chennai on 13-02-2006

8.18 Future Plan:

1. To establish Institutional Repository
2. To complete the RFID tagging work
3. To prepare the abstracts of uncovered books by Syndetic Database
4. To conduct minimum four Information Literacy Programme
5. To make operational the Electronic Security System
6. To bring out the list of Current Journals and other Brochures

9. STUDENTS AMENITIES AND ACTIVITIES

9.1 Hostels:

All students admitted to IIT Madras required to reside in the hostels inside the campus. There are 13 men's hostels and 2 ladies hostel with a total of 3213 single rooms, 255 double rooms and 18 triple rooms. During the period under report, there were 4273 men and 693 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 162 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 R Dhamodharan Professor, Dept. of Chemistry
Name of the Hostel/Unit	Warden
Alakananda	Dr. Deepak Khemani Associate Professor, Dept. of Computer Science & Engg.
Brahmaputra	Dr. M Kamaraj Associate Professor, Dept. of Metallurgical & Materials Engg.
Cauvery	Dr. S Jayachandran Professor, Dept. of Management Studies
Central Supplies Unit	Dr. R Dhamodharan Professor, Dept. of Chemistry
Ganga	Dr. K Sethupathy Associate Professor, Dept. of Physics
Godavari	Dr. Devendra Jalihal Professor, Dept. of Electrical Engg.
Jamuna	Dr. G Srinivasan Professor, Dept. of Management Studies
Krishna and Pamba	Dr. S Sundar Professor, Dept. of Mathematics
Mandakini	Dr. C Chandrasekar Associate Professor, Dept. of Computer Science & Engg.
Narmada	Dr. V Sankaranarayanan Professor, Dept. of Physics
Saraswathi	Dr. V Subramanian Associate Professor, Dept. of Physics
Sarayu	Dr. M Thamban Nair Professor, Dept. of Mathematics
Sindhu	Dr. K Rajagopal Professor, Dept. of Civil Engg.
Sharavati	Dr. C Sujatha Professor, Dept. of Mechanical Engg.
Tapti	Dr. M S Sivakumar Professor, Dept. of Applied Mechanics

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 are given in Chapter 13 – Campus Amenities.

9.3 N.C.C:

4 (TN) AIR SQN (TECH) NCC

Enrolment:

A total of 234 sd Ait Wing NCC cadets were enrolled during the year. The strength enrolled was more than authorized strength and comparing to last year it was more.

Kiting:

Each cadets were issued with full set of uniform to meet the required standard of NCC Air Wing cadets uniform.

Training:

The training schedule was prepared keeping in view of their academic session. Total 26 parade was conducted to impart foot drill training. Arms drill training and weapon training was also imparted by Permanent Instructional Staff of Indian Air Force. The technical syllabus as prescribed in NCC training schedule was also covered by various specialized tradesman of this unit.

Availability of ANOs:

Through the training session, the ANOs were available for the institutional training of cadets Dr. P Alagusundara Moorthy was appointed as new NCC caretaker in place of Prof. S Neelamani who has been deputed for abroad.

Cadet Attendance:

The cadets attendance was not upto satisfaction level and despite of proper schedule and publishing regular circular cadets haven not turned up for parade. The average attendance was about 60%.

Aero Modeling:

As a part of institutional training Mr. Radha Kamallakaran, professional Aero modeler imparted the training to 29 selected Air NCC cadets. The instructor covered the various type of Aero Modeling e.g static, controlled line and remote control Aero modeling.

Independence Day and Republic Day celebration:

Independence Day, Republic Day and NCC day were celebrated in the campus and Guard of Honour was presented to Director by IIT NCC Air Wing Cadets.

Annual Training Camp:

Annual Training Camp for all cadets of IIT Madras was organized between 03.12.2005 to 14.12.2005 during winter vacation of this institution. Various activity, lecture, social services activities and guest lecture were organized during the annual training camp as a way to develop the sense of unity & discipline among IIT students. The following was the highlights of the camp:

- (a) Inaugural lecture by Camp commandant Gp Capt PK Khanna
- (b) Inter flight drill competition
- (c) Inter Flight Games (Volleyball, Football, Basket Ball were included)
- (d) Daily Drill and technical class
- (e) Special lecture about the key points of joining the armed forces and qualifying in Services Selection Board by Gp Capt PK Khanna
- (f) Demo Cum Fire Fighting Lecture
- (g) Eye Donation Pledge by Shankar Netralaya
- (h) First Aid Awareness Programme by MO IIT Madras
- (i) Drawing and Painting Competition
- (j) Cultural Programme
- (k) Visit by Deputy Director General NCC (TN, P & AN) and Group Commander Madras 'B'.
- (l) Cultural presentation by NCC cadets
- (m) Cross Country Race
- (n) Skeet shooting and range firing
- (o) Motivation CD representation

Conclusion:

Cadets were trained in different types of military task. The cadets had shown their interest in all fields during the camp despite of hectic schedule thereby displaying a high moral and sense of responsibility and devotion towards their duty.

9.4 N.S.S

The NSS Co-ordination Committee decided that from this academic year volunteers shall be put through a rigorous training program comprising a workshop on "Social Initiatives and Management" and a Winter Training Camp devoted to all aspects of rural living. Volunteers were expected to use the insights thus gained in practice by enlisting for one of the programs listed below:

- Teaching Program
- Neighbourhood Development
- On-Campus Activities
- I. I. T for Villages.

136 students enlisted for the program

Teaching:

Forty-Six volunteers opted for the Teaching program spread over five neighbourhood centres:

- VSC Taramani
- VSC Velachery
- Institute Teaching Centre
- Taramani NSS Centre
- Tulapurkara Teaching Centre

Around 230 students benefited from this project; 120 of them were from primary schools. The children were encouraged to take to the reading habit by exposing them to the storybooks and comics available in the NSS library.

Teaching Workshop

A workshop on teaching methodologies was successfully conducted for the NSS, volunteer teacher on 21st and 22nd Jan 2006 by Ms. Lakshmi Suryanarayanan, Principal Olcott Memorial School, Besant Nagar and her team of highly experienced teachers organised the workshop. Volunteers were taught the basics of teaching and the need to make it interesting by using a variety of innovative methods.

On-Campus Activities:

Sixteen volunteers opted for this program. Two groups were formed. One is for Software Documentation and the other for Campus Patrol.

Software Documentation:

Volunteers work on the projects where they need to interact with and understand rural population, using technology as an enabler and providing a product that would benefit the rural community.

Campus Patrol:

This group jointly assisted the Security section of the IIT Madras.

D-O-S Collection, Charity Show:

NSS along with Atma Charity Wing of IITM collects dal, oil, sugar and other provisions from campus residents at the beginning of every month to be distributed to orphanages and old-age homes in and around Chennai. They also collect old clothes and used stationery items for distributing to the needy.

NSS Volunteers also assisted the Atma Charity Wing in organising a fund-raising concert.

IIT for Villages:

For this program, thirty-eight volunteers came forward. The volunteers visited various villages around Madras to promote: 1. Science among rural school children, 2. Rural products, 3. Learn about sustainable technology for rural life.

Our volunteers visited the following Government schools:

- i. Kuthambakam govt. school - 20th Aug 2005
- ii. Banjetty govt. school - 27th Aug 2005
- iii. Cholavaram govt. school - 3rd Sept 2005
- iv. Melakondaiyar govt. school - 27th Sept 2005
- v. Natham village (demonstration to public)- 12th Nov 2005

Fourteen NSS volunteers took part in each visit.

Headquarters:

There are eight headquarters volunteer ensuring smooth networking of all NSS operation. These volunteers help in managing all the office work of the NSS. They overlook the general activities of all other wings in the NSS and also help in organising workshop, seminars. They look after all communication and logistics, including the website.

Milk Scheme:

A new scheme has been started by the Atma Charity Wing of IITM to distribute milk to the children of construction labourers in the campus. Under this scheme free milk is distributed daily to children of labourers at two centres, Velachery gate and near Mandakini hostel. About 120 children benefit by this scheme. The Headquarters volunteers supervise distribution and monitor the quality of the milk.

Sadguru Gnanananda Awards for Social Excellence:

On Saturday, the fourth of February, volunteers were taken to the presentation ceremony of the Sadguru Gnanananda awards. These awards given to women social entrepreneurs were presented to Dr. Kiran Bedi, Mrs. Uma Preman and Mrs. Jameela Nishat. The award was also presented to Air Vice-Marshal V. Krishnaswamy and his wife, Jaya Krishnaswamy for their work in working with disabled children under a special category of awards for "families in social work".

Volunteers were given an occasion to meet and interact with the distinguished awardees.

Second International Inter-Faith Conference on Prevention & Control of HIV/AIDS, 2006:

About 30 NSS volunteers attended this conference held on 7th and 8th January 2006 as students participate. Also, another team of volunteers helped as volunteers.

Lectures:

On 7th January 2006, a multimedia presentation was organised on the use of computers and internet in villages. Mr. Raj Varadarajan from Tenet gave the presentation. The issues like health treatment through internet, rural employment and education were discussed. A new system has been introduced by them in which a rural person is made computer literate and he handles a small centre with a few computers with internet in every village and helps other villagers to use it. Information was also given on a low cost ATM machine developed indigenously by them.

On 11th February 2006, a multimedia presentation was organised to make students aware of drug abuse and alcoholism. Ms. Sheila a resource person from the TTK Hospital, Indranagar, Madras, made the presentation. Students had an occasion to get their doubt clarified.

On 25th February 2006, a slide show was organised for the NSS volunteers to educate them about cancer. Dr. Rohini Prem Kumari of Cancer Institute (WIA) gave the lecture.

Winter Camp at Sarada Ashram:

A four-day winter camp (in two batches) was held during December 2005 at Sri Sarada Ashram, Ulundurpet. The NSS volunteers attending the camp were given special training in various activities like organic and chemical farming techniques, Soil and Water Conservation Techniques, Village level interaction, Study of SHGs and their activities, Introduction to the functioning of Panchayats, Personality Development: Self evaluation techniques, Communication strategies, Time-stress management, Teamwork through shramdan.

Workshop on Social Initiatives and Management:

For the first time a 3-Day Workshop on Social Initiatives and Management for the NSS students (in two batches) was organised (5th Dec- 10th Dec 2005) to sensitise the students to social problems in India and to bring about enhanced understanding. It included lectures and discussions on topics like reservations, gender issues, health

and environmental issues, children and child rights, factors influencing social change - urbanisation, industrialisation, globalisation & social action. Lectures were also organised on topics like social entrepreneurship, rural technology development. In the end students also gave presentations on some technological inventions to benefit society. A field trip was also organised to Vidyasagar to make volunteers realise difficulties faced by spastic children.

9.5 Gymkhana:

The Institute Gymkhana takes care of general welfare, the Sports 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 walks of life after their graduation. Hence the students are encouraged towards participation and organization of a number of sport activities.

The following tournaments were conducted during the year 2005-2006 by the Institute Gymkhana of IIT Madras.

- The Inter-Collegiate Invitation Tournament "SPORTFEST-2005".
- All India Inter-Collegiate Basketball Tournament for Men (Gerhard Fischer Cup) and for Women (Mrs. Kokila Rajaiah Trophy).
- IIT Sanmar Inter-Collegiate Invitation Cricket Tournament.
- IIT Sanmar Inter-Collegiate Invitation Tennis Tournament for Men.
- Inter-Hostel Tournament - "SCHROETER TROPHY"
- Non Media Tournaments – "Dean (Students) Trophy"
- Open Bridge Tournament
- Institute Annual Open Race
- Institute Annual Cycle Race
- Institute Triathlon Race

Inter-IIT Aquatic Meet 2005:

The Inter-IIT Aquatic Meet was held from 1st – 4th October 2005 at IIT Roorkee. All IITs excluding IIT Guwahati participated in the above meet in which our IIT contingent secured the second place in Swimming and won the Water Polo Cup. The overall championship in the Aquatic Meet was won by IIT Madras with 16 points.

Inter-IIT Sports Meet 2005:

The 41st Inter-IIT Sports Meet was held between December 11th and 18th for the first time at IIT Roorkee. The intense monsoon rains during the month of November hampered our preparations quite a bit. IIT Madras shared the third position with IIT Delhi, securing a total of 42 points, while the winners IIT KGP got 54 points. IIT Bombay was second with 52 points. The competition was quite intense and we were in the race till the morning session of the final day. The Tennis team and the Football team won the first place (Gold) for IITM. In the Women's section, IITM secured the third place with a total of 18 points. IITR was the first with 28 points and IITK was the second with 22 points. The Women's Basket-ball team performed well to receive the top honours, while the Women's athletics team got second, falling short by just one point, thus narrowly missing the trophy. Our woman athlete Ms. Ajanta Naik got the "best woman athlete" trophy. Deepthi of IITM won the women tennis championship. Most of our teams performed at their best, no doubt, despite the cold climate at Roorkee.

All-India Inter-Collegiate Invitation Basketball Tournament 2006:

This tournament was conducted from 18th January to 22nd January 2006 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. Sathyabhama Deemed University, Chennai won the Gerhard Fischer Trophy for Men and M.O.P. Vaishnav College, Chennai retained the 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 8th February to 9th March 2006. There was a record entry from 24 city colleges competing for top Honours. A high level of competition was witnessed throughout the tournament. RKM Vivekananda College retained the coveted Trophy and Gurunanak College was runner-up.

Inter - Hostel Tournaments:

The Inter-Hostel Tournaments 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 for non-media and non- Inter IIT Sports events. Jamuna 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 Foot Ball, (iv) 3-a-side Basket Ball and (v) 3-a side Volley Ball. Also, institute open events namely, Road Race, Cycle Race, Triathlon were conducted. All these events encourage larger participation of the student 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 this period. More than a few thousand students, staff, faculty and Campus children benefited from these excellent facilities and coaching offered by the Institute Gymkhana. Special summer coaching camps were held for swimming and more than 200 campusites benefited from this camp. Many campus kids learnt swimming during this camp.

The Fitness club had a registered membership of 435, the Tennis club a membership of 67 and the Badminton club a membership of 135. Excellent training and able guidance were provided for the students and the Campus residents at the fitness club, bringing out the importance of maintaining good physique and health.

The advanced planning of the calendar of sports events including the fixtures for both Schroeter and Dean's Trophy events helped the smooth and satisfactory conduct of the various sports events. Also, the new flood-lit facilities created recently attracted many students to the Basketball, the Volleyball and the Tennis courts.

Sportfest 2005:

The 22nd edition of Sportfest was conducted from Sept 22nd to Sept 26th. Thirteen teams registered for men's events and 8 teams for women's events. It involved the games Basketball, Badminton, Hockey, Football, Table Tennis, Volleyball and Tennis. A total of 20 colleges were invited. Y.M.C.A College is the only college other than IITM which fielded teams in all the events. It has brought out some spectacular display of skills. Outstanding among them were D.G. Vaishnav in men's badminton, Y.M.C.A and Sathyabhama in Football, Y.M.C.A again in Hockey, S.R.M.College & Resaearch Institute in Table tennis, Gurunanak College in Tennis. Against those professional teams, IITM teams put up a remarkable show especially in the games of Basketball (men and women), Table tennis (men and women), Football, Hockey, Tennis and Volley Ball.

IITM- Sanmar Inter-Collegiate Invitation Tennis Tournament for Men:

Due to the efforts of our Director, Dean (Students) and Advisor (Sports) and the generous and whole-hearted support of the Sanmar Group, the first IITM-SANMAR INTER-COLLEGIATE INVITATION TENNIS TOURNAMENT FOR MEN was held from 15-18th March. 25 Singles and 14 Doubles Tennis teams participated in the tournament. Loyola College emerged the winners in both the Singles and Doubles Matches. A high level of skill and power were at display. There is a proposal to extend this tournament to the Women's section in the academic year 2006-07.

Participation in Outside Tournaments:

In the month of March 2006 our IIT Basket ball Team took part in the Inter Engineering Collegiate Basket ball Tournament at Hindustan college of Engineering. In the first round IIT Madras beat SSN Engineering College and in the second round we lost to Hindustan College of Engineering.

We took part in Sri Venkateswara College Basket ball Tournament and IIT Madras entered into quarter finals and lost to Sathyabhama Engineering College.

IITM Open Bridge Tournament:

The Annual Open Bridge Tournament was conducted between 11th and 12th of March 2006. 14 teams were participated in Duplicate event including 4 teams from IITM (23 students participated from IITM) and 32 pairs played in this event (including 5 pairs from IITM) while in board-a-match, there were 13 teams. Sri.G.Venkatesh an alumnus from the 1978 batch sponsored the event.

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 the necessary steps in encouraging students to participate in various games and sports events and in physical fitness activity as well.

In the academic year 2005-06 nearly 180 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, Sportsfest and All India Invitation Inter-Collegiate Basketball Tournament is partly due to the quality training given to the students and the hard efforts put forth by the students during the NSO programme.

Overall, it has been an eventful year for the Gymkhana activities.

9.6 Advisor, Foreign Students and Weaker Section:

This institute has nominated one Advisor to take care of the welfare of the foreign national and weaker sections students. He periodically meets these students and counsels them for various academic and non-academic requirements. During the period under report, a few students could not do well and they were counseled. Due to this counseling, they performed very well in their subsequent semesters.

In addition, the advisor arranged for extra classes in physics and mathematics between August and October 2005 for the weaker section and foreign national student of B.Tech Programme as they expressed difficulty in understanding during normal teaching hours. Also drawing instruments have been issued to needy first year students belonging to the weaker section.

The mentor programme introduced in the previous year was continued. In this programme each first year student belonging to weaker section is attached with a mentor (from senior students) for discussion and guidance on the academic matters. The reports are periodically reviewed and discussed with the Advisor

9.7 Guidance and Counselling Unit:

A Campus information booklet – “IIT Life – A Glance” was prepared for all the fresh students and were made available to all of them.

The first year students with their parents or guardians were received by the student counselors at the railway station and helped to settle down in their stay quickly. The counselors solved student problems by applying individual attention.

The first year B.Tech students were distributed to various student counselors and faculty counselors for individual attention. The Unit attended few emotional counseling since such problems are more during the first year.

The unit arranged, whenever possible, instruction classes by senior students to the needy first year students who wanted guidance in subjects like Mathematics, Physics and Chemistry.

9.8 Women's Forum:

The Women's Forum of IIT Madras (WFIITM) was formed to address the issues related to work, welfare and development of the women at IIT Madras. The forum since its inception in November 2002 has been making possible effort towards this direction.

The activities of the forum during the period April 2005 to March 2005 are listed below:

Faculty-Workshops/seminars organized/attended:

Womens' Forum organised a function on May 2nd 2005, to felicitate Dr K.Lalitha, the First Chairperson of the Forum, on her retirement from the services of the Institute.

Staff Training Programmes:

The Women's Forum, through the HR wing, organized a 10-day training programme in MS Office-Word, Excel and PowerPoint-for the women staff members of the Institute. Thirty-five staff members participated in the programme which commenced on 20th October 2005.

Invited Lectures:

A talk on “What does it mean to be a feminist today?” by Ms. V. Geetha, Tara Publishing, Chennai was held on March 08 2006.

10. STUDENTS PLACEMENT

10.1 Introduction:

Placement Cell of the Institute was maintaining its pace of activities as ever before. It was able to synergize and showcase the superior quality of the studies to the headhunters. It was an effective interface between the students and the industry.

The total count of the industries that visited the campus was 150. The companies that visited the campus comprised of Core industries, Software houses, Consultancies – both engineering and management and R & D laboratories. The Institute also saw overseas firms visiting for placement.

On the whole, the year that went by was hectic, eventful and satisfying.

The number of students placed during the period under report is given below as against those registered during 2005 – 2006.

STUDENTS / SCHOLARS PLACED

Branch	BTech	Dual	MTech	MBA	MSc	MS	PhD	Total
Aerospace	11	5	7	-	-	6	-	29
Applied Mechanics	-	-	6	-	-	5	-	11
Bio Technology	23	-	-	-	-	3	1	27
Chemical	43	8	20	-	-	2	-	73
Chemistry	-	-	-	-	4	-	-	4
Civil	30	7	32	-	-	8	-	77
Com. Science	32	6	36	-	-	16	-	90
Electrical	76	26	65	-	-	12	1	180
Engineering Physics	7	-	-	-	-	-	-	7
Management Studies	-	-	-	40	-	1	2	43
Mathematics	-	-	4	-	22	-	-	26
Mechanical	75	18	45	-	-	31	2	171
Metallurgical	17	2	9	-	-	2	2	32
Naval Architecture	19	2	-	-	-	-	-	21
Ocean	-	-	-	-	-	9	1	10
Physics	-	-	5	-	14	-	-	19
Total	333	74	229	40	40	95	9	820

During the year 820 students / scholars were placed in various industries.

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 2005-06 are as follows:

11.1 Assistance to B.Tech students:

Merit-cum-means scholarships of Rs.300 p.m.(upto July 2005) and enhanced by the ministry to Rs. 1000/- p.m. (w.e.f August 2006) 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 415 students benefited. The year-wise details of number of students 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 70/- p.m. upto July 2005 (Rs.250/- p.m. from August 2005), exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules. As on 31.3.2005, 113 students benefited.

Student freeship were sanctioned to B.Tech/Dual Degree students, the exemption from payment of tuition fees. The batch-wise details of number of students benefited also are given below:

No. of MCM and SC/ST scholarships

Table 11.1

Batch	MCM Scholarship	SC/ST Scholarship	Student Freeship
2005	132	59	2
2004	121	28	-
2003	84	17	-
2002	78	9	-
Total	415	113	2

In addition to the above, the Institute sanctioned notional prize of Rs.1000/- to 29 first B.Tech top ranking (in the JEE 2004) students whose parental income is more than Rupees One lakh.

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
2005	4
2004	53
2003	29
2002	41
Total	127

No. of State Government Scholarship obtained by B.Tech students

State	Batch/Total no. of students				Total
	2005	2004	2003	2002	
Andhra Pradesh	-	45	197	145	387
Delhi	-	15	1	2	18
Karnataka	1	2	1	2	6
Kerala	-	3	2	2	7
Tamil Nadu	-	1	-	1	2
Other States	-	5	1	0	6
Total	1	71	202	152	426

11.3.1 M.Tech:

Students who joined M.Tech programme through GATE were awarded Half-time Teaching Assistantship (HTTA) at Rs.5000/- per month. During the period under report 197 fresh assistantships and 274 renewed assistantships were given. The discipline-wise details are given below:

No. of HTTA awarded

Sl. No.	Discipline	Fresh – 2005 batch		Renewal - 2004 batch
		I Sem.	Non-HTTA got HTTA	
1	Aerospace Engineering	06	1	02
2	Applied Mechanics	05	1	05
3	Chemical Engineering	18	-	28
4	Civil Engineering	31	6	45
5	Computer Science & Engg.	36	-	36
6	Electrical Engineering	38	-	72
8	Indl. Maths & Sc.Computing	04	3	06
9	Mechanical Engineering	40	7	56
10	Metallurgical & Mat. Engg.	09	1	12
11	Ocean Engineering	05	1	06
12	Solid State Technology	05	1	06
Total		197	21	274

11.3.2 M.Tech Dual Degree

Students who joined M.Tech programme under Dual Degree of 2001 batch were awarded Half-time Teaching Assistantship (HTTA) at Rs.5000/- per month based on their obtaining valid GATE score. During the period under review 87 students were awarded fresh assistantships of Rs.5000/- per month from June 2005 and 87 renewed assistantships in Jan. 2006 out of which 75 students were renewed HTTA at the rate of Rs. 5000/- p.m and 12 student at the rate of Rs. 2858/-p.m. since they obtained CGPA of less than 6.5 in July-Nov. semester. The department-wise details are given below:

Sl. No.	Discipline	2001 batch	
		Fresh (9 th Sem.)	Renewal (10 th Sem.)
1	Aerospace Engineering	09	09
2	Chemical Engineering	09	09
3	Infrastructural Civil Engg.	10	10
4	Computer Science & Engg.	06	06
5	Electrical Engineering	27	27
6	Mechanical Engineering	15	15
7	Met. & Mat. Engineering	05	05
8	Naval Arch. & Ocean Engg.	06	06
Total		87	87

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 65 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	8	7	3	3
2.	Mathematics	8	8	4	4
3.	Physics	9	6	3	2
Total		25	21	10	9

11.5 M.S:

The scholars admitted to MS programme through GATE are given Half-time Teaching Research Assistantship (HTRA) of Rs 5000/- p.m. for three years. During the period under report 267 scholars received this assistantship of which 99 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	4	9	13
2	Applied Mechanics	4	7	11
3	Biotechnology	6	4	10
4	Chemical Engineering	6	6	12
5	Civil Engineering	14	17	31
6	Computer Sc. & Engg.	14	30	44
7	Electrical Engineering	23	27	50
8	Management Studies	8	42	50
9	Mechanical Engineering	13	10	23
10	Metallurgical & Mat. Engg.	6	5	11
11	Ocean Engineering	1	11	12
	Total	99	168	267

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.9500/- p.m. for first 2 years and Rs.10000/- 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.8000/- p.m. for first 2 years and Rs.9000/- p.m. for next 2 years. During the period under report 539 students obtained assistantships of which 140 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	5	4	9
2	Applied Mechanics	5	9	14
3	Biotechnology	9	17	26
4	Chemical Engineering	8	22	30
5	Chemistry	13	51	64
6	Civil Engineering	12	50	62
7	Computer Science & Engg.	9	10	19
8	Electrical Engineering	15	28	43
9	Humanities & Soc. Sciences	5	13	18
10	Management Studies	5	23	28
11	Mathematics	2	28	30
12	Mechanical Engineering	21	68	89
13	Metallurgical & Mat. Engg.	12	22	34
14	Ocean Engineering	4	14	18
15	Physics	15	40	55
	Total	140	399	539

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. 50,000/-
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 2005:

Total Sanctioned Intake	Sanctioned Intake		No. joined through				
			Programme	JEE		Preparatory Course	
	SC	ST		SC	ST	SC	ST
B.Tech - 350	54	26	B.Tech	41	9	11	11
Dual Degree - 200	30	15	Dual Degree	24	1	2	6

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 2005:

Offer issued for PC		No. joined	
SC	ST	SC	ST
19	16	19	13

In July 2004, 28 SC and 18 ST candidates were offered admission, but 23 SC and 17 ST students only joined. Of this, all 23 SC and 17 ST students successfully completed the course and joined B.Tech/Dual Degree programme.

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 2005:

Offer issued		No. joined	
SC	ST	SC	ST
82	46	41	21

12.4 M.Sc programme:

Admission was made to the M.Sc. programme through entrance examinations only. 15 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 2005, 4 foreign national students joined M.Tech programme.

At the end of March 2006, 10 foreign nationals and 21 Indian nationals 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						
B.Tech						
Thailand	-	-	-	1	-	1
M.Tech						
Ethiopia	4	5	-	-	-	9
Total	4	5	-	1	-	10
2. INRA students						
Abu Dhabi	-	-	-	1	-	1
Bahrain	-	-	-	3	-	3
Kuwait	-	-	-	4	-	4
Kenya	-	-	-	1	-	1
Muscat	-	-	-	-	1	1
Oman	-	-	-	1	-	1
Qatar	-	-	-	1	-	1
Saudi Arabia	-	-	-	1	1	2
Singapore	-	-	-	1	-	1
UAE	-	-	-	3	3	6
Total	-	-	-	16	5	21

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 24 students benefited and Rs. 4,21,500 released for the above purpose.

13. CAMPUS AMENITIES

IIT Madras is a residential Institution. It is housing about 3044 Students and 1028 Staff members in the Campus. It provides various amenities in the Campus for students and staff.

The Engineering Unit of the Institute is responsible for construction of new buildings and the maintenance of the Campus.

13.1 Major Works:

The following are the major works completed during the year 2005-2006:

Sl. No	Name of work	Rupees in Lakhs
1.	Interior works for new Library Building	108.00
2.	Construction of crèche	51.00
3.	Bose Einstein Block adjacent to VIP Guest House	180.00
4.	Management Department Building at Old Library Building	310.00
5.	Construction of Mega Mess – II	1150.00
6.	Modification and renovation of D1 type quarters in to C2-3 type quarters	36.00
7.	Annual Maintenance for the year 2005-06	526.00
Total		2361.00

Work in progress:

1.	Sewage Treatment Plant	270.00
2.	New boys hostel G+6 floors (4 Blocks)	4500.00
3.	Bio-Tech Building	1200.00
4.	Revamping of 11 KV distribution system	585.00
5.	Proposed interior work for third floor of ME&MH Lab	46.00
6.	Proposed construction of third floor of ME&MH Lab	80.00
7.	Providing ward rope shutters in double room of nine hostels	42.00
8.	Construction of additional emergency stair- case in all hostels	53.00
9.	Providing distribution lines to 3 floor buildings in RZ	58.00
10.	Construction of MRI & MRS Building	69.00
11.	Extension of Dinning Hall at Krishna & Cauvery Hostel	175.00
12.	Construction of coffee day building	28.16
13.	Over Head tank for E & E1 type quarters	16.56
14.	Renovation of single room (36 rooms) at Tharamani Guest House	52.00
15.	Leak proof treatment at C, C1 & D type quarters at R.Z	25.00
16.	Lab furniture for Biotechnology building	172.50
17.	Annual Maintenance works	587.00
18.	Providing collection tank near Sewage Treatment Plant	31.60
Total		7990.82

13.2 Housing Facilities:

As on 31.03.2006, 1028 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. During the year 2005-2006, grassland was developed in front of SAC Building to facilitate grazing by blackbuck deer and another new lawning is being developed in front of Alumni building.

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:

Its functions under the administration of a warden. This unit procures milk from Tamil Nadu Co-operative Milk producers' Federation and distributes to the student hostels. Under the provision supply scheme, the unit procures the items of major consumption from the wholesale suppliers and distributes them to the hostels, thus economizing the mess expenditure in the hostel.

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:

Institute hospital serves for about 1,396 employees, 4,074 dependents, 4,823 students, 1,852 retired staff and their spouse and about 670 project staff. In total 12,815 persons are registered in the hospital.

Doctors

Dr. N.A. Jayavelan	Chief Medical Officer i/c
Dr. S. Aruna	Medical Officer
Dr. C. Sridevi	Medical Officer
Dr. Mahalakshmi M. Ravi	Medical Officer
Dr. B. Rebecca Punithavalli	Medical Officer
Dr. J. Indulekha	Medical Officer
Dr. N. Porchelvi	Junior Medical Officer
Dr. C.B. Ramkumar	Junior Medical Officer
Dr. P. Jeyanthi	Junior Medical Officer
Dr. V. Thenral	Junior Medical Officer
Dr. G. Gowthami	Junior Medical Officer
Dr. S. Sridevi	Junior Medical Officer

Part-time Consultants

Dr. Jayashreemurthy	Gynaecologist
Dr. M.S. Sornam	Gynaecologist
Dr. K. Azakutamilselvi	Radiologist
Dr. S.K. Rajavalli	Dentist
Dr. C. Indira	Paediatrician
Dr. E.S. Krishnamurthy	Neuropsychiatrist
Dr. J.S.N. Murthy	Cardiologist
Dr. S. Manoj	Cardiologist
Dr. Jaya Mahesh	Ophthalmologist (from Prems' Eye Clinic)
Dr. A. Subbiah	Dentist (from Sri Balaji Dental College)
Dr. Vijay Ebenezer	Dentist (from Sri Balaji Dental College)
Dr. V. Rajakumar	General Surgeon (from SMF Hospital)
Dr. P.V. Jayashankar	Orthopaedic Surgeon (from SMF Hospital)
Dr. R.M. Alagappan	Orthopaedic Surgeon (from SMF Hospital)
Dr. V. Sumathi	ENT Surgeon (from SMF Hospital)
Dr. Krishna Kanth	Dermatologist (from SMF Hospital)
Dr. Nirupasomasundaram	Diabetologist (from SMF Hospital)

Par-medical staff

Staff Nurse	....	13
Pharmacists	....	2
Lab. Technician	....	1
Male & Female Helpers	....	19
Office Staff	....	2
Systems Trainee	....	1
Project Staff	....	2

Outpatients Service:

Institute hospital has fully computerized O.P. card registration system for all eligible with their photos. In 2005-2006, 66,860 outpatients were treated in the hospital. In 2005-06 about 1600 new cases records were registered at hospital office.

Inpatient Service:

There are 18 beds in our hospital for treating in-patients. In 2005-06, 754 patients were treated as inpatients and 1 delivery was conducted. All in-patient rooms were fitted with A/C.

Our surgeons performed 119 surgeries in the year of 2005-06 including hysterectomy I.O.L surgery, Caesarians etc.

Emergency services:

Emergency service is available round the clock on all days with a duty doctor and supporting staff. 3654 emergency cases were attended during non-OP hours in 2005-06. An ambulance service run by Trauma Care Consortium of is available at hospital on call round the clock.

Physiotherapy, X-ray & USG services:

3,987 patients had Physiotherapy, 460 patients had Ultra Sound Scan and 2450 patients had X-ray done at our hospital.

Treatment for Non-entitled:

Non-entitled guests of a staff /student can avail emergency treatment on payment basis subjects to the institute rules. Rs.2,90,140 was collected in the year of 2005-06 and Rs.8,98,838 was collected towards Medical Insurance Claim.

Hepatitis B Vaccination Camp:

Our hospital team conducted free Hepatitis B vaccination camps for all the students. 2,490 students were vaccinated.

Free-Hepatitis B vaccinations were given to all employees and 1,104 staffs were vaccinated.

Other Major events

1. Upgraded Operation Theatre with modern equipments and laminar A/C. was opened for surgeries.
2. Extension of OP time
Morning – 8.30 a.m to 2.00 p.m. on all days
Evening – 4.00 p.m. to 7.00 p.m. on all days except Saturday, Sunday and Institute closed holidays
3. The following three CME programmes were conducted at our Hospital
 - a. "Practical Application of Spirometry"
 - b. "Antirabies vaccination"
 - c. "Rabies Management – Updated"
4. Our Institute had signed an M.O.U. with
 - a. Preme's Eye Clinic for Ophthalmology Service
 - b. Sri Balaji Dental College for Dental Specialty Pay Clinic
5. Dental Specialty Pay Clinic under a M.O.U. with Sri Balaji Dental College had been started.
6. Dr.N.A. Jayavelan attended a five days programme on "Hospital Administration and Human Resources Management for Health Care Organization" at Goa conducted by National Productivity Council.
7. Institute Hospital was the Co-Organizer for the International Conference on "Heart Failure – a Comprehensive Management"
8. Health checking camp for the public was conducted on
 - Bone Mineral Density checkup
 - Lung function checkup

13.8 Bank:

State Bank of India IIT branch is functioning on the campus, which has provided 2 ATMs. Canara Bank branch is also functioning on the campus. ICICI Bank has provided an ATM in the Hostel Sector.

13.9 Post Office and Telecom centre:

There is a post office on the campus opposite to the State Bank of India to cater to the needs of the staff, students and residents of the campus. A 24 hours telecom centre is functioning to cater to the needs of the staff, students and residents of the campus.

13.10 Schools:

Vanavani Matriculation Higher Secondary School (VVMHSS) administered by IIT Madras Educational Trust is functioning on the campus besides a Kendriya Vidyalaya (K.V.) VVMHSS school is offering courses from LKG to XII Standards and the KV is offering courses from I standard to XII standard.

13.11 Open Air Theatre:

An Open-Air Theatre is available for screening films by the Film Club during week-ends and for use for other functions of the Institute and the Schools.

13.12 Student Activities Centre:

This building is used for indoor games of the students as well as for the conduct of important functions such as Convocation, orientation programme for freshers etc.

13.13 Cafeteria:

Two Canteens, viz. IIT Staff Canteen and Tifans Restaurant are available on the campus to cater to the needs of the staff and students.

13.14 Crèche:

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 69th Finance Committee of the Institute in its meeting held on 02/02/2006 recommended Non Plan Revised Estimates of Rs. 9211 lakhs (Gross) for 2005-06 and Budget Estimates of Rs. 9885 lakhs (Gross) for the year 2006-07. The Committee also recommended Plan Revised Estimate of Rs. 7260 lakhs for 2005-06 and Rs. 5200 lakhs Plan Budget Estimate for 2006-07.

The following are the Summary of Revised Estimates 2005-06 and Budget Estimates for 2006-07 as approved by the Board of Governors of the Institute in their 189th Meeting held on 02/02/2006.

(Rs. in Lakhs)			
Head	BE – 2005-06	RE – 2005-06	BE – 2006-07
I. Non-Plan			
Income	2900.00	2386.00	2385.00
Grant from MHRD	7000.00	6825.00	7500.00
Total	9900.00	9211.00	9885.00
Expenditure			
Recurring	9900.00	10232.00	10097.00
II. Plan			
Grant from MHRD	4000.00	3960.00	4000.00
Corpus Fund Transfers	600.00	3300.00	
Total	4600.00	7260.00	4000.00
Expenditure			
Non-recurring	4600.00	7260.00	5200.00

Audit

The Annual Accounts of the Institute for the year 2004-05 was audited by Principal Accountant General (Tamil Nadu & Pondicherry) between July and September 2005. The certified copy of Accounts and Audit Report were sent to MHRD, New Delhi for placing before Parliament on 3rd February 2006.

Summary of Plan/Non-Plan funds utilization for 2004-05 is as below:

PLAN

(Rs. in Crores)	
Opening Balance	Nil
Grant Sanctioned during 2004-05	35.00
Funds from Corpus	14.25
Total available	49.25
Capital Expenses during 2004-05	
Buildings & Construction	34.89
Furniture & Fixtures	1.98
Equipments	10.85
Books	1.42
Other items	0.11
Total	49.25
Balance	Nil

NON -PLAN**(Rs. in Crores)**

Opening Balance	Nil
Grant Sanctioned during 2004-05	68.25
Institute Income	27.19
Total available	95.44
Expenditure during 2004-05	
Pay & Allowances	31.74
Retirement Benefits	17.67
Library Services	5.92
Health Services	1.10
Student Scholarship	9.21
Hall Subsidy	6.41
Administrative Expenses	1.32
Departmental/Laboratory/Workshop expenses	6.64
Transport Subsidy	0.31
Student support Activities	0.20
Computer Facilities	1.71
House Keeping & Estate Maintenance	10.45
Water/Electricity Charges	9.40
Entrance Examination Expenses	1.52
Total utilized *	103.58
Deficit	8.14

* Deficit made good from earlier year's accumulated surplus.

1. THE SENATE

Chairman

PROF. M.S. ANANTH

Members

Prof. Achar D R G	Prof. Nagarajan R
Prof. Ajit Kumar Kolar	Prof. Narayanan S
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Prof. Anumolu Meher Prasad	Prof. Natarajan T S
Prof. Ashok Kumar Mishra	Prof. Neelima Madhukar Gupte
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Prof. Balakrishnan A R	Prof. Panda T
Prof. Balasundaram Subramanian	Prof. Pandurangan C
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Prof. Chaudhary S C	Prof. Prasad Rao K
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Prof. Damodara Doss V	Prof. Pushpavanam S
Prof. Deshmukh P C	Prof. Raghavan S
Prof. Devdas Menon	Prof. Raghavan S V
Prof. Dhamodharan R	Prof. Raghunathan S
Prof. Dharanipragada Janaki Ram	Prof. Rajagopal K
Prof. Evangeline Manickam	Prof. Rajagopalan K
Prof. Gandhi S R	Prof. Rajendran C
Prof. Ganesan N	Prof. Raju Sethuraman
Prof. Ganesan V	Prof. Ramachandra Rao V S
Prof. Ganesh L S	Prof. Ramachandraiah A
Prof. Gopinath K	Prof. Ramakrishna Mokkapati
Prof. Hariharan K	Prof. Ramamoorthy B
Prof. Idichandy V G	Prof. Ramamurthy K
Prof. Jagadeesh Kumar V	Prof. Ramaprabhu S
Prof. Janakiraman P A	Prof. Ramasubba Reddy M
Prof. Jayachandran S	Prof. Ramesh A
Prof. Jhunjhunwala A	Prof. Ramesh Babu N
Prof. Job Kurian	Prof. Ramesh K
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Prof. Kalyanaraman V	Prof. Ravindra Gettu
Prof. Kamala Krithivasan	Prof. Sangaranarayanan M V
Prof. Kamalanabhan T J	Prof. Sankararaman S
Prof. Karmalkar S	Prof. Santhakumar S
Prof. Kesavan Nair P	Prof. Sarit Kumar Das
Prof. Koshy Varghese	Prof. Satyanarayana K N
Prof. Kothiyal M P	Prof. Seetharamamurthy D V
Prof. Krishnakumar R	Prof. Sesha Talpa Sai
Prof. Krishnan Balasubramaniam	Prof. Seshadri S K
Prof. Kulkarni S H	Prof. Shankar Narasimhan
Prof. Kumaraswamy S	Prof. Shet U S P
Prof. Lakshminarasimhan J	Prof. Shunmugam M S
Prof. Loganathan D	Prof. Singaperumal M
Prof. Malathy Duraisamy	Prof. Siva Prasad N
Prof. Mani A	Prof. Siva Ram Murthy C
Prof. Mani J S	Prof. Srinivasa Murthy S
Prof. Mathews M S	Prof. Srinivasa Y G
Prof. Mehta P S	Prof. Srinivasan G
Prof. Mohan S	Prof. Srinivasan K
Prof. Muraleedharan V R	Prof. Srinivasan S
Prof. Murthy V R K	Prof. Sriram P

Prof. Subrahmanyam A
Prof. Subramanian M S
Prof. Subramanian S P
Prof. Subramanyam P V
Prof. Sudheendra Rao M N
Prof. Sujatha C
Prof. Sundar V
Prof. Sundararajan G
Prof. Sundararajan T
Prof. Sundaravadivelu R
Prof. Surraishkumar G K
Prof. Swaminathan T
Prof. Swarnamani S
Prof. Thamban Nair M
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Prof. Timothy A Gonsalves
Prof. Usha R
Prof. Varadarajan T K
Prof. Varadaraju U V
Prof. Veeramani P

Prof. Veeraraghavan A
Prof. Vendhan C P
Prof. Venkateshan S P
Prof. Venkatrathnam G
Prof. Venugopal P
Prof. Vijayaraghavan

Other Members:

Dr. Harish Chandra

Student Members:

Sri. Prasad V Dudhgaonkar, SGS

Sri P Arun Prasad, RAS

Sri. Karthik Ganesan, AAS

Invitees:

Dr. K Panchalan, Dy. Registrar (Acad)

Secretary:

Dr. Usha Titus

2. BOARD OF ACADEMIC COURSES

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Prof S SanthaKumar, Dean (Academic Courses)

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Prof V G Idichandy, Dean (Students)
Previous Dean (Academic Courses)
Prof T A Gonsalves, Advisor, FN & WS Students
Prof David Koil Pillai, Head, Guidance & Counselling Unit

Members:

Prof T K Varadarajan, CY, Director's nominee
Prof. P Sriram, Aerospace Engineering
Dr. N R Panchapakesan, Applied Mechanics
Dr Mukesh Doble, Biotechnology
Dr Abhijit P Deshpande, Chemical Engineering
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