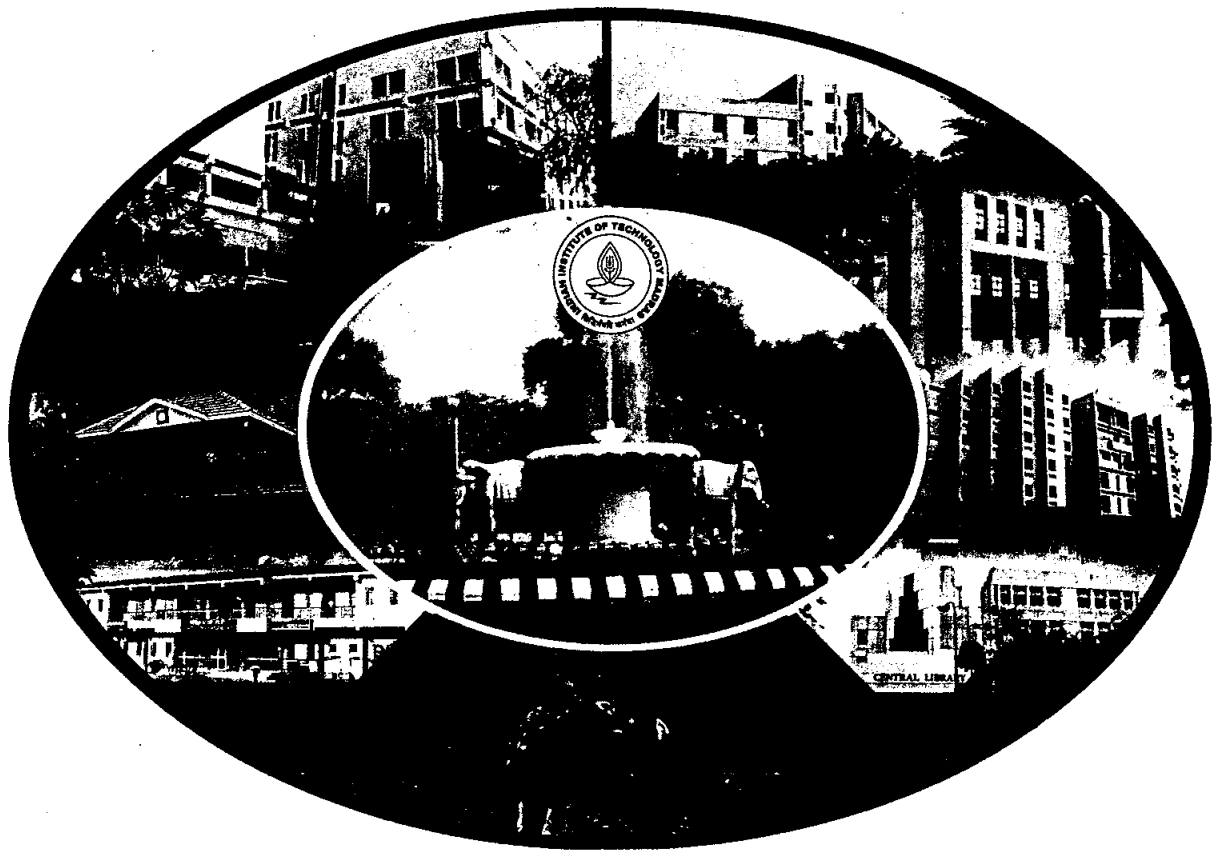


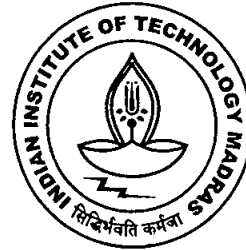
Annual Report 2006-07



Indian Institute of Technology Madras

FORTY EIGHTH ANNUAL REPORT

2006-07



**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 Institute now has 16 Departments and 5 Research Centres and the campus covers an area of 256 hectares of forest land and houses a community of about 11000 people.



The Institute offers several course-based undergraduate and post-graduate programmes as well as research-based masters and doctoral programmes. It has responded to environmental changes and user needs by redesigning curricula, offering new programmes and specially designed user-oriented M.Tech. and Continuing Education programmes. The Preparatory Course programme for weaker section students offers intensive coaching to eligible candidates to prepare them for entry into IITM on successful completion of this one-year programme. 14 ST candidates have been admitted to this course in 2006.

The Institute also undertakes a large number of research and consultancy projects sponsored by a wide spectrum of funding agencies, including Government and Industry. IITM has active linkages with leading academic and research organizations in Australia, France, Germany, Korea, Japan, Singapore, UK and USA. This Report provides a summary of our activities, achievements and accomplishments during the year 2006-07.

1.2 The Forty-Third Convocation

At this Convocation, a total of 1267 degrees were awarded: 101 Ph.D., 118 M.S., 459 M.Tech., 44 M.B.A., 78 M.Sc., 90 Dual Degree (B.Tech & M.Tech) and 377 B.Tech. These degrees cover a wide range of disciplines and specializations offered by the eleven Engineering departments, three Science departments, the department of Management Studies and the department of Humanities and Social Sciences. Among the graduands are: 50 QIP candidates (teachers from other colleges), 28 sponsored candidates and 66 UoP candidates, 161 ladies, comprising 18 Ph.D., 19 M.S., 65 M.Tech., 14 M.Sc., 12 MBA, 5 Dual Degree and 28 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, an integrated Masters programme in Humanities and Social Sciences (HS) and PG programmes in Applied Mechanics (AM), Chemistry (CY), Humanities & Social Sciences (HS), Management Studies (MS), Mathematics (MA) and Physics (PH) departments. User Oriented M.Tech. programmes are currently offered in BT, CE and ME. User Oriented Programmes (UoPs) in Pavement Engineering in collaboration with Border Roads Organization (BRO), and in Ocean Technology and Management sponsored by the National Institute of Ocean Technology have been approved and will be introduced from July 2007.

A National Centre for Catalysis Research funded by the Department of Science and Technology to the tune of Rs.16 crores has begun functioning. The new Department of Engineering Design has added a first-of-its-kind-in-India Vehicle Dynamics lab equipped with state of the art tools.

1.4 Academic Research

IITM continues to be active in research and during the year under review, 101 Ph.D theses and 118 Master's theses have been completed. Our faculty and research scholars have published 691 research papers in refereed International (584) and National (107) Journals and have presented 742 research papers in International (457) and National (285) Conferences. At the risk of over simplification, I will attempt to give a flavour of the results obtained.

Ph.D. Work

Aerospace Engineering

Allu Satyanarayana & Santhakumar generated an experimental wind-tunnel data base on aerodynamic characteristics of an air-breathing missile configuration and developed a semi-empirical method for predicting aerodynamic forces valid for wide-ranging body-intake configurations.

Sarith Sathian & Job Kurian studied experimentally and computationally the impingement effects of rarefied gas jets on surfaces in transitional and free molecular regimes typical of jets from satellite control thrusters.

Applied Mechanics

Krishnan, Radhakrishnan & Chakravarthy proposed mechanism of Gap junction adaptation and showed by simulation studies that such adaptation explains several phenomenological properties of cardiac memory.

Manivannan & Ramasubba Reddy have applied the fuzzy logic system to quantifying the Global as well as Regional Left ventricular systolic dysfunction (LVSD) of the heart by analyzing 2D and Real Time 3D Echocardiograms.

Mukartihal Gurubasappa, Radhakrishnan & Ramasubba Reddy developed a dedicated cost effective system to record and analyse Visual Evoked Potentials (VEP) and derived indices to demarcate patients with clinical complaints of optic neuropathy, ischaemic neuropathy and non-recordable groups.

Biotechnology

Balaji Balagurunathan & Guhan Jayaraman proposed a mechanistic model for the cellular stress response circuit, based on the experimental investigations of various stress proteins on the intracellular expression of recombinant streptokinase in *E.coli* that these were modulated by the levels of a key heat shock protein, the chaperone DnaK.

Karthik, Patil & Venkatesh Balasubramaniam identified, classified and analysed epileptic abnormalities present in interictal electroencephalogram signals from subjects with generalized tonic clonic seizures, complex partial seizures, myoclonic and absence seizures using fast Fourier and discrete wavelet transforms.

Soma Guhathakurtha & Venkatesh Balasubramaniam developed a method to process bovine pericardium as a biomaterial in cardiovascular surgery and studied its biocompatibility and mechanical strength through some animal studies.

Sunil Kumar & Satyanarayana Gummadi isolated a new *Debaryomyces nepalensis* from apple which is capable of producing industrially important pectinases, viz., pectin lyase and pectate lyase.

Chemical Engineering

Aparna, Balakrishnan & Tanmay Basak investigated computationally and experimentally the effects of microwave heating of porous dielectrics as a function of porosity, incident microwave distributions and ceramic/metallic supports.

Gowrishankar Bychapur Siddaiah & Panda characterized multiple forms of industrially important intracellular esterase, having low thermal deactivation, from *Saccharomyces cerevisiae* in fermentation under optimal conditions.

Jagannathan, Murthy & Swaminathan studied the photocatalytic degradation of a new class of air pollutants viz., volatile organic compounds in a photoreactor with immobilized titanium dioxide catalyst through statistically designed experiments and regression and ANN based models.

Krishna Bandaru, Murthy & Krishnaiah studied the phenomena of segregation of heterogeneous particles to obtain hydrodynamic data for the design of the reactor in a novel contactor, the Inverse Fluidized Bed.

Krishnamoorthy, Abhijit Deshpande & Pushpavanam investigated single phase and multiphase flow through porous media and their impact on ground water quality.

Seshagiri Rao Ambati, Ramachandra Rao & Chidambaram developed several new time delay compensation algorithms for SISO stable, integrating, unstable processes and for MIMO square and non-square processes.

Sriram, Abhijit Deshpande & Pushpavanam investigated flow in a periodically driven cavity to generate fundamental understanding of mixing processes when the fluid is Newtonian or viscoelastic and sustains chemical reactions.

Chemistry

Arkash Bandyopadhyay & Sankararaman synthesized and structurally characterized oxepins that exhibit thermochromism (changing color as a function of temperature) and various cross-conjugated annulenes that are potentially useful as organic materials in molecular electronics.

Arunkumar & Bhyrappa reported the synthesis, molecular recognition and liquid crystalline properties of low melting novel porphyrin mesogens.

Girija & Sangaranarayanan demonstrated the feasibility of using underpotential deposition based systems and conducting-polymer based materials in the of electrochemical supercapacitors.

Kesava Raju & Subramanian developed a rapid reversed phase HPLC method for separation of trace amounts of lanthanides in a uranium matrix.

Maialagan & Viswanathan examined various nano structured materials as supports for anode electro catalysts in DMFC applications and showed that the carbon nano tubes with hetero-atom substitution are by far the best supports.

Raghuraman & Dhamodharan prepared stable dispersions of nanosized magnetite, titania and silica by growing polymer chains from these surfaces and described a novel method for attaching polymer monolayers through hydrosilane anchoring chemistry to transition metal based surfaces.

Ram Prasad & Mangala Sunder described a new general theoretical framework for the derivation of effective Hamiltonians in the presence of static electric (Stark) Fields and derived effective microwave Hamiltonians for benzene-water van der Waals complexes and fitted them with experimental data.

Renjis Tom & Pradeep studied the interactions of biomolecules with nanoparticles and nanorods and investigated the model reactions of such nano-bio hybrids and showed that conformational changes retard the functions in some proteins.

Rosemary & Pradeep synthesized ceramic nanobubbles and incorporated functional and biologically active molecules in these ultra-small bubbles and probed the transport of such nanobubbles into bacteria by microscopic and spectroscopic techniques.

Sankaran, Srinivasamurthy & Viswanathan established theoretically and experimentally the role of heteroatoms for hydrogen storage in carbon materials.

Sreekumaran Nair & Pradeep discovered novel reactions of metal nanoparticles with halocarbons leading to unusual products and applied them for the detection and extraction of pesticides from drinking water.

Srimurugan & Varadarajan synthesized macrocyclic Mn(III)(SALEN) complexes by the microwave assisted cyclocodensation procedure and successfully applied them as catalysts for the enantioselective epoxidation of prochiral unfunctionalised olefins.

Suvitha & Viswanathan synthesized a variety of hexa coordinate tris (2,3-dihydroxynaphthalato) silicates and studied their structures and physico-chemical properties as well as their utility as precursors for the generation of silica catalytic supports.

Udayanath Aich & Loganathan synthesized several novel N-glycoprotein analogs using a chemoenzymatic approach and unraveled through studies an anti-parallel network of bifurcated hydrogen bonds involving NH...O and CH...O interactions observed uniquely for GlcNAc-Asn models.

Usharani Subuddhi & Ashok Kumar Mishra evaluated some new fluorescent molecules as molecular probes for organized media like liposomes and bile-salt micelles and developed interaction models using fluorescence anisotropy.

Vaidyanathan Sivakumar & Varadaraju investigated new phosphor compositions for Solid State Lighting (LED based lighting) and found that the intensity of some of the red phosphor compositions is higher than that of commercially available ones.

Civil Engineering

Anjaneya Prasad & Mohan developed three different Fuzzy Logic rule-based simulation models, and applied them to the Godavari river system reducing the irrigation deficits up to an extent of 44% and also enhancing the hydropower generation performance.

Bino Koshy, Pattnaik & Sivanandan established the importance of qualitative attributes in mode choice decisions for work trips through Multinomial Logit and Artificial Neural Networks modelling techniques.

Manikandan & Ramamurthy studied systematically the pelletization and hardening of different types and fineness of flyash, and characterised the aggregate using SEM and XRD techniques in order to convert fly ash into a value-added commercially-viable product.

Prashanth Reddy, Murty & Shankar Narasimhan developed a new software based methodology for detecting and identifying leaks in gas pipeline networks, and demonstrated its applicability through field level tests.

Rajagopal & Siva Kumar proposed and formulated a r-h adaptive strategy based on material forces and error assessment and used it to investigate plane problems, biomaterial interfaces, laminates and plates.

Revathi & Devdas Menon proposed semi-empirical formulations based on full-scale experiments and theoretical analysis to estimate the critical buckling moment, limiting slenderness ratio and reduction in ultimate moment capacity in slender rectangular RC beams.

Selva Kumar, Karthik Srinivasan & Thamizh Arasan developed a set of models to quantify and forecast the demand for rail travel between Indian cities with population of one million and more.

Shashsidhar, Ligy Philip & Murty studied the transport and bio-transformation of chromium in contaminated aquifers through soil column experiments and mathematical modeling and evaluated the effectiveness of bio-barriers for Cr(VI) containment.

Sivakumar & Manu Santhanam experimentally evaluated the early age and hardened properties of silica fume based high strength concrete reinforced with a combination of steel and non-metallic fibres.

Srinivas Sriramula, Devdas Menon & Meher Prasad developed a methodology for efficient probabilistic load modelling of bridges using limited Weigh In Motion data and dependence structure characterized by Copula functions, and simulation.

Computer Science and Engineering

Bheemarjuna Reddy & Siva Ram Murthy proposed efficient solutions for QoS-aware medium access control, QoS routing, and robust video multicasting in Adhoc wireless networks.

Girish Chowdhary & Siva Ram Murthy proposed multicast grooming node architectures with associated efficient grooming algorithms for survivable optical WDM ring and mesh networks.

Kannan Srinathan & Pandurangan introduced a taxonomy leading to a unified way of studying the problems in Secure Distributed Computing and established the possibility, feasibility and optimality of protocols for secure message transmission under a number of settings/abstract models.

Leena Mary, Yegnanarayana & Chandra Sekhar proposed new methods for extraction and representation of prosodic features directly from the speech signal and prosody-based approaches for language discrimination and speaker verification.

Maluk Mohamed & Janakiram explored the challenges of seamless integration of mobile systems into grid system and proposed communication and computing paradigms for building large scale distributed mobile systems.

Sujatha Upadhyaya & Sreenivasa Kumar developed a methodology for bridging the gap between the world of XML data and the semantic web, extracting ontological knowledge and efficient inferencing methods.

Electrical Engineering

Bindu & Amitava Das Gupta developed an analytical model of current-voltage and capacitance-voltage characteristics of Si/SiGe heterostructure MOSFETs considering classical as well as quantum-mechanical effects and proposed a novel method for the extraction of device parameters.

Boby George & Jagadeesh Kumar proposed triple-slope, dual-slope and sigma-delta type direct capacitance to digital converters suitable for differential capacitive sensors and demonstrated a novel application in the form of a digital angle sensor.

Joseph Daniel, Bhat & Enakshi Bhattacharya demonstrated a new technique stable at high temperatures, of grain boundary passivation of polysilicon using dopants that significantly brings down the trap density and improves performance of polysilicon MOSFETs.

Naseer Babu, Bhat & Nandita DasGupta reported the development of a new experimental process for advancing silicon microelectronics technology a novel model for electrical characterization of MOSFET transconductance.

Palani & Jayashankar developed a unified framework for analysis using virtual instrumentation in the context of various tests performed on large power transformers involving a wide frequency range using lightning impulse, switching surge and winding deformation assessment.

Panakala Rajesh Kumar, Sridharan & Srinivasan developed hardware-efficient algorithms for exploration and landmark determination in a dynamic environment and demonstrated the efficacy through experiments on locally fabricated FPGA-based mobile robot.

Santhi & Jayashankar proposed a number of online test methods and better signal analysis techniques involving time and frequency domains for validating the mechanical and structural integrity of transformer windings.

Saritha & Janakiraman described a new scheme to reconstruct the three phase currents of controlled machines by just observing the D.C. link currents of the inverter, obviating the use of conventional multiple Hall-sensors which are sensitive to stray magnetic fields.

Vikram, Vinita Vasudevan & Srinivasan used the observation that tasks in image and signal processing and computer vision are data parallel to achieve significant acceleration using a parallel implementation and developed and experimentally validated a theoretical framework for optimization studies.

Humanities and Social Sciences

Eswara Rao, Veeraraghavan & Muraleedharan carried out primary work on the History of Tuberculosis and Government Policy towards control of tuberculosis in South India during 1880-1940 and in particular analysed the role of Institutional care and evolution of various treatment methods.

Rajesh Raj & Malathy studied the productivity and efficiency of the unorganized manufacturing sector in India using state and industry level data for the period 1978-2001 with a focus on the impact of reforms with special reference to the sector's performance in the state of Kerala.

Srinivasa Rao & John Lourdsamy examined the implications of the introduction of electricity within a colonial polity and economy, the different shades of local response to the resulting opportunities and challenges and the shaping of a local electrical engineering community.

Sunil & Prema Rajagopalan examined the effective interplay of customary laws and formal regulations and their agents in the conservation and allocation of common property resources with special reference to the traditional fishing community in Kerala.

Management Studies

Arun Prasad & Kamalanabhan attempted to align HR practices with characteristics of single, double loop and triple loop learning and examined the impact on learning outcomes, financial and non-economic performance.

Godwin developed a set of composite heuristics for routing and scheduling freight trains, assigning locomotives to freight trains and determining fleet sizes for locomotives and for rakes.

Lata Dyaram & Kamalanabhan examined and characterized heterogeneity among software development team members, analyzed the relationship between team heterogeneity and work outcomes and suggested suitable measures for human managers in IT organizations to improve team effectiveness by improving the processes of team selection and management.

Sandhya Shekhar & Ganesh dealt with understanding factors affecting knowledge transfer effectiveness for knowledge workers in Virtual Organizations and identified some of the strategic, tactical and operational imperatives for making this emergent organizational form sustainable in the long term.

Mathematics

Anthony Eldred & Veeramani introduced the notion of proximal normal structure and cyclic contraction mappings to study the existence of optimal approximate solutions.

Mechanical Engineering

Anandkumar Annigei, Ganesan & Swarnamani reported static and vibration behaviour of magneto-electroelastic structures made of combination of piezoelectric/ piezomagnetic materials useful for design of smart sensors and actuators.

Dhanasekaran & Gnanamoorthy developed novel self-lubricating sintered steels and studied the performance of products made out them using experimental and analytical tools.

Ganesan & Ganesan used CFD to simulate non-reacting and reacting flow in a gas turbine afterburner and arrived at an optimized configuration for practical afterburner.

Jayasankar, Chandramouli & Narayanan proposed design guidelines for noise reduction from composite shells underwater.

Narayanan, Chandramouli & Narayanan developed guidelines for selecting the excitation parameters for robust identification of nonlinear mechanical systems even when the strength of the nonlinearity is low.

Nazar, Ramesh & Nagalingam demonstrated experimentally that heating, esterification and dual fuelling with fuels like hydrogen and LPG can improve the performance of vegetable oils in diesel engines, and that water injection in the intake manifold can overcome the problems of severe knock and emission of high levels of NOx.

Pradeep & Ganesan carried out finite element studies on viscoelastic structures under different thermal environments.

Raja, Tanmay Basak & Sarit Kumar Das developed an efficient new type of heat exchanger called the 'constructal heat exchanger' and applied for a patent for the same.

Rajasekaran & Babu studied fundamental issues in 3D, supersonic, turbulent, reacting flow in the combustor of a hypersonic cruise vehicle and carried out a CFD evaluation of a full scale combustor.

Rajesh Bhangale & Ganesan carried out finite element studies on FGM structures under thermal environment and coupled finite element studies on functionally graded magneto-electro-elastic structures.

Ramachandran & Narayanan theoretically analysed and experimentally validated the vibro-acoustic response prediction of stiffened and composite shell structures representative of aerospace and launch vehicle structures in the high frequency regime (1000Hz-1kHz) using Statistical Energy Analysis.

Ravichandran & Chandramouli developed exact solutions for the vibrations of elastic and piezoelectric cylinders with application to sonar transducers.

Sateesh, Balakrishnan & Sarit Kumar Das investigated the role of sliding bubbles on the pool boiling on inclined tubes.

Srihari & Sarit Kumar Das presented a dynamic analysis of plate heat exchangers and supported the analysis by transient experiments.

Srinath & Gnanamoorthy developed an analytical model for predicting the friction in polymer Nano composites and validated it with experiments using samples prepared and tested in the laboratory.

Thundil Karupparaj & Ganesan investigated the effect of vane angle on recirculation and turbulence using CFD employing various turbulence models and concluded that 45 degree vane swirler with hub diameter of 0.24 m is optimal.

Usha Sri & Sitaram investigated computationally the effect of blade tip chamfering to improve the performance and stability of centrifugal compressor impellers.

Vijay, Srinivasa Murthy & Maiya evaluated hydrogen storage properties of nanostructured magnesium based materials prepared by mechanical alloying with Ni and proposed a new absorption mechanism and fabricated a practical hydrogen storage device holding 4.82 wt% of hydrogen with low absorption temperature (100C).

Vikram kumar, Ramamoorthy & Kesavan Nair studied experimentally the influence of various parameters on the performance of ZrN, TiCN and TiAlN tools and minimum fluid applications and studied that minimum fluid application results are better than dry and wet conditions in terms of quality of the components produced and environment quality.

Metallurgical and Materials Engineering

Bhaskar Reddy, Prasad Rao & Ramachandra Rao developed a method for production of nanocrystalline, phase pure BZT nanopowders at room temperature in co-precipitation method from inexpensive starting materials and obtained Ho substituted BZT with a very high dielectric constant.

Gurumoorthy, Prasad Rao & Kamaraj demonstrated significant improvement in sliding wear resistance at high temperature (app.550C) of the plasma transferred arc weld deposit of Ni-based hardfacing alloys due to the formation of glazed oxide layer.

Jawahar & Balasubramanian prepared clay-polymer nanocomposites using modified clay and isophthalic polyester resin and showed they have better mechanical properties, wear properties and barrier properties than the unreinforced polyester resin and clay-polyester microcomposites.

Kishore Babu & Ganesh Sundara Raman established that pulsing of welding current resulted in grain refinement to some extent in Ti-6Al-4V arc welds and that reduction in prior beta grain size improved hardness, strength and ductility of pulsed current weldments in the as-welded condition.

Kulvir Singh & Kamaraj identified the most appropriate life prediction methodologies for as-received and aged 1Cr1Mo $\frac{1}{2}$ V rotor forging and casing casting steels in the temperature range of 773 to 873 K.

Nagaraju, Kamaraj & Prasad Rao developed new aluminum alloy compositions which will withstand higher temperatures than currently available aluminum alloys.

Ramesh Babu, Prasad Rao & Sampath Kumar synthesized the silver substituted nanosized hydroxyapatite by microwave processing and demonstrated its potential to minimize bacterial contamination without compromising the bone bonding ability.

Selvi Dev, Prasad Rao & Murthy developed better welding techniques to avoid equiaxed zone and partially melted zone formation in aluminum alloy welds.

Sivaprasad Katakam & Ganesh Sundara Raman identified the effect of % Nb in Laves and finer size on fatigue properties of the unpulsed and unoscillated as well as oscillated electron beam weldments in Alloy 718 in direct aged condition exhibited superior fatigue properties. Owing to finer size, smaller amount of Laves and lower % Nb in Laves in unoscillated electron beam weld fusion zones, unoscillated weldments in direct aged condition exhibited superior fatigue properties despite the presence of more interconnected Laves compared with beam oscillated weldments.

Sreedhar & Prasad Rao developed aluminum alloys with superior corrosion and wear resistance by a new technique known as micro arc oxidation.

Thota Venugopal, Prasad Rao & Murthy developed Cu based nano composites with high strength, good conductivity and good corrosion resistance by high energy ball milling route.

Vasudevan & Prasad Rao developed specific activated flux for enhancing the penetration capability of tungsten inert gas welding process for welding of 304 and 316 LN stainless steels and artificial neural networks models to accurately predict the solidification mode, and ferrite content for austenitic stainless steel welds.

Ocean Engineering

Balaji, Sundar & Sannasiraj formulated a methodology to predict shallow water waves and wave breaking events from the Indian data buoy measurements and to identify tsunami events.

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

Laju Kottalil, Sundar & Sundaravadivelu reported both analytical and experimental studies on two and four rows of pile supported skirt breakwater that allow free circulation of water and proposed a semi empirical formula for friction parameter in flow through the slits between piles.

Radha, Rajagopalan & Vendhan studied a reliability based optimization of stiffened cylindrical shells under hydrostatic pressure and developed an efficient random polar sampling technique for simulation.

Suneel Kumar, Sundaravadivelu & Alagusundaramoorthy studied experimentally the ultimate load and post buckling behaviour of stiffened plates with and without cut-out and with initial imperfections under inplane and out of place loading conditions and developed and validated a numerical model for the design of such stiffened plates.

Suryanarayana Prasad, Vendhan & Swarnamani developed an analytical model for feed forward control of sound radiated by fluid loaded rectangular plates and studied several control strategies experimentally.

Viyakrishna Rapaka & Natarajan carried out experimental investigations on the dynamic response, mooring loads, reflection/transmission co-efficient and pneumatic conversion efficiency of a typical moored oscillating water column wave energy device and concluded that their pneumatic efficiency is better in random waves than in regular waves.

Physics

Bibekananda Sundaray, Natarajan & Subramanian studied the electrical transport properties of polymer composite nanofibers electrospun with polymer bases such as polystyrene and poly methylmethacrylate and filler material such as single walled and multi walled carbon nanotubes.

Durga Venkata Nagesh Evani, Subramanian & Murthy studied theoretically and experimentally two dimensional square and triangular photonic band gap structures with and without point and line defects using dielectric and magnetic materials,

Krishnamoorthi, Sethupathi & Sankaranarayanan synthesized Nanocrys-talline $\text{Nd}_{1-x}\text{Sr}_x\text{MO}_3$ ($x= 0.2 - 0.55$), $\text{La}_{1-x}\text{Ce}_x\text{MnO}_3$ ($x= 0.15, 0.2$ and 0.3) and $\text{La}_{1-x}\text{Ca}_x\text{MnO}_3$ ($x= 0.2, 0.25$ and 0.4) samples by citrate-complex method and studied the temperature and particle size dependence of the magnetization.

Leela Mohana Reddy & Rama Prabhu optimized the synthesis of multiwalled carbon nanocoils by Chemical vapor deposition technique using alloy hydride catalysts and developed CNT based Pt-free electrocatalysts for Fuel cells.

Murthy, Subramanian & Murthy refined the microwave Hall effect methodology using bimodal cavity by employing a new approach in the measurement of calibration constant and also by presenting a detailed analysis of various bimodal cavities.

Sanjit Kumar Debnath and Kothiyal analysed the spectral phase of a white light inteferogram and its applications in surface and thinfilm thickness profiling, and measured the group velocity dispersion.

Suresh Kumar & Subrahmanyam fabricated an automated ultra high vacuum compatible Kelyin Probe and applied it to study the electronic properties of surfaces and interfaces of some metals and semiconductors.

Thiyagarajan & Ramachandra Rao synthesized highly intense blue, green, red and white light emitting phosphors in bulk, thin film and nano crystalline forms and identified nanocomposites of $\text{ZnO}:\text{SiO}_2$ to be promising phosphors for white LED lighting applications.

Zahera Jabeen, Neelima Gupte & Balakrishnan addressed the problem of the universality class of spatiotemporal intermittency in the context of a coupled sine circle map lattice and identified two distinct universality classes in this system as well as the existence of the spreading to non-spreading transition.

M.S. Work

Aerospace Engineering

Arun Raj & Sujith investigated the effect of degree of swirl and the role of the flare on which the swirler is mounted and the holes in the flare on a confined swirl flow field as well as the effect of acoustic oscillations on the swirl flow field using Particle Image Velocimetry.

Chandrasekhar & Satyanarayana Chakravarthy studied theoretically and numerically the flame response to oscillations at multiple frequencies or response in multiple frequencies to excitation at single frequency and highlighted the nonlinearity of combustion.

Mansu & Satyanarayana Chakravarthy studied the combustion of laminate stacks of solid oxidizer and polymeric binder-fuel, called sandwiches, in order to understand the mechanism of plateau burning rate trends.

Sutariya Jignesh Kalidas & Job Kurian experimentally investigated pulsed injection at different combinations of pulse width and frequency using laser based diagnostics to evaluate the effect on mixing efficiency, penetration and spread of the injectant.

Venkateswara Anand & Satyanarayana Chakravarthy established a quench collection set-up to experimentally determine the size distribution of aluminium agglomerates emerging from the burning surface of a solid propellant.

Vijaya Kumar & Santhakumar measured the pressure drop in oscillatory flow in circular ducts of different diameters and oscillation frequencies and amplitudes and showed that the oscillatory flow is almost quasi-steady.

Applied Mechanics

Suresh Kumar & Ramasubba Reddy showed that varying heart volume reconstructed from Real Time 3D Echocardiograms as a signal source, plays an important role in the potential distribution on the thoracic surface.

Biotechnology

Aparna Ganesh & Suraishkumar showed that contrary to expectations among the three major components of the *Spirulina* photosynthetic machinery under stress conditions, the reactive oxygen species primarily affect the phycobilisomes (pigments) and the photosystem II, whereas they do not significantly affect the photosystem I.

Swapna & Venkatesh Balasubramaniam developed a detailed finite element model of the cervical spine from CT images, validated it against invitro studies and used it to determine the functioning of novel spinal implants.

Vikas Narayan & Suraishkumar showed that the Liquid Phase Oxygen-supply Strategy developed in the lab, increased the productivity per cell of recombinant products viz. streptokinase.

Chemical Engineering

Guruprasad, Basak & Ravi studied systematically the applicability of the hard sphere model for predicting diffusivity of simple fluids with special reference to carbon dioxide as a supercritical fluid.

Kapil Naik, Murthy & Ramanathan determined the substrate versatility of Upflow Anaerobic Sludge blanket reactor (UASB) for the biogas production using different types of food wastes and characterized the ability of the anaerobic bacteria to digest these and produce biogas.

Surya Sekhar & Ramanathan studied the chemical component of Chemical Mechanical Planarization (CMP) of copper for micro electronic fabrication using electrochemical techniques.

Civil Engineering

Anil Venkata Nag, Murali Krishnan & Abhijit Deshapande determined creep and stress relaxation properties of straight run asphalt experimentally and predicted the results using a non-linear viscoelastic constitutive model.

Anusha, & Sivanandan evaluated vehicular tail-pipe emissions under lane-restricted conditions of traffic flow and showed that such conditions generally led to lesser emissions as compared to those of lane-less flows.

Ashok Kumar & Manu Santhanam illustrated the differences in cracking behaviour of normal and high strength concretes by both ultrasonic method and optical microscopy and showed that the analysis of the ultrasonic signal yielded as a damage indicator more meaningful results than the use of ultrasonic pulse velocity alone.

Bhargavi & Karthik Srinivasan proposed dynamic models that have superior predictive ability relative to currently used cross-sectional models.

Gunasekaran & Robinson proposed a new and simple technique to determine the small strain stiffness of soils using strain gauges to measure the strains on a sample that is confined in vacuum.

Jyothi Krishnana & Kalyanaraman studied the reliability of electric overhead transmission line towers using Mote Carlo and First Order Second Moment methods and developed partial wind load factors for different target reliabilities of the tower.

Nitya Subramanyam & Ramachandraiah studied the acoustical characteristics of class rooms of varying sizes and types and identified significant parameters which govern the efficiency of listening through computer simulation and measurement.

Pavan Kumar & Satish Kumar studied the seismic response of practical steel frames with semi-rigid connections and proposed guidelines for their design.

Rama Mohana Rao & Amlan Sengupta tested concrete panels under simultaneous in-plane tension and compression and developed a formulation for the Poisson's effect for use in the analysis of panels under shear.

Shivangi Gupta & Veeraragavan demonstrated in the laboratory the increased fatigue life, higher resilient modulus and low crack growth of Styrene-Butadiene-Styrene polymer modified bituminous mixes when compared to neat bituminous mixes.

Computer Science and Engineering

Archana & Sreenivasa Kumar proposed efficient algorithms for XML query evaluation using path labelling, path based storage and indexing.

Delip Rao & Deepak Khemani introduced the notion of a semantically related set and explored unsupervised learning techniques to derive them using partitional clustering and community discovery techniques.

Dinil Mon Divakaran, Hema Murthy & Gonsalves developed two novel means to detect anomalies in Network traffic modeling using packet train size and length and an entropy based technique to identify Denial of Service attacks.

Gandikota Venkta Raju & Siva Ram Murthy proposed efficient protocols for supporting point-to-point and point-to-multipoint voice communication in Ad hoc wireless networks.

Krishna Suri Narayanam & Pandurangan explored efficient ways in which information can be retrieved from a database without revealing the identity of user.

Lakshmi, Ramalingam & Hema Murthy have pioneered an effort on to develop a complete continuous speech recognition system based on syllables as the basic unit. 0

Meena Dilip Singh & Pandurangan suggested effective ways and means for protecting the sensitive data in a database from a malicious user who tries to obtain/derive the same by using legitimate queries on non-sensitive data across multiple data bases.

Rajinikanthan & Gonsalves proposed, evaluated and implemented new protocols for Virtual Private Networks.

Samuel Thomas, Chandra Sekhar & Hema Murthy have pioneered an effort on syllable-based speech synthesis for Indian languages using an automatic algorithm to generate syllable-like units for synthesis.

Sentil Nathan & Gonsalves evaluated and implemented several different protocols for remote management of embedded systems.

Syama Sundar Reddy & Kamakoti proposed novel FPGA architectures for detecting and correcting SEU-caused logic and routing errors and illustrated their efficacy through experimental results obtained by mapping standard benchmark circuits on the proposed architectures.

Tarun Gopinath & Janakiram investigated the feasibility of pre-copy application level process migration in heterogeneous operating system environments indicating the circumstances in which such migration can be exploited by grid computations.

Venkateswarlu & Janakiram presented the design and implementation of a simplified Distributed Compositional Language for programming wireless sensor networks.

Electrical Engineering

Andalam Satya Mohan Vamsi, Andrew & Bhaskar Ramamurthi developed an efficient transmission from an extremely low-power sensor to a high-powered receiver by employing feedback around modern error-correcting codes.

Arun Mathew, Anju Chadha & Enakshi Bhattacharya optimised the performance of silicon and polysilicon based triglyceride biosensors to drive the sensitivity into micromolar concentration range and demonstrated possible biological applications.

Linash & Mahesh Kumar proposed an interesting method for harmonic elimination and power factor correction using Active power filter in power distribution network.

Ponnmozhi & Nitin Chandrachoodan described the design and implementation of a reconfigurable hardware co-processor on FPGA for use in optical fiber testing using high speed interface to data converters and memory.

Pradeep and Rajagopalan proposed a methodology that fuses focus and defocus cues to infer the shape of an object from blurred observations captured with a real aperture camera.

Sivakumar, Bhat & Nandita DasGupta enhanced the sensitivity of MEMS pressure sensors, while at the same time enabling very low drift in sensor characteristics over the operating temperature range and experimentally demonstrated the same.

Management Studies

Sharad Panwar & Madhumathi identified the mutual fund characteristics such as market return, size risk, value risk and momentum factor that are statistically significant for evaluating its performance.

Mechanical Engineering

Arvind Kumar Phate, Maiya & Srinivasa Murthy simulated a cylindrical metal hydride bed for transient two dimensional heat and mass transfer providing an insight into the movement of hydrogen in a practical storage device and the effect of various parameters on such movement.

Asish Kumar Sarangi, Pramod Mehta & Ramesh tested an internal combustion engine of 8 cc capacity on an indigenously developed test rig for measuring thrust, torque, power air-fuel ratio and emissions and analyzed for combustion and emission characteristics of such class of engines.

Jaya Rao, Krishnan Balasubramanian & Raghu Prakash experimentally characterized the material degradation in a structural alloy due to residual plastic deformation and fatigue cycling using non-linear ultrasonic technique and established a qualitative understanding of damage phenomenon.

Kaki Goutham Kumar & Sitaram studied computationally the effect of tip clearance and casing relative motion on secondary and tip clearance flows and losses in an annular turbine rotor impulse cascade with radially non-uniform inlet flow.

Kumaran & Shet visualized swirled pilot-stabilized open premixed turbulent flames and qualified the effects of swirl on stability, flame height and flame noise.

Prasad & Vijayaraghavan investigated experimentally the effect of wheel speed, work speed and grinding wheel material on the partition ratio in grinding of Metal Matrix composite with different grinding wheels.

Prasana Kumar & Ramesh Babu developed a comprehensive model for predicting the overall geometry of pockets milled with abrasive water jets based on the shape of kerf predicted in different regions of pockets considering the interaction of jet with the material in these regions.

Priya & Ramamoorthy used the machine vision approach to experimentally evaluate the surface roughness of the components taking in to consideration the inclination of the surfaces during imaging and analysed the results using the shadow removal algorithm.

Ravikumar & Ganesan carried out buckling and vibration studies on circular plates under thermal environment using Finite Elements.

Sasikanth & Vijayaraghavan evaluated the performance of the different types of grinding wheels on grinding Al/SiC_p Metal Matrix Composites and found that coarse grain polycrystalline Diamond wheel outperformed all other types of grinding wheels while grinding Al/SiC_p MMC.

Vijayalakshmi & Sarit Kumar Das studied microchannel flow inside silicon etched passages and distinguished between compressibility and transition to turbulence.

Vishnunarayana & Ganesan carried out static and dynamic studies on skew plates using finite element studies under different thermal environments.

Metallurgical and Materials Engineering

Ravi Joshi & Prathap Haridoss modified the arc discharge process of generating carbon nanotubes to successfully synthesize significant quantities of the material and demonstrated alternative and novel methods for synthesis of carbon nanotubes.

Seshagiri, Prasada Rao & Bhattacharya showed that the mechanical properties of Al-Cu alloy (AA2219) used for Indian space applications are improved significantly by applying gas tungsten arc welding multipass technique with direct current electrode negative as well as scandium additions.

Ocean Engineering

Abdul Sharuk & Anantha Subramanian investigated numerically improved realization of sustainable energy from the winds using a horizontal axis wind turbine with favourable aerofoil sections and the addition of a diffuser nozzle.

Goldstein & Sannasiraj formulated an algorithm for the optimal assimilation of wave measurements with the numerical prediction and demonstrated the potential for improvement in the wave hindcasting with the wave prediction in Arabian Sea.

Kiran Vijayan, Surendran & Bhattacharyya studied the hydrodynamic performance of active fins fitted on the ship hull to control excessive roll using the models in Fluent and cross checked the same using software called SHIPMO PC.

Madhuri, Sundaravadivelu & Sannasiraj evaluated the safety of berthing structures in the event of likely increase in the earthquake intensity with the provisions made in the new IS code.

Parandhamaiah Gorre & Natarajan investigated the resistance characteristics of a typical mono hull and split hull with different positions of demihulls and concluded that the split hull with staggered position of the demihulls has less resistance than mono hull and all other split hull configurations due to more wave cancellations.

Satyanarayana & Natarajan carried out an experimental investigation on the resistance characteristics of a typical flotilla unit for different modes of operation in inland waterways and concluded that side towing is more efficient than other modes for the straight and broader channels.

Suresh, Vendhan & Bhattacharya studied the performance of 4 variants of elliptical dampers in finite element models of harmonic acoustic radiation and scattering problems and identified the best candidates.

Venkateswarlu & Murali studied hydrodynamic coefficients of axisymmetric underwater bodies through CFD and suitable turbulence models.

Vimaldoss & Natarajan designed and developed different take-off systems for an existing WIG craft through experiments and concluded that the hydrofoils fitted at forward and aft of the WIG craft is the most advantageous configuration, as there is considerable reduction in hydrodynamic drag during take-off of the craft.

1.5 Inter Disciplinary Research Groups

The Institute initiated "directed" Research in Interdisciplinary Research Areas in 2003 in order to bring faculty from different disciplines together to address meaningful problems. These areas were arrived at by consensus among the faculty and found to overlap significantly with the thrust areas identified by the then Planning Commission. The research could be of a fundamental nature or concerning the development of novel and inexpensive technologies or the development of technologies for strategic areas. A significant part of the work has appeared in the form of PhD and MS thesis that are described elsewhere in this report and in the publications reported earlier. A brief description of the problems that each group is focused on is given below.

The Biotechnology group focuses on integrating various tools for investigating Parkinson's Disease and Cardiac Arrhythmias using computational, molecular genetics, drug screening based approaches. The Chemical Physics and Molecular Biology group is investigating 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 three problems: the development of an easy to use multimodal interface to the desktop computer for Indian languages, investigating issues of stability and reliability of fibre Bragg gratings and development of 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 Thiruvayaru 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 as well as applied studies on thermo-photovoltaic 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 three 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 on applications 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 focussed 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 free surface flows. The Quality Assured Design and Manufacturing group is focussed on understanding fatigue crack closure under variable amplitude loading and on 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 faculty have written books, monographs and earned patents for their inventions. Some of these are listed below:

Awards

Job Kurian (AE)	Excellence in Aerospace Education Award, Aeronautical Society of India
Satyanarayana Gummadi (BT)	Young Investigator Award, Association of Microbiologists of India
R. Nagarajan (CH)	2007 Maurice Simpson Award, Journal of the IEST
o M. V. Sangaranarayanan (CY)	Bronze Medal,
o G. Sundararajan (CY)	Chemical Research Society of India for 2006
P. Alagusundaramoorthy (CE)	Vijay Shree Award, Indian International Friendship Society
G. Appa Rao (CE)	Bharat Jyothi Award, India International Friendship Society
Manu Santhanam (CE)	o INAE Young Engineer Award 2007, INAE o Prof. V. Ramakrishnan Award, Indian Concrete Institute
K. Rajagopal (CE)	Commemorative Award, Indian Chapter of International Geosynthetics Society
Hema A. Murthy (CS)	2006 IBM Faculty Award

S. Karmalkar (EE)	IBM Faculty Award 2007
M. Thenmozhi (MS)	Endeavour India Executive Award, Australian Government
W. B. Vasantha (MA)	Kalpana Chawla Award for 2006, Government of Tamil Nadu
V. Ganesan (ME)	<ul style="list-style-type: none"> o 2006 SAE Cliff Garrett Turbomachinery Engineering Award, SAE International o Environmental Engineering Design Award 2006, The Institution of Engineers (India) o Sri Rajendra Nath Mookerjee Memorial Prize 2006, Journal of Institution of Engineers
Placid Rodriguez (MM)	Achievement Awards 2006, Council of Indian Institute of Welding
S. A. Sannasiraj (OE)	2007 Endeavour India Executive Award, Australian Government
V. Damodara Das (PH)	Rajiv Gandhi Excellence Award, India International Friendship Society (IIFS)

Fellowships

Swarnajayanthi Fellowship 2005-06, DST	R. I. Sujith (AE)
UKIERI Research Fellowship	Tanmay Basak (CH)
Fellow, Indian National Academy of Engineering	<ul style="list-style-type: none"> o Kamala Krithivasan (CS) o Sarit Kumar Das (ME)
Fellow, Indian Academy of Science	Ashok Jhunjhunwala (EE)
Humboldt Research Fellowship, Alexander von Humboldt Foundation.	A. N. Rajagopalan (EE)
2007 Endeavour Australia Research Fellowship Award, Australian Government	Sreyasee Das Bhattacharjee (CS)

Membership of the Editorial Boards

R. I. Sujith (AE)	Associate Editor, International Journal of Aerospace Engineering
A. N. Rajagopalan (EE)	Associate Editor, IEEE Transactions on Pattern Analysis and Machine Intelligence (PAMI)
Satyajit Roy (MA)	Member, Advisory Committee, Journal of the Indian Academy of Mathematics
Raju Sethuraman (ME) Mechanics	Member, Editorial Board, International Journal of Damage
S. Narasimha Rao (OE)	Member, Editorial Board, ASTM International Geotechnical Testing Journal
V. Sundar (OE)	<ul style="list-style-type: none"> o Associate Editor, The Ocean Engineering Journal o Member, Guest Editorial Board, Special Issue of International Journal of Ecology and Development on Coastal and Estuarine Environment 2007

Membership of National Societies

Job Kurian (AE)	Member, Executive Council, Aeronautical Society of India
T. S. Chandra (BT)	All India President, Association of Microbiologist of India
V. Sundar (OE)	<ul style="list-style-type: none">o Vice Chairman, International Association of Hydraulic Engineering and Research Asia Pacific Division.o Member, Research Council, Centre for Earth Science Studies, Kerala State Council for Science, Technology and Environment, Thiruvananthapuram
R. Sundaravadivelu (OE)	Member, Panel constituted for Preparation of Draft Code for Seismic and Tsunami Forces for Sea-based Structures like Jetties, Ministry of Science and Technology, GoI

Books

K. M. Muraleedharan (CY)	Parasitic Diseases : Advances in the Discovery of new anti-malarials, Elsevier
T. Pradeep (CY)	Nano The Essentials : Understanding Nanoscience and Nanotechnology, McGraw-Hill Education
S. Sankararaman (CY)	Pericyclic Reactions : A Textbook. Reactions, Applications and Theory, Wiley-VCH, Weinheim
B. Viswanathan (CY)	<ul style="list-style-type: none">o Fuel Cells Principles and Applications, CRC Presso Structure and Properties of Solid State Materials, Narosa Publishing Houseo Electrochemistry Second Edition, S. Viswanathan Publisherso Photo/Electrochemistry and Photo Biology in the Environment, Energy and Fuel, Research Sign Post
Nilesh J. Vasa (ED)	Recent Developments in Lasers and Their Applications, Research Sign Post
S. Ponnusamy (MA) Dr. Herb Silverman, USA	Complex Variables with Applications, Birkhauser, Boston

Best Paper / Thesis / Research Awards :

Best Paper Award, 14 th IEEE International Conference on Networks (ICON2006)	<ul style="list-style-type: none">o B. Venkataramanao Devesh Agrawalo Siva Ram Murthy (CS)
Best Paper Award, IEEE Workshop on IP Operations and Management at Dublin, Ireland	<ul style="list-style-type: none">o T. A. Gonsalveso Hema A. Murthyo Dinil Divakaran (CS)
Best Thesis Award, IBM	<ul style="list-style-type: none">o Kannan Srinathano Guide: Pandurangan (CS)

Outstanding Research Award, Taiwan Semiconductor Manufacturing Corporation (TSMC)	o S. Balaji	(EE)
R. S. Varma Memorial Best Paper Award, Forum for Inter-disciplinary Mathematics	o T. Kurmayya o K. C. Sivakumar	(MA)
Certificate of Merit, Institution of Engineers (India) Journal	o B. S. K. Reddy o B. Ramamoorthy o P. K. Nair	(ME)
Best Paper Award, 15 th Congress of APD-IAR and the International Symposium on Maritime Hydraulics (ISMH)	o Manasa Ranjan o Behera o K. Murali	(OE)
Best Paper Award, 15 th Congress of APD-IAR and the International Symposium on Maritime Hydraulics (ISMH)	o V. Sriram o S. A. Sannasiraj o V. Sundar	(OE)
Best Paper Award, National Symposium on Instrumentation (NSI-31) organized at the Institute of Technology and Management, Gwalior	o K.Sathyamurthy o M. P. Kothiyal o C. Vijayan	(PH)
Second Prize, National Instrument's VI Mantra contest 2006 at the Conference on Virtual Instrumentation in Engineering Education	o Basanta Bhaduri o N. Krishna Mohan o R. Samuel o M. V. Rao o M. P. Kothiyal	(ME) (PH)
SPIE Educational Scholarship in Optical Science and Engineering for the year 2007	o Basanta Bhaduri	(PH)

Patents Filed

A method of and an apparatus for the continuous humidification of hydrogen delivered to fuel cells	o Arun K Tangirala o Vasu Gollangi o B Viswanathan o K S Dhathathreyan	(CH) (CY) (ARCI)
A process for the preparation of activated carbon from botanical sources	o B Viswanathan o T K Varadarajan o P Indra Neel	(CY)
A method & a system for enabling representation of UML class diagram in LISP format & design pattern detection using such representation	D Janaki Ram	(CS)
Multi-antenna cellular broadband wireless communication (EE)systems with interference mitigation based on compressed state information feedback	Bhaskar Ramamurthi	
A linear variable capacitive transducer for sensing planar angles	V Jagadeesh Kumar	(EE)
A device for online measurement of partial discharge in an electric winding	o V Jayashankar o A Palani	(EE)
Combined capacitive-electro-magnetic voltage transformer A design for reusable printing paper	o G K Gajananan o Anirudh Viji o S Sankararaman o A K Mishra	(ME) (CY)

A method and apparatus for carrying out oil jet peening Variable value timing assembly for a 4-stroke internal combustion engine	o R Gnanamoorthy (ME) o A Ramesh (ME) o M/s.Bajaj Auto Ltd.
Modular multiblock cross flow heat exchanger	Sarit Kumar Das (ME)
Substituted Nano Calcium Deficient Hydroxyapatite	T S Sampath Kumar (MM)
Electron Beam Induced Chromism and Photo-luminescence in Reactive DC Magnetron Sputtered Non-Stoichiometric Tungsten Oxide Thin Films	A Subrahmanyam (PH)

Patents Granted

A Variable Stiffness Regulating Wheel for a Centreless Grinding Machine	o Radhakrishnan (AM) o Ramesh Babu (ME)
A Method of Manufacture of Carbon Nanotubes and such tubes whenever so manufactured	o B. Viswanathan o B. Rajesh (CY)
Alumina Zirconia Composite Powder and a process for the preparation of the same.	o C V Gokulrathnam o S K Malhotra o M Balasubramanian (MM)
A Fluorometric Device for in Situ Estimation of Adulterants in Liquid Petroleum Products	o A K Mishra o Digambara Patra (CY)
A Method of Preparing Purified Water from water containing pesticides (Chlorphrifos and Lalathion) & Purified Water Prepared by the Said Method	o T Pradeep o Sreekumaran Nair A (RSIC)
A process for the manufacture of an inorganic -organic membrane composite	o B Viswanathan o TK Varadarajan o S Shanmugam (CY)
Post sintered WC cutting tools and a method of manufacture thereof	o R Krishnamurthy o J Ramkumar o S Aravindan (ME)
A Cutting Tool Insert with Built-in Provision for Detecting Flank Wear of a Predetermined value	o V Radhakrishnan o M Murugan (ME)
Microfines Circular Fluid Energy Mill for producing Ultra-Fine Powders.	o Narayanan o Rajendran Nair (CH)
Microfines Pneumatic Fine Classifier for the classification of fine powders.	o S S Narayanan o P B Rajendran Nair (CH)
A Bromate Ion Sensitive Electrode - A process for the manufacture of a nano-composite for harnessing solar energy	o Viswanathan o Varadarajan o Shanmugam (CY)
A Divided Cell for the Electrolysis of Water	o Viswanath o Sathish (CY)

Integrated circuit implementation for power and area efficient adaptive equalization	Shanthi Pavan (EE)
A Broadband Internet Connectivity System	<ul style="list-style-type: none"> ○ Ashok Jhunjunwala ○ Bhaskar Ramamurthi (EE) ○ Rene Abraham (MIDAS)
A Bubble Pump Absorption Cooler	<ul style="list-style-type: none"> ○ Srinivasa Murthy ○ Prakash Maiya (ME)
A Grinding Wheel and a Method of Manufacture thereof	<ul style="list-style-type: none"> ○ Vijayaraghavan ○ Krishnamurthy ○ Arul Saravanapriyan (ME)
Articles of Glazed ceramic Composites on Metal substrates and a Method of Manufacture thereof	<ul style="list-style-type: none"> ○ R. Krishnamurthy ○ Apurbba Kr. Sharma (ME)
Electrically Conducting coated kapton Film	<ul style="list-style-type: none"> ○ Subrahmanyam (PH)
A process for the preparation of calcium phosphate from egg shell waste	<ul style="list-style-type: none"> ○ Sampath Kumar ○ Seshadri ○ D. Sivarama Krishnan (MT)
A Breakwater for Seawaves.	<ul style="list-style-type: none"> ○ Mani (OE)
A Variable Stiffness Regulating Wheel for a Centreless Grinding Machine	<ul style="list-style-type: none"> ○ Radhakrishnan ○ Ramesh Babu (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 112 for a total value of Rs.450 millions including 13 international projects for a value of Rs.16 millions and 5 Industry projects for Rs. 3 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 120.

The number of active consultancy projects during the year is 539, for a total value of Rs.224 million including 49 Research Based Industrial Consultancy projects for Rs.67 million. The number of faculty members involved in these consultancy projects is 139 while 14 have been retained as consultants in various industries at a cost of Rs.9 million.

The ISRO-IITM Space Technology Cell renewed 25 projects and sanctioned 4 new projects during this year. Under the IGCAR-IITM Cell, 3 new projects have been initiated and 11 projects were continued. Joint monitoring and regular technical review of projects have made the cell concept a success and model for other agencies sponsoring R & D.

The Industrial Associateship Scheme fostering close interaction with industry has 249 members this year. Five Technology Appreciation programmes were conducted during the year for the benefit of the Industrial Associate Members.

We have signed 27 Memoranda of Understanding during the year under review with 26 industries such as IndoDev, USA.; Rane Engine Valves Ltd., Chennai; BHEL, Ranipet; Reliance Industries Ltd., Mumbai.

The establishment of the IITM R&D Park made further progress with the allocation of land to the extent of 11.43 acres by the Government of Tamil Nadu to IITM June 2007. 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 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.

An important milestone was the launch of the pedo-power graph and diabetics footwear developed by IITM in collaboration with Sundaram Medical Foundation and Brakes India Ltd. The collaborative research that led to the final product was initiated and spear-headed by Prof. K. M. Patil (now retired) of the Department of Applied Mechanics. The machine represents a significant improvement over the equipment currently used all over the world and is likely to change the way diabetic feet are treated.

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: 8 under the Quality Improvement Programme and 72 under Continuing Education which benefited 2149 participants. The CCE generated a revenue of Rs. 354 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 2006. Currently the intranet web site hosts more than 200 IITM courses.

Under the Book Writing Scheme, 5 proposals have been received. 5 books have been published during the year. 51 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 2388 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 2006-07.

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), 420 faculty from other institutions have obtained their Ph.D. degrees and 537 faculty from other institutions have obtained their M.Tech. degrees from IITM since its inception. Currently we have a total of 107 QIP Scholars - 75 Ph.D. & 32 M.Tech. which includes 13 women in Ph.D. and 15 in M.Tech in the Institute

IIT Madras is the coordinating institute for the MHRD funded National initiative known as the National Programme in Technology Enhanced Learning (NPTEL) in which the partners are all seven IITs and IISc Bangalore. The programme has created 110 video courses, each consisting of approximately 40 one hour lectures and 126 web based courses, each with content covering about forty lecture hours in five major engineering disciplines at the undergraduate level, namely Civil, Computer Science, Electrical, Electronics and Communication and Mechanical engineering. In addition all core science and management courses mandatory to all engineering disciplines have been covered in the above. The Ministry has provided a total of Rupees 20.47 crores for the first phase of the project which will be completed on June 30, 2007. The web courses were made available freely to everyone following the formal inauguration by the Shri. Arjun Singh, Honourable Minister for the HRD on September 3rd, 2006 in a function held in IIT Madras. The URL for the website containing course contents is <http://nptel.iitm.ac.in> and requires registration which is free. Access is through a login id and password chosen by the user. The video courses are currently broadcast through the Eklavya channel of Gyan Darshan from New Delhi.

The courses have been prepared in a modular form and are curriculum based and differ from other open courseware in this respect. The syllabi for every course have been drawn from the model curriculum of the All India Council for Technical Education and leading affiliating Universities such as Anna University (Tamil Nadu), Jawaharlal Nehru Technological University (Andhra Pradesh) and Visvesvaraya Technological University (Karnataka). The web courses have been prepared using one of the standard formats such html or pdf amenable to distribution through the web independent of browsers and operating systems. A large number of web courses contain animations developed exclusively for improving conceptual understanding. Video lectures use all available media such as chalk-and-talk, power point, computer drawn sketches of lessons using the tablet PC and demonstrations. They will be converted to MPEG4 for distribution through the Internet. They will also be made available to all engineering institutions as bundles for access through their intranet. Sufficient internet bandwidth and distributed servers have both been proposed as part of the second phased of the NPTEL project.

The contents of the project have been brought to the attention of many college teachers through local and National workshops conducted for this purpose. Four National workshops have been conducted so far in Indian Institute of Information Technology and Management Kerala at Thiruvananthapuram, Indian Institutes of Technology in New Delhi, Guwahati and Kanpur in which more than 500 teachers, several Principals and Vice Chancellors of leading Universities participated. Their feedback have been obtained and passed on to the content developers for incorporating them in their course design in the future.

The website hosting NPTEL course contents have so far been accessed by more than 160,000 who have registered. The website has recorded more than 560,000 hits since September 5th when it was launched. The registrants are identified in one of the following categories, namely, students (42%), teachers (8 %) or professionals (50%) and identify themselves as belonging to one of about 140 countries worldwide. Majority of the users are from India (about 90 percent) followed by users from the United States, Singapore, United Kingdom and Australia. The project has been welcomed all over the country as a unique exercise by the IITs and IISc Bangalore.

In the second phase of the project it is proposed to build interactions with college teachers through a large number of course-specific and discipline-specific workshops. Also courses will be developed in all the science and engineering disciplines not included in the first phase. A total of 500 more courses

covering all the disciplines have been envisaged. A number of advanced courses in the five disciplines developed in the first phase will also be designed as there is a clear paucity of well-defined and technically accurate higher level courses with elaborate content for M. Tech and M. S. programmes of many institutions. Due to the large number of courses being proposed, the National Institutes of Technology and other leading University and engineering colleges will be invited to be associate partners and contribute to the course design and development. It is proposed also to continuously update the existing courses to keep building a sufficiently large, one-point reference portal in science and engineering education throughout the world. With a large repository of courses in the electronic format available by the end of the next phase, it will be possible for IITs to launch a virtual IIT which can offer quality degree programmes to more than several tens of thousands of undergraduates in a given year to meet the challenges facing the current growth rate and economy of a modern and vibrant India.

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; 63 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 international universities in Australia, France, Germany, USA, Korea, Japan and Singapore. So far IITM has signed 75 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 110 faculty members from the Institute visited universities and research laboratories abroad for collaborative research, participation in conferences, visiting assignments, lectures, consultancy, etc.

Over the past few years, the Institute has created several opportunities for international student exchange. The Indo-German Agreement between the seven IITs and seven Technical Universities in Germany continues to promote such an exchange and we have deputed 9 M.Tech. and 1 M.S. scholar to undertake their project / thesis work in these German Universities last 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, 8 students from EPFL did their course work in IITM. 4 Ethiopian students joined the M.Tech. programme in this institute in August 2006.

1.11 Human Resources Training

HR training is a planned activity at IIT Madras and systematic efforts are made to provide training to our technical and administrative staff to upgrade and acquire new knowledge, skills and attitude through learning experience. During this year 24 in-service training programs were conducted covering 456 staff and faculty members. In addition 67 staff and faculty members were nominated for external training programs.

1.12 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 Mechanical Engineering and Chemical Engineering 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 2002. 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.

1.13 Infrastructure Development

Phase II of the ICE project is complete. The entire campus now has a state-of-the-art managed network supporting gigabit speeds to individual users, with stand-by links in the core network to ensure reliability. The High-Performance Computing Resources can be accessed from anywhere on campus, and these are being augmented as well. Two major workflows - academics and procurement - are currently being automated. All academics-related records handled by faculty and students, and all purchases made by faculty and staff, can now be processed online, in a secure and authenticated manner, from anywhere on campus. Based on the learnings from these, the other administrative and support processes will also be automated in due course.

The long felt desire of the Institute to accommodate the increase in intake of students has finally fulfilled with new addition of Mahanadhi Boys Hostels in addition to other three Hostels Sindhu, Pamba, Tamirabarani consisting a total plinth areas of 43,276 sq.m. The salient features of these high profile seven storey buildings are capsule lifts, telephones and data cables to individual rooms. The cost of the project was about 50 crores.

IIT Madras has established one of the country's best RCC framed G+5 structure, the Bio-Technology department with a total plinth area of 7320 sq.m comprising Teaching Lab, Research Labs, Admn. Office, Central Equipment Room, Class rooms, Seminar Hall, Conference hall and separate toilet for physically challenged in each floor during 2006. The cost of the project was Rs. 10.38 Crores. The building named after Bhupat and Jyoti Mehta School of Biosciences Building was inaugurated by Shri Kapil Sibal, the honourable Minister for Science and Technology and Earth Sciences on 25th November 2006.

Need was felt for more number of suites for the Institute Guests and VIPs and also for high dignitaries. To meet the long felt need, 11 additional suites have been constructed with fully furnished airconditioned conference hall, 25 seater dining hall, modern well equipped kitchen at a total cost of Rs. 1.7 crores.

In order to improve the Building infrastructure an additional floor was constructed over ME&MH Building for a total cost of Rs. 64.80 lakhs. A sewage treatment plant has been established within the campus at a cost of about Rs. 2.20 crores.

The existing canteen has been renovated and modernized and a new Campus Café has been housed there. A restaurant building has been constructed at a cost of Rs. 25 lakhs and has been leased out to Coffee Day adding to the eateries on campus.

A report on the biodiversity of the campus, commissioned by the Director and prepared by an expert team led by Dr. R. J. Ranjit Daniels, Director, Care Earth, was presented to the campus community in October. Several important recommendations have been made, and an Environment Monitoring Committee has been set up under the Chairmanship of Dean (Planning) to follow up on the recommendations.

1.14 Student Co-Curricular and Extra-Curricular Activities

For the student's sector the academic year 2006-07 has been very remarkable. The co- and extra-curricular activities continued with great enthusiasm and scaled new heights. Eminent personalities from all walks of life addressed our students in different forums.

The fourth edition of the TCS-IIT Madras Open Quiz 2006 was held on October 2, 2006. The programme was attended by about 1100 people. Eight teams of four people per team were selected for the finals, Questions were of very high standard and the finals was fiercely contested. TCS-IIT Open Quiz is one of the major quizzes of the country for its high standards and nation-wide participation.

SHAASTRA 2006-the technical festival of IITM was held in October with usual fanfare and included a novel event involving the concept of creative hacking. Many new features were introduced in all events this year. Video conferences were held with prominent scientists from across the globe, which included two noble laureates. Dr. Arno Penzias, Dr. George Olah, Dr. Parviz Moin, Dr. William Schneider, Dr. Harold Abelson, and Mr. Bob Pease enthralled the students during the VCs. This year also saw lectures by Prof. Arunava Sen, Prof. Ashok Jhunjhunwala, Dr. M Natarajan, Dr. Biswadip Mitra, Dr. Christopher Benninger, Prof. Yash Pal, Mr. Hardik Parekh and Dr. Anil Agarwal. There were demonstrations by Wizdom.in, Miniature engineering, TeNeT, IITM and robotics groups. The robotic demonstration by National University Singapore, was a resounding success which has motivated many students in the institute to take up similar robotics projects. Shaastra continues to be sponsor's paradise, where events get sponsored well in advance.

SAARANG 2007 which was conducted with usual fanfare, was inaugurated by Shri Bharat Bala, who highlighted the need for patriotic feelings among the youth. All events had participation from all over the country and level of competition was very high keeping up with the traditions set by our students. The professional shows attracted large crowds and they continue to be the preferred programmes, the ambience of the OAT adding to their exuberance. For the third year in succession our students demonstrated their social awareness and commitments by contributing a sum of Rs.5 lakhs from the proceeds of Saarang to charitable causes.

EXTRAMURAL LECTURE SERIES at IITM has a long cherished tradition of inviting prominent people from various walks of life to address students on a spectrum of issues. This year the list of eminent speakers included: Social Activist, Medha Patkar, CII President, Mr. R. Seshasayee, Rediff CEO, Mr. Ajit Balakrishnan, Magsaysay Award Winner Dr. V Shanta, SEBI Chariman, Mr. Damodharan, and author Anita Nair. All these lectures were received well and the interactive sessions that followed these lectures set high levels of maturity and awareness of societal needs among students.

REFLECTIONS, is a forum involving students and faculty, with the main objective of enabling character building through reflection and self-awareness. The activities comprise of lectures and discussions led by eminent thinkers, panel discussions, and creative writing on a wide variety of themes. The magazine "Reflections" published by the group had four issues this year and the campus community looks forward to its arrival with great enthusiasm.

In the 42nd INTER IIT SPORTS MEET held during December 2006 at IIT Guwahati, both the men's and the women's contingent did us proud by winning the general championship. Winning the General Championship in inter IIT sports by IITM has become a habit and our teams live up to the expectations.

The INTER COLLEGIATE SPORTS FEST was conducted very successfully in the month of September and the GF&KR Inter Collegiate Invitation Basketball Tournament, for men and women from the 18th to the 22nd of January 2007. All these tournaments saw very good participation and high levels of competition.

The IITM SANMAR CRICKET TOURNAMENT conducted every year with the Sanmar group as the main sponsor was held during March. A total of 19 colleges participated this year. Both the IITMA and B teams put up a commendable performance.

Genesis, a SOCIAL ENTREPRENEURSHIP BUSINESS PLAN COMPETITION, was held this year in collaboration with MIT Ideas (USA), Tata Consultancy Services and Aavishkaar. The main aim of Genesis is to bring together students, NGO's, Innovators, Entrepreneurs, incubators, corporations and financiers to a platform and encourage them to come up with innovative ideas that are both feasible and socially beneficial. This event was held in three stages during October, January and February. Several teams from various parts of the country participated in the competition and eight most promising teams were selected for the final presentations to a team of judges. The winning teams were given seed funding and help in incubation. The total prize money for this programme is Rs.3.0 lakhs.

We had a very successful placement record this year with majority of the students placed in the first two weeks of the beginning of the placement season. This year 178 companies visited us and recruited 860 students. MNCs and National corporations have picked up our graduate in large numbers for unprecedented. The highest salaries offered for overseas and Indian postings were 45 lacs per annum and 23 lacs per annum respectively. This year also saw a shift of preference from IT-related jobs to core engineering jobs.

1.15 Socially Relevant Activities

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

SOCIALLY RELEVANT PROJECTS is an initiative of IITM. Under this initiative, three projects have been completed and five projects are under progress.

IITM as a partner in the RURAL TECHNOLOGY ACTION GROUP (RuTAG), initiated by the Principal Scientific Advisor to the Government of India, has identified several rural projects for improvement in product quality such as Herbally treated baby diapers, and Low power wind turbines. Technologies for products like Sanitary napkins, Rain gun for irrigation and Low bed tractor trailer for sugar cane transport have already been developed and passed on to NGOs. RuTAG also assists Self Help Groups in setting up pilot projects using these technologies. Technicians from villages are trained to sustain these technologies in the long run. Preparation of a database and web site on rural technologies have been initiated to bridge the information gap on technologies.

The LEMELSON RECOGNITION AND MENTORING PROGRAMME (L-RAMP), a novel programme to encourage innovators to come up with innovations which address the issues of sustainable development, especially that of the privileged underserved population, has been jointly set up by IITM and Rural Innovations Network, with the funding support from The Lemelson Foundation of USA. L-RAMP will provide the technical and financial support to innovators with commercially viable ideas.

Till June 2007, L-RAMP received 165 applications seeking incubation support. Eighteen innovations proposals are currently being provided with Incubation support.

L-RAMP launched the 3rd Innovation Awards on 13th June 2007. This Award is an attempt to celebrate the spirit of innovation and to recognize individuals and institutions that have been instrumental in developing and disseminating innovations. The award categories include Grassroots Innovator Award, Young Innovator Award, Woman Innovator Award, Enterprise Award, Media / Journalist Award, Investor Award and Lifetime Achievement Award. For the 2nd L-RAMP Innovation Awards totally 604 applications were received. Awards were given to 10 innovators in 7 categories and appreciation awards were given to 11 innovators

The Pre Incubation Programme was organized for 65 innovators who required capacity building to help them better understand how to innovate with the market perspective and the journey from idea to enterprise.

In order to encourage engineering students to work on socially relevant problems as part of their final year projects and try to find sustainable solutions. Grants were given to twenty three student projects, through our nodal partners (10 of Vellore Institute of Technology and 13 of Gandhigram Rural University).

The My Idea Programme encourages the student community to come up with ideas and innovate solutions for important social problems. The programme showcases the ideas of students and imparts knowledge and skill which are necessary to take their innovations further. Thirteen My Idea Programmes were organized for students in various engineering colleges in association with the Nodal Partners.

As an effort to showcase the innovators in the media, L-RAMP coordinates to feature selected innovators and their innovations through the "Namma Oor Vignani" programme of Sun TV.

IITM has launched two projects with the participation of the entire campus community with the Ladies Club taking the responsibility for their implementation. The ZERO WASTE ZONE (0WZone) project 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 "TECH KIDS", the Day Care Centre with trained personnel to cater to the needs of the children of working parents. As of now, about 60 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 fundraiser receives voluntary support from faculty, staff, students and alumni.

1.16 Alumni Matters

Our Institute has so far awarded over 29000 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. It is clear that we cannot possibly recognize all our Distinguished Alumni but the awardees have been selected from nominations received during the last three years. The Distinguished Alumnus Awardees for this year, announced during the Republic Day function are:

Dr. Srinivas T. Rao, Vice President, Flextronics, USA

Dr. Raghu Ramakrishnan, Vice President and Research Fellow, Yahoo!Research, and Professor, University of Wisconsin, Madison

Dr. K. Ramalingam, Chairman, Airports Authority of India

Mr. Y. Gopala Rao, Chairman and Managing Director (Retd.), Bharat Electronics Ltd.

Dr. G. K. Surya Prakash, Professor and George A. & Judith A. Olah Noble Laureate Chair, University of Southern California

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.

During the last year, there were several alumni reunions on campus Ruby, Coral, Pearl, Silver, 15-year and Tin that brought back nostalgic memories of yesteryears, rejuvenating the IITM Alumni. The 1982 batch will celebrate its Silver Reunion this year.

The IIT Madras Growth Fund drive was given a shot in the arm by a pledge by our Distinguished Alumni, Dr. Gururaj Deshpande and Mrs. Jayashree Deshpande. The Deshpande Foundation pledged a matching grant for every dollar collected from other alumni between May 15 and August 31, 2006. Over US\$800,000 was raised from alumni during the drive and this has been matched by the Deshpande Foundation.

The alumni of all IITs have come together to form the PAN IIT Alumni organization. Both the Pan IIT 2006 Conference held in Mumbai during December 2006 and the Pan IIT 2007 Conference held in Santa Clara, California, USA were grand successes with about 4500 and 3500 participants respectively. The next Pan IIT meet in 2008 is to be held in Chennai.

1.17 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. Finally I would like to take this opportunity to wish each and every one of our graduands a successful professional career full of prosperity, happiness and job satisfaction.

2. ADMINISTRATION

2.1 General

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

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

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

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

2.2 Staff Position:

As on 31.03.2007, 367 Faculty, 17 Scientific Staff, 2 Design Staff, 252 Technical Staff and 503 Administrative Staff were in position totaling 1141. During the period under report 128 faculty/staff members comprising 51 Professors, 34 Associate Professors, 41 Assistant Professors, 1 Guest Faculty, 1 Visiting Professor and 21 other staff were appointed. 38 staff members comprising 13 Faculty members, 7 Officers and 18 Staff retired from their services. 4 Staff members expired. 22 faculty/staff members were on long leave. The details of all the above are given below:

2.2.1 Faculty / Staff appointed from 01.04.2006 to 31.03.2007:

List of Faculty appointed during the period April 2006 to March 2007

Sl. No.	Name	Designation	Dept./ Section	DOJ
1.	Dr.R.I.Sujith	Professor	Aerospace	13.04.2006
2.	Dr. K. Bhaskar	Professor	Aerospace	13.04.2006
3.	Dr. M.S.Sivakumar	Professor	Applied	13.04.2006
4.	Dr. C. Lakshmana Rao	Professor	Applied	13.04.2006
5.	Dr.Sreenivas Jayanti	Professor	Chemical	13.04.2006
6.	Dr. R. Ravi	Professor	Chemical	13.04.2006
7.	Dr. S. Baskaran	Professor	Chemistry	13.04.2006
8.	Dr.Archita Patnaik	Professor	Chemistry	13.04.2006
9.	Dr.K.Vidyasagar	Professor	Chemistry	13.04.2006
10.	Dr.Indrapal Singh Aidhen	Professor	Chemistry	13.04.2006
11.	Dr. Mangala Sunder Krishnan	Professor	Chemistry	13.04.2006
12.	Dr. A. Boominathan	Professor	Civil	13.04.2006
13.	Dr. R. Sivanandan	Professor	Civil	13.04.2006
14.	Dr. Hema A Murthy	Professor	Comp. Sci.	13.04.2006
15.	Dr. P. Sreenivasa Kumar	Professor	Comp. Sci.	13.04.2006
16.	Dr. Enakshi Bhattacharya	Professor	Electrical	13.04.2006
17.	Dr. Amitava Dasgupta	Professor	Electrical	13.04.2006
18.	Dr. Nandita Dasgupta	Professor	Electrical	13.04.2006
19.	Dr. Vinita Vasudevan	Professor	Electrical	13.04.2006

Sl. No.	Name	Designation	Dept./ Section	DOJ
20.	Dr. Devendra Jalihal	Professor	Electrical	13.04.2006
21.	Dr. K. Giridhar	Professor	Electrical	13.04.2006
22.	Dr. Harishankar Ramachandran	Professor	Electrical	13.04.2006
23.	Dr.Arindama Singh	Professor	Mathematics	13.04.2006
24.	Dr. Satyajit Roy	Professor	Mathematics	13.04.2006
25.	Dr. R. Rama	Professor	Mathematics	13.04.2006
26.	Dr. S. Ponnusamy	Professor	Mathematics	13.04.2006
27.	Dr.Subbiah Sundar	Professor	Mathematics	13.04.2006
28.	Dr. S.G. Kamath	Professor	Mathematics	13.04.2006
29.	Dr.V.Vetrivel	Professor	Mathematics	13.04.2006
30.	Dr. M.M.Mayuram	Professor	Mechanical	13.04.2006
31.	Dr.N. Sitaram	Professor	Mechanical	13.04.2006
32.	Dr. P. Chandramouli	Professor	Mechanical	13.04.2006
33.	Dr.G.Muthuveerappan	Professor	Mechanical	13.04.2006
34.	Dr.R.Gnanamoorthy	Professor	Mechanical	13.04.2006
35.	Dr.V.Anantha Subramanian	Professor	Ocean	13.04.2006
36.	Dr. R. Natarajan	Professor	Ocean	13.04.2006
37.	Dr.G.Markandeyulu	Professor	Physics	13.04.2006
38.	Dr.V.Sankaranarayanan	Professor	Physics	13.04.2006
39.	Dr. S. Lakshmi Bala	Professor	Physics	13.04.2006
40.	Dr.V.Subrahmanya Murty	Professor	Physics	13.04.2006
41.	Dr.C.Vijayan	Professor	Physics	13.04.2006
42.	Dr. M.S.Ramachandra Rao	Professor	Physics	13.04.2006
43.	Dr. R. Velmurugan	Associate Professor	Aerospace	13.04.2006
44.	Dr.A.Kannan	Associate Professor	Chemical	13.04.2006
45.	Dr.Abhijit P. Deshpande	Associate Professor	Chemical	13.04.2006
46.	Dr.G.Ranga Rao	Associate Professor	Chemistry	13.04.2006
47.	Dr.Sanjay Kumar	Associate Professor	Chemistry	13.04.2006
48.	Dr.N. Narasimha Murthy	Associate Professor	Chemistry	13.04.2006
49.	Dr. S.R. Satish Kumar	Associate Professor	Civil	13.04.2006
50.	Dr. P. Alagusundaramoorthy	Associate Professor	Civil	13.04.2006
51.	Dr. K. Ananthanarayanan	Associate Professor	Civil	13.04.2006
52.	Dr.V.Kamakoti	Associate Professor	Comp. Sci.	13.04.2006
53.	Dr. R. Sarathi	Associate Professor	Electrical	13.04.2006
54.	Dr. A.N. Rajagopalan	Associate Professor	Electrical	13.04.2006
55.	Dr. K. Shanti Swarup	Associate Professor	Electrical	13.04.2006
56.	Dr. V. Jayashankar	Associate Professor	Electrical	13.04.2006
57.	Dr. Krishna Vasudevan	Associate Professor	Electrical	13.04.2006
58.	Dr. Y.V.S.S.Sanyasiraju	Associate Professor	Mathematics	13.04.2006
59.	Dr.K.Srinivasan	Associate Professor	Mechanical	13.04.2006
60.	Dr.V. Raghu Prakash	Associate Professor	Mechanical	13.04.2006
61.	Dr. S. Ganesh Sundara Raman	Associate Professor	Metallurgy	13.04.2006
62.	Dr. M.Kamaraj	Associate Professor	Metallurgy	13.04.2006
63.	Dr.V.Sampath	Associate Professor	Metallurgy	13.04.2006
64.	Dr.M.Balasubramanian	Associate Professor	Metallurgy	13.04.2006
65.	Dr.Udayachandran Chakkingal	Associate Professor	Metallurgy	13.04.2006
66.	Dr.K.Murali	Associate Professor	Ocean	13.04.2006
67.	Dr.S.A.Sannasiraj	Associate Professor	Ocean	13.04.2006
68.	Dr. V. Subramanian	Associate Professor	Physics	13.04.2006
69.	Dr. Arul Lakshminarayan	Associate Professor	Physics	13.04.2006
70.	Dr. Anurag Mittal	Asst. Professor	Comp. Sci.	13.04.2006
71.	Dr. U. Saravanan	Asst. Professor	Civil Engg.	18.04.2006

Sl. No.	Name	Designation	Dept./ Section	DOJ
72.	Dr. Aysha Iqbal	Asst. Professor	Humanities	21.04.2006
73.	Dr. Sanjeev Kumar Gupta	Asst. Professor (on cont.)	Biotechnology	25.04.2006
74.	Dr. Nandan Kumar Sinha	Asst. Professor	Aerospace	25.04.2006
75.	Dr. Shaligram Tiwari	Asst. Professor	Mechanical	27.04.2006
76.	Dr. Ashuthosh Suresh Gandhi	Asst. Professor	Metallurgy	01.05.2006
77.	Dr. P. Bhyrappa	Associate Professor	Chemistry	01.05.2006
78.	Dr. T.M. Muruganandam	Asst. Professor	Aerospace	12.05.2006
79.	Dr. T. Asokan	Asst. Professor	Mechanical	15.05.2006
80.	Dr. V. Uma	Asst. Professor	Mathematics	15.05.2006
81.	Dr. B. Rajakumar	Asst. Professor	Chemistry	17.05.2006
82.	Dr. Anju Chadha	Professor	Biotechnology	19.05.2006
83.	Dr. Doble Mukesh	Professor	Biotechnology	19.05.2006
84.	Dr. V.Srinivasa Chakravarthy	Associate Professor	Biotechnology	19.05.2006
85.	Dr. Amal Kanti Bera	Asst. Professor	Biotechnology	19.05.2006
86.	Dr. Sanjib Senapati	Asst. Professor	Biotechnology	19.05.2006
87.	Dr. V. Kesavan	Asst. Professor	Biotechnology	19.05.2006
88.	Dr.R.Madhumathi	Associate Professor	Management Studies	19.05.2006
89.	Dr.A.Thillai Rajan	Asst. Professor	Management Studies	19.05.2006
90.	Dr. Arunkumar D. Mahindrakar	Asst. Professor	Electrical	22.05.2006
91.	Dr. K. Krishna	Asst. Professor	Mechanical	25.05.2006
92.	Dr. K.B. Ramachandran	Professor	Biotechnology	25.05.2006
93.	Dr. R. Ramnarayanan	Asst. Professor	Chemical Engg.	07.06.2006
94.	Dr. K.M. Muraleedharan	Asst. Professor	Chemistry	08.06.2006
95.	Dr. M. Thenmozhi	Professor	Management Studies	09.06.2006
96.	Dr. A.R. Ganesan	Associate Professor	Physics	09.06.2006
97.	Dr. S.M. Shiva Nagendra	Asst. Professor	Civil Engg.	12.06.2006
98.	Dr. Edamana Prasad	Asst. Professor	Chemistry	12.06.2006
99.	Dr. V. Lelitha Devi	Asst. Professor	Civil Engg.	14.06.2006
100.	Dr. P. Krishnan Kutty	Associate Professor	Ocean Engg.	19.06.2006
101.	Dr. A.Seshadri Sekhar	Professor	Mechanical Engg.	21.06.2006
102.	Dr. Amrendra Vijay	Assistant Professor	Chemistry	03.07.2006
103.	Dr. Sounaka Mishra	Assistant Professor	Mathematics	06.07.2006
104.	Dr. R. Panneer Selvam	Assistant Professor	Ocean Engg.	07.07.2006
105.	Dr. T.E. Venkata Balaji	Assistant Professor	Mathematics	13.07.2006
106.	Dr. T.S. Sampath Kumar	Associate Professor	Metallurgy	17.07.2006
107.	Dr. P.B. Sunil Kumar	Professor	Physics	20.07.2006
108.	Dr. Bijoy Krishna Das	Assistant Professor	Electrical Engg.	01.08.2006
109.	Dr. Anupam Chakrabarti	Assistant Professor	Ocean Engg.	02.08.2006
110.	Dr. M. Pattabiraman	Assistant Professor	Physics	23.08.2006
111.	Dr. N. Sujatha	Asst. Professor (on contract)	Applied Mechanics	30.08.2006
112.	Dr. D. Karunakaran	Professor	Biotechnology	01.09.2006
113.	Dr. C.S. Shankar Ram	Asst. Professor (on contract)	Engineering Design	04.09.2006
114.	Dr. R. Ravikrishna	Asst. Professor	Chemical Engg.	04.09.2006
115.	Dr. P. Selvam	Professor	Chemistry	08.09.2006
116.	Dr. R. Jayaraman	Guest Faculty	Biotechnology	10.10.2006
117.	Dr. P. Murugavel	Assistant Professor	Physics	03.11.2006
118.	Dr. Luoyi Tao	Assoc. Professor (on contract)	Aerospace	10.11.2006

Sl. No.	Name	Designation	Dept./ Section	DOJ
119.	Dr. Rajesh Narayanan	Assistant Professor	Physics	23.11.2006
120.	Dr. Subir Kumar Saha	Professor	Engineering Design	11.12.2006
121.	Dr. B.S.V. Prasad Patnaik	Assistant Professor	Applied Mechanics	14.12.2006
122.	Dr. Anjan Chakravorty	Assistant Professor	Electrical Engg.	02.01.2007
123.	Dr. Ramesh Subramanian	Visiting Professor	Management Studies	03.01.2007
124.	Dr. Shanti Bhattacharya	Assistant Professor	Electrical Enggg.	15.02.2007
125.	Dr. Ashwin Mahalingam	Assistant Professor	Civil Engineering	26.02.2007
126.	Dr. Ashwin Mahalingam	Assistant Professor	Civil Engg.	26.02.2007
127.	Dr. C.S. Shankar Ram	Assistant Professor	Engineering Design	05.03.2007
128.	Dr. N.V. Ravikumar	Assistant Professor	Metallurgy	14.03.2007

List of Staff Members joined during April 2006 to March 2007

Sl. No.	Name	Designation	Dept./ Section	DOJ
1.	Col. Retd. P.V.V.Vidhyasagar	CSO (on contract)	Security Section	27.04.2006
2.	Dr. R. Krishnakumar	Consultant Ophthalmologist	Instt. Hospital	01.06.2006
3.	Mr. D. Senthil Kumar	Technician Apprentice	Engg. Unit	02.06.2006
4.	Ms. Mili Senapati	Nurse (on contract)	Instt. Hospital	24.07.2006
5.	Dr. A. Vikram	Consultant (Gastroentology)	Instt. Hospital	28.08.2006
6.	Dr. M. Amudha	Consultant (Dermatology)	Instt. Hospital	28.08.2006
7.	Dr. S. Vijayaraghavan	Consultant (Internal Medicine)	Institute Hospital	25.09.2006
8.	Dr. P. Kanimozhi	Junior Medical Officer (on contract)	Institute Hospital	03.10.2006
9.	Dr. G. Muruga Perumal	Junior Medical Officer (on contract)	Institute Hospital	04.10.2006
10.	Ms. M. Gracy	Nurse (on contract)	Institute Hospital	11.10.2006
11.	Dr. B.M. Prasad	Dentist (Part – time)	Institute Hospital	14.10.2006
12.	Dr. S. Shehena	Junior Medical Officer (on contract)	Institute Hospital	30.10.2006
13.	Ms. V. Kamakshi	Nurse (on contract)	Institute Hospital	15.11.2006
14.	Ms. M Suriyakala	Nurse (on contract)	Institute Hospital	17.11.2006
15.	Mr. D. Vijayakanth	X-Ray Technician	Institute Hospital	07.12.2006
16.	Mr. G. Selvamani	Chief Security Officer	Security Section	18.01.2007
17.	Shri L. Venkataraman	Exe. Engineer (Civil)	Engineering Unit	23.02.2007
18.	Shri K. Viswanath	Exe. Engineer (Elec.)	Engineering Unit	23.02.2007
19.	Dr. B. Jayachandran Dare	Consultant Veterinarian	Institute Hospital	05.03.2007
20.	Dr. N. Mahesh	Consultant (Neurology)	Institute Hospital	07.03.2007
21.	Shri K. Rizwan Ali	Asst. Exe. Engr (Civil)	Engineering Unit	20.03.2007

31.05.2007

Faculty / Staff retired from 01.04.2005 to 31.03.2006

Sl. No.	Names	Designation	Dept	Dor
1.	Sharma D K	CDE (SG)	Phy	30/04/2006
2.	Savithri M	Sweeper	Engg Unit	30/04/2006
3.	Ponnammal P	Sweeper Gr I	Engg Unit	30/04/2006
4.	Seshadri S K	Professor	Mett&Matls	31/05/2006

5.	Venugopal P	Professor	Mett&Matls	31/05/2006
6.	Jothinathan G	Sr. Sci Officer Gr I	Mett&Matls	31/05/2006
7.	Mahalingam S	Asst Registrar	Fin & Accts	30/06/2006
8.	Krishnaveni K	Peon Gr I	Library	30/06/2006
9.	Rajagopalan K	Professor	Ocean Engg	30/06/2006
10.	Panneerselvam G	Sr. Mech (SG)	Mech Engg	30/06/2006
11.	Lakshmikanthan G	Sr. Steno (SG)	Int. Audit	30/06/2006
12.	Venkataiah B	Sr. Sweeper	Engg Unit	30/06/2006
13.	Paul T	Sweeper Gr I SG	Fin & Accts	30/06/2006
14.	Babu S.	Sr. Attendant	Library	30/06/2006
15.	Lakshminarasimhan J	AssocProf	App Mech	31/07/2006
16.	Sundarababu K	Sr. Helper	Civil Engg	31/07/2006
17.	Vitto T J	Asst Prof	Elec Engg	31/08/2006
18.	Chetty O V K	Professor	Mech Engg	31/08/2006
19.	Subramanian S P	Professor	Ocean Engg	31/08/2006
20.	Shet U S P	Professor	Mech Engg	31/08/2006
21.	Natarajan G	Secretary (SG) Director	Director Off	30/09/2006
22.	Murthy D V S	Professor	Chem Engg	31/10/2006
23.	Loganayagi M	Sweeper Gr I	Engg Unit	30/11/2006
24.	Balasundaram K	Chief D'Man	Mech Engg	31/12/2006
25.	Suryaprakasam K	Chief D'Man	Mech Engg	31/12/2006
26.	Balakrishnan D	CTEO(SG)	IC & SR	31/12/2006
27.	Palaninathan R	Professor	Appl Mech	31/12/2006
28.	Jayavelan N A	CMO i/c	Hospital	31/12/2006
29.	Kondaiah B M	Sr. Helper	CWS	31/12/2006
30.	Venkatachalam V	Supervisor (SG)	Civil Engg	31/12/2006
31.	Padma K	Sweeper	Engg Unit	31/12/2006
32.	Subramanian M.S.	Prof.	CY	31-Jan-07
33.	Guha B	Prof.	MT	31-Jan-07
34.	Jayarani, A.	Jr. Attdt.	Lib	31/01/2007
35.	Aruna S	Medical Officer	Hospital	1.2.2007 V.R
36.	Ganesan V.	Prof.	ME	28-Feb-07
37.	Sridevi. S	Medical Officer	Hospital	1.3.2007 VR
38.	Kumaraswamy P.M.	Sr. Gestetner Operator I	CCE	5.3.2007 VR

Expired: (while in service)

Sl. No	Name	Designation	Department	Date
1	Balambal. M	Jr. Supdt.	ME	06.02.2007
2	Sundararajan G	Professor	Chemistry	23.02.2007
3	Srinivasa Y.G	Professor	Mechanical	14.03.2007
4	Arjunan. R	Sr. Attendant	Engg. Unit	05.03.2007

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

Sl. No.	Name & Department	From	To	Nature of Leave
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. Sharnit 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
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	30.06.2007	Sabbatical Leave
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.	Dr. R. Krishnakumar Professor & Head/ Engg.Design	01.01.2007	31.12.2007	Sabbatical Leave
22.	Dr. Manu Santhanam Asst. Professor	27.03.2007	31.12.2007	Sabbatical Leave
23.	Sri. V.S. Balaji Sr. Assistant, Academic	09.07.2004	06.01.2007	EOL with FST

No. of Staff Resigned/Relieved

Sl.No.	Name and Department	Designation	Date of Relief
1.	P.D. Dilli Raj	Helper Gr. I	07.04.2006
2.	Col. P.V.V. Vidhyasagar	CSO	31.12.2006
3.	V.S. Balaji	Sr. Asst.	07.01.2007

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 have also received attention.

The HRD activities were initiated at the Institute in 1997 under the charge of a professor. In the period of reporting, the total number of in-service training program was 24. 36 programs were conducted outside IIT Madras. A total of 522 staff members were nominated for the 60 various training programs conducted inside and outside IIT Madras. 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 2006 to March 2007

S.No.	Name	Designation	Dept.	Title	Duration	Venue
1.	Sri V Samayan	Tech. Asst.	Civil Engg.	Modern Methods to Monitor Environmental Pollution (Air,Water & Soil)	31.03.2006 to 02.04.2006	Conducted by Vishwa Bharati Educational Trust Hyderabad Venue: Hotel Atithi, Mumbai 99.
2.	Sri K Kamaraj	Tech. Officer Gr.I(Lib.)(P)	Cen.Library	Conservation of Library Materials at TMSSM Library, Thanjavur	07.04. 2006 to 09.04. 2006	TMSSM , Thanjavur
3.	Sri D Muthurajan	Jr. Mechanic	CWS	Maintenance of Machine Tools for Technicians	17.04. 2006 to 28.04. 2006	ATI Guindy 32.
4.	Sri V Sreenivasan	AEE	Engg.Unit	Green Mission For Healthy Environment	28.4.2006	Hotel Days Inn Deccan Plaza, Chennai
5.	Sri K Rizwan Ali	JE	Engg.Unit	Green Mission For Healthy Environment	28.4.2006	Hotel Days InnDeccan Plaza, Chennai
6.	Sri K Uthayakumar	Mechanic	CWS	MIG-MAG Welding	08.05.2006 to 19.05.2006	(ATI) Guindy, Chennai
7.	Sri R Pazhanivel	Technical Asst.	CWS	Solid Modeling using Autocad/MDT	15.05.2006 to 26.05.2006	(ATI) Guindy, Chennai

S.No.	Name	Designation	Dept.	Title	Duration	Venue
8.	Sri J Gasper Arumairaj	Security Guard Gr.I	CWS	Engineering Measurement, Measuring Equipment & Quality Control	29.05.2006 to 09.06.2006	(ATI) Guindy, Chennai
9.	Sri N T Sasikumar	Tech. Asst.	CWS	Maintenance of Machine Tools for Supervisors	29.05.2006 to 09.06.2006	(ATI) Guindy, Chennai
10.	Sri G. Ravichandran	Asst. Repr	IC&SR	Pension Funds Issues and Investments Strategies	26.6.2006 To 29.06.2006	Mussoorie
11.	Sri.S.Sundaravinayagam	Asst. Repr	Admn.	Pension Funds Issues and Investments Strategies	26.6.2006 To 29.06.2006	Mussoorie
12.	Sri S Ravee	Asst. Repr	Admn. & Accounts	Pension Funds Issues and Investments Strategies	26.6.2006 To 29.06.2006	Mussoorie
13.	Sri P Senthilkumar	Jr. Mechanic	CWS	CNC Turning Programming Simulation & Operation	5.6.2006 to 16.6.2006	ATI Guindy, Chennai
14.	Sri S Chellapandian	Jr. Mechanic	CWS	CNC Turning Programming Simulation & Operation	5.6.2006 to 16.6.2006	ATI Guindy, Chennai
15.	Sri T Chandranath	Jr. Mechanic	CWS	Pneumatic Controls For Supervisors	26.6.2006 to 30.6.2006	ATI Guindy, Chennai
16.	Sri G Balaganesan	S.T.O.	CWS	Modelling & NC Code Generation-CAM Software	14.6.2006 to 04.07.2006	SISI, Guindy
17.	Sri K Kumar	Technician	CWS	Introduction to Electro Penumatics	26.6.2006 to 30.6.2006	Festo Controls Pvt.Ltd. Chennai 8.
18.	Sri P Hariharan	Technician	CWS	CNC Machining Maintenance	26.6.2006 to 30.6.2006	FTI, Bangalore
19.	Sri R Thirupathi	Technician	CWS	Programmable Logic Controller	3.7.2006 to 14.7.2006	FTI, Bangalore 22
20.	Sri T Chandranath	Jr. Mechanic	CWS	Introduction to Penumatics	10.7.2006 to 14.7.2006	Festo Controls Pvt.Ltd. Chennai 8.
21.	Sri K Nagarajan,	Sr. Tech. Asst.	ME	"PLC Programming and Applications(GE-FANUC PLC)"	10.7.2006 To 14.7.2006	ATI, Guindy
22.	Sri M K Subramanian	Mechanic	ME	'Multi Port Fuel Injection System'	17. 7.2006 To 21.7.2006	ATI, Guindy
23.	Sri S Arjunan	Mechanic	CWS	'Multi Port Fuel Injection System (MPFI) S.No.6.04	17.7.2006 to 21.7.2006	ATI, Guindy
24.	Sri M Kalyankumar	Jr. Mechanic	CWS	Maintenance & Servicing of Electrical Machines and Controls	10.7.2006 21.7.2006	ATI , Guindy

S.No.	Name	Designation	Dept.	Title	Duration	Venue
25.	Sri P J Winston	Jr. Mechanic	CWS	- do -	10.7.2006 21.7.2006	ATI , Guindy
26.	Sri R Mehanathan	Jr. Mechanic	CWS	- do -	10.7.2006 21.7.2006	ATI , Guindy
27.	Sri K Kumar	Tech. Asst.	CWS	Engineering Measurement, Measuring Equipment & Quality Control	10.7.2006 21.7.2006	ATI , Guindy
28.	Sri K Balasubramanian	Tech. Asst.	CWS	- do -	10.7.2006 21.7.2006	ATI , Guindy
29.	Sri P Hariharan	Tech. Asst.	CWS	Virtual Instrumentation & Industrial Automation	24.7.2006 28.7.2006	ATI , Guindy
30.	Sri P Dillibabu	Tech. Asst.	CWS	Lapping & Honing Practice	07.8.2006 18.8.2006	ATI , Guindy
31.	Dr.M Dhanabalan	Lab Supdt.	Physics	Workshop on Laboratory Innovations in Physics	11.8.2006 to 12.8.2006	Govt. College, Ajmeer, Rajasthan
32.	Sri M Michael john Bose	Mechanic B	ME	MIG MAG Welding	14.8.2006 to 25.8.2006	ATI, Guindy
33.	Sri. V. Veerasamy	Pub. Health Officer	Engg. Unit	Disciplinary proceedings Enquiry , Statutory rules	18.08.06 to 20.08.06	New Delhi
34.	Smt. Prema Chakrapani	Asst. Regr.	IC&SR	Disciplinary proceedings Enquiry , Statutory rules	18.08.06 to 20.08.06	New Delhi
35.	Sri. M. Imagaran	Superintendent	Admn.III	Disciplinary proceedings Enquiry , Statutory rules	18.08.06 to 20.08.06	New Delhi
36.	Sri. G. Selvamani	SecurityOffice	Sec. Section	Security Management Challenges	08.09.2006	Chennai
37.	Sr.P. V. Vidyasagar	CSO	Sec. Section	Security Management Challenges	08.09.2006	Chennai
38.	Sri. D. Ravi	Jr. Supdt.	Accounts	Disciplinary Proceeding	25.09 to 29.0	New Delhi
39.	Sri. Venkatesan D	Sr. Asst.	Admn. I	Disciplinary Proceeding	25.09 to 29.0	New Delhi
40.	Sri. P. N. Raghurajan	Sr. Asst.	Security Section	Disciplinary Proceeding	25.09 to 29.0	New Delhi
41.	Sri. M. Chinnaian	Asst. Engr	E. Unit	Electrical Safety & Statutory Regulations	03 to 06 Oct 2006	Bangalore
42.	Mr. A. Thirunavukkarasu	D.R.	Admn.	A Training Programme for University Administrators	23-27 Oct. 2006	Bharat Kala Bhavan, Banaras Hindu University, Varanasi
43.	Mr. John De Britto	A.E.E.	E.U.	-do-	23-27 Oct. 2006	Bharat Kala Bhavan, Banaras Hindu University, Varanasi

S.No.	Name	Designation	Dept.	Title	Duration	Venue
44.	Mr. J. Lazar	A.R.	E.U.	-do-	23-27 Oct. 2006	Bharat Kala Bhavan, Banaras Hindu University, Varanasi
45.	Mr. M. Manickavasagam	J.E.	E.U.	A Training Programme on Power Systems – SCADA & EMS	20-24 Nov. 2006	Power Training Institute, Bangalore
46.	Sri. S. Sambasivam	Asst. Repr	Accounts Sec.	Accrual Accounting	27.11.2006 to 29.11.2006	New Delhi
47.	Sri. D. Ravee	Asst. Repr	Accounts Sec.	Accrual Accounting	27.11.2006 to 29.11.06	New Delhi
48.	Sri. P. V. Vidyasagar	CSO	Security Sec	Synergy between pub& private sector security Systems	21.11 to 23.11.2006	N. Delhi
49.	Sri. G. Selvamani	CSO	Security Sec	Synergy between pub& private sector security Systems	21.11 to 23.11.2006	N. Delhi
50.	4 staff members		Library	Fire Prevention and Fire Fighting	15.12.2006	M/s. Everlife Fire Services, Chennai 94
51.	Sri T. Vengadesan	A.R.	Academic	Re-Engineering Office Processes for Right to Information Act 2005	5.12.2006 to 7.12.2006	National Productivity Council, Bhubaneswar
52.	Dr. T.R. Kesavan	S.O Gr II	Physics	Managerial Skills for Sci. & Tech. Staff	18.12.06 to 29.12.2006	N. Delhi
53.	Sri. R. Bakthavatsalu	T.O	Civil E	Managerial Skills for Sci. & Tech. Staff	18.12.06 to 29.12.2006	N. Delhi
54.	Dr. T.J. Kamalanabhan	Professor	Management Studies	Changing Dimensions Employee relations	20.12.2006	GRT Grand Convention Centre, Chennai
55.	Dr. L. Prakash Sai		Management Studies	Changing Dimensions Employee relations	20.12.2006	GRT Grand Convention Centre, Chennai
56.	Sri K. Viswanath	A.E.E.	E.U.	O&M of Transofmrers & Circuit Breakers	18.12.2006 to 22.12.2006	The Power Systems Training Institute (PSTI) Bangalore
57.	Sri M. Muraliprakash	A.E.E.	Telephones	O&M of Transofmrers & Circuit Breakers	18.12.2006 to 22.12.2006	The Power Systems Training Institute (PSTI) Bangalore
58.	Sri K. Viswanath	A.E.E.	E.U.	Computer Communication & Network Security	26.12.2006 to 29.12.2006	The Power Systems Training Institute (PSTI) Bangalore
59.	Sri M. Muraliprakash	A.E.E.	Telephones	Computer Communication & Network Security	26.12.2006 to 29.12.2006	The Power Systems Training Institute (PSTI) Bangalore

S.No.	Name	Designation	Dept.	Title	Duration	Venue
60.	Mr. A. Thirunavukkarasu	D.R.	Admn.	"2 Day National Functional Workshop on Official Language	19 - 20 Jan. 2007	Institute of Public Administration Bangalore
61.	Mr. K. Chandrakasu	Supdt.	Admn.	-do-	19 - 20 Jan. 2007	Institute of Public Administration Bangalore
62.	Mr. M. Imagaraan	Supdt.	Admn.	-do-	19 - 20 Jan. 2007	Institute of Public Administration Bangalore
63.	Mr. M. Sanjeevi Kani	Jr. Exec.	Hindi Cell	-do-	19 - 20 Jan. 2007	Institute of Public Administration Bangalore
64.	Mr. R. Esakkimuthu	D.R.	S&P	4 th National Convention on "Reservation Policy for Chief Liaison Officers for SCs/STs/OBCs and dealing officials	14 - 15 Feb. 2007	Institute of Public Administration New Delhi
65.	Mr. A. Mohan	Lab. Supdt.	CY	One day seminar on "Fire Safety - Challenges and Solutions	16.02.2007	Indian Institute of Security Management, Chennai 61
66.	Mr. V. Manickavasagam	J.E.	EU	-do-	16.02.2007	Indian Institute of Security Management, Chennai 61
67.	Mr. T. Karunakaran	Sr. Accounts Officer	Audit	"Purchase Policy & Procedure in Govt. Depts., Autonomous Bodies and PSUS"	22 - 24 Feb. 2007	Centre for Training & Social Research New Delhi
68.	Mr. V. Thatchanamoorthy	Sr. Supdt.	S&P	-do -	22 - 24 Feb. 2007	Centre for Training & Social Research New Delhi
69.	Mr. M. Chakrapani	Supt.	F&A	-do-	22 - 24 Feb. 2007	Centre for Training & Social Research New Delhi
70.	Mr. C. Madurai Muthu	Supt.	TC	-do-	22 - 24 Feb. 2007	Centre for Training & Social Research New Delhi
71.	Mr. P. Kannan	Supdt.	S&P	-do-	22 - 24 Feb. 2007	Centre for Training & Social Research New Delhi
72.	Mr. Ajay Krishnan	J.E.	Engg. Unit	Water Proofing Materials and Techniques	13 - 14 March 2007	National Council for Cement and Building Materials, Hyderabad
73.	Mr. S. Narayanaperumal	J.E.	Engg. Unit	-do-	13 - 14 March 2007	National Council for Cement and Building Materials, Hyderabad

S.No.	Name	Designation	Dept.	Title	Duration	Venue
74.	Smt. Prema Chakrapani	A.R.	IC&SR	Accounting Reforms for Universities & Educational Institutions	19 – 23 March 2007	National Institute of Financial Management, Faridabad, Haryana
75.	Mr. S. Sambasivam	A.R.	F&A	-do-	19 – 23 March 2007	National Institute of Financial Management, Faridabad, Haryana
76.	Mr. J. Lazar	A.R.	IA	-do-	19 – 23 March 2007	National Institute of Financial Management, Faridabad, Haryana
77.	Mr. P. Veeramani	Junior Mechanic	CWS	Programmable Logic Controllers	05 - 16 March 2007	Foremen Training Institute, Bangalore

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

S.No.	Name of the Staff Member	Title	Date	Venue
1.	Sri A Thayalan & 8 others	Strain Guages, Strain Measurements and Applications	15.5.2006	CEC
2.	IIT staff & students	Atma Gnana Yoga	15.5.2006 to 24.5.2006	
3.	Sri A Thayalan & 5others	Temperature Measurements	31.5.2006	CEC
4.	Sri A Thayalan & 6others	PCB Design Practices	12.6.2006	CEC
5.	Sri G Penchalaiah , Supdt. & 43 others	Team Building Skills	21.6.2006	Civil Engg.
6.	Sri P Hariharan & 4 others	Solar Photo Voltaic Systems	26.6.2006	CEC
7.	Sri P Chandran, Mechanic CGBS	15 th National Seminar	3.7.2006 to 7.7.2006	CGBS
8.	Sri P Amal Raj, S T A CGBS	15 th National Seminar	3.7.2006 to 7.7.2006	CGBS
9.	Sri K S Narasinga Rao, S T A CGBS	15 th National Seminar and 13 th Workshop	3.7.2006 to 7.7.2006	CGBS
10.	Sri A Jayaraman, Tech. Asst. Chemistry Dept.	15 th National Seminar and 13 th Workshop	3.7.2006 to 7.7.2006	CGBS
11.	Sri P Ramaswamy & 39 others	HRD Programme on Communication Skills	13.7.2006	Seminar Hall, Civil Engg.
12.	Mrs. D Rani & 27 others	HRD Programme on Develop Computer Skills basic level	17.7.2006 to 21.7.2006	Central Library
13.	43 Participants Staff & Students	Atma Gnana Yoga	07.08.2006 to 16.08.2006	By T S Narayanan
14.	5 Participants		18.9.2006	CEC, IIT Madras

S.No.	Name of the Staff Member	Title	Date	Venue
15.	Dr. H.S. Murthy and 26 others	HRD Workshop on Creating a learning Environment for young faculty members	4.10.2006	Room No.252, Dept. of Management Studies
16.	Sri G. Balaganesan & 2 others	Intensive Workshop on Fibre Reinforced thermoset Plastics	9.10.2006	Comptec Centre
17.	37 faculty/staff members	Athma Gnana Yoga	30.10.2006 to 8.11.2006	
18.	26 staff members	Records Management	30.11.2006	Visveswaraya Seminar Hall, CE
19.	19 staff members	Advanced Computer Training Programme	4.12.2006 to 8.12.2006	
20.	9 staff members	Basics of Data Acquisition Systems	11.12.2006	CEC
21.	11 staff members	Drivers Training Programme in association with Petroleum Conservation Research Association (PCRA)	12.2.2007 to 14.2.2007	Central Workshop
22.	33 staff members	Athma Gnana Yoga	5.3.2007 to 14.3.2007	
23.	Sri Banavath Baman	Reducing TCO thro' Open Source	23.3.2007	IC&S
24.	25 staff members	Pay Fixation & Pension Rules	28.3.2007	IC&SR

2.3.2 Hindi Coaching (updated)

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 2006-2007, 74 staff members were offered this course. As on 31.3.2007, 1058 staff members were offered this course.

2.3.3 School Fee Concession:

Institute reimbursed fees paid by staff members for their children's' education as per Government of India norms. During the period under report 64 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 2006-2007, 443 children were benefited.

2.3.5 Advances:

During the period under report a sum of Rs. 37.25 lakhs was sanctioned for the following:

S.No.	Advance	No. of Employees	Amount sanctioned in Rs.
1.	House Building Advance	2	10,66,000
2.	Car Advance	2	3,15,528
3.	Two Wheeler Advance	20	4,83,610
4.	Personal Computer Advance	35	14,59,516
5.	Cycle Advance	Nil	0
6.	Festival Advance	267	4,00,500
Total			37,25,154

2.3.6 Meetings of the Authorities:

Board of Governors	:	Three meetings were held on 11.4.2006, 27.7.2006 and on 21.12.2006
Finance Committee	:	One meeting was held on 21.12.2006
Buildings & Works Committee	:	Two meetings were on 21.7.2006 and 20.12.2006
Senate	:	Four meetings were held on 12.7.06, 11.10.06, 12.12.2006 & 20.2.2007

ISO 9000 Programme

IITM was awarded ISO-9000 certification for academic and support processes (QSM 1: Academic Section, User Oriented Programmes, Central Workshop, Central Library, Computer Centre and IC&SR) since 1999 and for administrative support processes (QSM 2: Central Electronic Centre, Finance and Accounts, Administration, Stores and Purchase, Engineering Unit and Security) since 2001. The recertification audits for QSM 1 and QSM 2 were conducted by TUV India Private Ltd. in August 2005 and March 2005 respectively. The certificate is valid until August 2008 for QSM 1, and January 2008 for QSM 2. In addition to ISO 9001:2000 certification, the Central Electronic Centre in NABL – accredited for its Testing and Calibration Laboratories since 2004.

The following ISO activities have been carried out during April 2006 – March 2007.

- Surveillance Audit for QSM 2 and QSM 1 were conducted by TUV India Private Ltd. in November 2006 and January 2007 respectively.
- No non-conformities were observed during these Surveillance Audits.
- TUV India Private Ltd. appreciated the efforts taken by the above mentioned Units/Section/Centres in the implementation of ISO 9001:2000.
- Initiatives have been taken to get the ISO certification for the Institute's Guest House, Placement Office and Hospital.

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

Academic Administration

DIRECTOR : **Prof. M.S. Ananth**

Deans:

Academic Courses	:	Dr. S. Santhakumar
Academic Research	:	Dr. S. Narayanan (upto 31.10.2006) Dr. K. Krishnaiah (from 1.11.2006)
Administration	:	Dr. S.K. Seshadri (upto 21.4.2006) Dr. M. Singaperumal (from 22.4.2006)
Industrial Consultancy & Sponsored Research	:	Dr T T Narendran
Students	:	Dr. V.G. Idichandy
Planning	:	Dr Bhaskar Ramamurthy

Heads of Departments:

Aerospace Engg.	:	Dr. Job Kurian
Applied Mechanics	:	Dr. K. Ramesh
Bio-Technology	:	Dr. G.K. Suraish Kumar
Chemical Engg.	:	Dr. A.R. Balakrishnan (upto 5.10.2006)

	Dr. Shankar Narasimhan (from 6.10.2006)
Chemistry	: Dr. G. Sundararajan (upto 22.2.2007) Dr. S. Sankararaman (from 23.2.2007)
Civil Engg.	: Dr. S. Mohan
Computer Sci.& Engg.	: Dr.T.A. Gonsalves
Electrical Engg.	: Dr.S. Srinivasan
Engineering Design	: Dr. R. Krishna Kumar (upto 31.12.2006) Dr. Nilesh Jayantilal Vasa (from 5.1.2007)
Humanities & Soc.Sci.	: Dr. V.R.Muraleedharan
Mathematics	: Dr. S.A. Choudam
Management Studies	Dr. L.S. Ganesh
Mechanical Engg.	: Dr. S. Srinivasa Murthy (upto 5.10.2006) Dr. M.S. Shunmugam (from 6.10.2006)
Metallurgical & Materials Engg.	: Dr. S.D. Pathak
Ocean Engg.	: Dr. V. Sundar (upto 3.9.2006) Dr. R. Sundaravadivelu (from 4.9.2006)
Physics	: Dr. A. Subrahmanyam (upto 30.4.2006) : Dr. P.C. Deshmukh (from 1.5.2006)

Heads of Research Centres:

Composite Technology Centre	: Dr. S.K. Malhotra
Materials Sciences Research Centre	: Dr. G. Sundararajan (upto 22.2.2007) Dr. S. Sankararaman (from 23.2.2007 to 16.4.2007) Dr. R. Dhamodharan (from 17.4.2007)
Sophisticated Analytical Instrument Facility	: Dr. A.K. Mishra

Head of Special Facilities for interaction with Other Institutions:

Centre for Industrial Consultancy & Sponsored Research	: Dr. T T Narendran
Centre for Continuing Education	: Dr. M. Singaperumal (upto 23.4.2006) Dr. K. Ramamurthy (from 24.4.2006)
Central Electronics Centre	: Dr. M. Kumaravel

Central Administration

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

Deputy Registrars

Academic	: Dr. K. Panchalan
Administration	: Dr. T. Suryakumar (upto 31.5.2006) Dr. A. Thirunavukkarasu (from 1.6.2006)
Finance & Accounts	: J. Rammohan
Stores & Purchase	: R. Esakkimuthu

Training & Placement : Shri Jayakumar

Assistant Registrar

Stores & Purchase : A.V. Sudarsanam
Finance & Accounts : S. Sambasivam
D. Ravee
Administration : S. Sundaravinayagam
B.Ramaswamy
IC & SR : G. Ravichandran
Hostels : B. Nagarajan (In-charge)
Academic : B. Nagarajan
T. Vengadesan
Internal Audit : J Lazar
Chief Security Officer : Col (Retd) P V V Vidhyasagar (31.12.2006)
G. Selvamani (from 1.1.2007)
Secretary (SG) to Director : G. Natarajan (upto 30.9.2006)

Head of Central Services, Facilities and Section

Central Library : Dr. Harish Chandra
Chief Medical Officer (In-charge) : Dr. N.A. Jayavelan (upto 31.12.2006)
Dr. Usha Titus (from 01.01.2007)
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. Shumugam (upto 3.12.2006)
Dr. M. Govardhan (from 4.12.2006)
Placement & Training : Dr. T.T. Narendran (upto 23.4.2006)
Dr BVSS Prasad (from 24.4.2006)
Guidance & Counselling Unit : Dr. David Koilpillai (upto 30.11.2006)
Dr. G. Srinivasan (from 1.12.2006)
Prof-in-charge (Alumini Affairs) : Dr.K.N. Satyanarayana

Engineering Unit

Chairman , Estate & Works Committee : Dr. R. Sundaravadevelu (upto 11.7.2006)
Dr. Ravindra Gettu (from 12.7.2006)
Superintending Engineer : R Arumugam
Sr, Executive Engineers : C.R. Harish (on deputation)
Executive Engineers : L. Venkatraman

: K. Viswanath

Assistant Executive Engineers

: F. John De Britto
V. Seenivasan
K. Dharmaraj
M. Ramachandran
M. Murali Prakash
H Anandaram
K. Rizwan Ali (from 20.3.2007)

Public Health Officer

: V. Veerasamy

1	Mr. E. Jayakumar	Graduate Apprentice	Engg. Unit	09.10.2006
2	Dr. R. Jayaraman	Guest Faculty	Biotechnology	10.10.2006
3	Ms. M. Gracy	Nurse (on contract)	Institute Hospital	11.10.2006
4	Mr. M. Balamurugan	Technician Apprentice	Engg. Unit	12.10.2006
5	Mr. T. Prabhu	Technician Apprentice	Engg. Unit	13.10.2006
6	Mr. S.M. Shahjahan	Technician Apprentice	Engg. Unit	13.10.2006
7	Mr. K. Elangovan	Technician Apprentice	Engg. Unit	13.10.2006
8	Ms. S. Jahirabanu	Technician Apprentice	Engg. Unit	13.10.2006
9	Dr. B.M. Prasad	Dentist (Part – time)	Institute Hospital	14.10.2006
10	Mr. R. Ganesan	Technician Apprentice	Engg. Unit	16.10.2006
11	Mr. J. Palani Kumar	Technician Apprentice	Engg. Unit	16.10.2006
12	Mr. A. Muthurajan	Technician Apprentice	Engg. Unit	16.10.2006
13	Mr. B. Sakthivel	Technician Apprentice	Engg. Unit	16.10.2006
14	Mr. V. Vinoth	Technician Apprentice	Engg. Unit	16.10.2006
15	Mr. V. Dhamodaran	Graduate Apprentice	Engg. Unit	16.10.2006
16	Mr. N. Samsu Hussain	Graduate Apprentice	Engg. Unit	16.10.2006
17	Dr. S. Shehena	Junior Medical Officer (on contract)	Institute Hospital	30.10.2006
18	Dr. P. Murugavel	Assistant Professor	Physics	03.11.2006
19	Dr. Luoyi Tao	Assoc. Professor (on contract)	Aerospace	10.11.2006
20	Mr. Rakesh Kumar Bhoi	Graduate Trainee	Central Library	13.112006
21	Mr. Nirmal Kumar Mahanta	Graduate Trainee	Central Library	13.112006
22	Mr. Raj Kumar Mahapatra	Graduate Trainee	Central Library	13.112006
23	Mr. K.B. Vinay Kumar	Graduate Trainee	Central Library	13.112006
24	Mr. K. Pandiyarajan	Graduate Trainee	Central Library	13.112006
25	Mrs. M. Aruna	Graduate Trainee	Central Library	13.112006
26	Mr. P.J. Rosario Vasantha Kumar	Graduate Trainee	Central Library	13.112006
27	Mr. Bholeswar Kisan	Graduate Trainee	Central Library	13.112006
28	Mr. Anil Pattanayak	Graduate Trainee	Central Library	13.112006
29	Mr. P. Jeya Prakash	Graduate Trainee	Central Library	13.112006

30	Mr. Prasanta Kumar Sahu	Graduate Trainee	Central Library	13.11.2006
31	Mr. A. Dhanabalan	Graduate Trainee	Central Library	13.11.2006
32	Mr. Deepak Ranjan Ray	Graduate Trainee	Central Library	13.11.2006
33	Mr. V. Muthumariyappan	Graduate Trainee	Central Library	13.11.2006
34	Mr. V. Srinivasan	Graudate Trainee	Central Library	15.11.2006
35	Ms. V. Kamakshi	Nurse (on contract)	Institute Hospital	15.11.2006
36	Ms. M Suriyakala	Nurse (on contract)	Institute Hospital	17.11.2006
37	Dr. Rajesh Narayanan	Assistant Professor	Physics	23.11.2006
38	Mr. D. Vijayakanth	X-Ray Technician	Institute Hospital	07.12.2006
39	Dr. Subir Kumar Saha	Professor	Engineering Design	11.12.2006
40	Dr. B.S.V. Prasad Patnaik	Assistant Professor	Applied Mechanics	14.12.2006
41	Mr. C. Valathi	CEC Trainee	CEC	21.12.2006
42	Mr. S. Venkatesan	CEC Trainee	CEC	21.12.2006
43	Mr. I. Selvakumar	CEC Trainee	CEC	21.12.2006
44	Mr. S.B. Thyagarajan	CEC Trainee	CEC	21.12.2006
45	Mr. N. Venkatachalam	CEC Trainee	CEC	21.12.2006
46	Mr. T. Damodaran	CEC Trainee	CEC	21.12.2006
47	Mr. M. Mohamed Iqbal	CEC Trainee	CEC	21.12.2006
48	Mr. R. Prakash	CEC Trainee	CEC	21.12.2006
49	Mr. G.Sathish Kumar	CEC Trainee	CEC	21.12.2006
50	Ms. M. Priya	CEC Trainee	CEC	26.12.2006
51	Dr. Anjan Chakravorty	Assistant Professor	Electrical Engg.	02.01.2007
52	Dr. Ramesh Subramanian	Visiting Professor	Management Studies	03.01.2007
53	Ms. T. Anitha	CEC Trainee	CEC	11.01.2007
54	Mr. G. Selvamani	Chief Security Officer	Security Section	18.01.2007
55	Dr. Shanti Bhattacharya	Assistant Professor	Electrical Enggg.	15.02.2007
56	Mr. U. Sreedhar	CAE Trainee	Mechanical Engg.	15.02.2007
57	Mr. S. Ilango	CAE Trainee	Mechanical Engg.	15.02.2007
58	Shri L. Venkataraman	Exe. Engineer (Civil)	Engineering Unit	23.02.2007
59	Shri K. Viswanath	Exe. Engineer (Elec.)	Engineering Unit	23.02.2007
60	Dr. Ashwin Mahalingam	Assistant Professor	Civil Engineering	26.02.2007
61	Dr. Ashwin Mahalingam	Assistant Professor	Civil Engg.	26.02.2007
62	Dr. C.S. Shankar Ram	Assistant Professor	Engineering Design	05.03.2007
63	Dr. B. Jayachandran Dare	Consultant Veterinarian	Institute Hospital	05.03.2007

3. ACADEMIC PROGRAMMES AND AWARD OF DEGREES

The Institute offered Ph.D. programme in all the 16 departments, M.S. programme in 12 departments, M.Tech programme in 24 streams/ specialisations, M.Sc. programme in 3 branches, B.Tech programme in 10 branches, Dual degree (B.Tech and M.Tech) programme in 14 branches, M.B.A. programme and M.A. Integrated programme besides a preparatory course for SC/ST students during the year under report.

3.1 Admissions 2006-07:

Candidates for admission to B.Tech., Dual Degree and M.Tech. programmes were selected through JEE and based on GATE score respectively. Quite a few candidates were also selected for M.Tech. programme under Sponsored, Q.I.P. and User Oriented programmes through interview and/or written test. Selection for Ph.D. and M.S. programmes was done through test/interview. For M.Sc. branches of Mathematics, Physics, and Chemistry, selection was made through a common test conducted jointly by seven IITs. For M.B.A. programme selection was made through JMET and interview for M.A. Integrated Programme selection was made through HSEE 2006.

The number of students and scholars admitted to various programmes both in July 2006 and in January 2007 are given in Table:

TABLE 1 – Fresh Admission

Sl. No.	Department	B.Tech	Dual Degree	M.Sc	M.Tech	M.B.A	M.A.	M.S	Ph.D	Total
1.	Aerospace Engg.	22	11	-	14	-	-	06	05	58
2.	Applied Mechanics	-	-	-	13	-	-	06	09	28
3.	Biotechnology	27	13	-	12	-	-	07	12	71
4.	Chemical Engg	42	11	-	22	-	-	09	10	94
5.	Chemistry	-	-	29	-	-	-	-	24	53
6.	Civil Engg.	43	16	-	83	-	-	06	15	163
7.	Comp. Sc. & Engg.	28	12	-	46	-	-	18	09	113
8.	Electrical Engg.	52	45	-	50	-	-	22	10	179
9.	Engg. Design.	-	24	-	-	-	-	01	03	28
10.	Hum. & Soc. Sci.	-	-	-	-	-	29	-	04	33
11.	Management Studies	-	-	-	-	61	-	04	14	79
12.	Mathematics	-	-	32	10	-	-	-	06	48
13.	Mechanical Engg.	55	50	-	77	-	-	26	36	244
14.	Met. & Mat. Engg.	28	09	-	16	-	-	06	14	73
15.	Ocean Engg.	20	05	-	08	-	-	04	02	39
16.	Physics	11	-	26	06	-	-	-	26	69
	Total	328	196	87	357	61	29	115	199	1372

In addition to the above, 14 ST students joined Preparatory Course.

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

Foreign Nationals	6	User-oriented Programme (M.Tech)	49
Scheduled Castes	86	Q.I.P.	M.Tech 13
			Ph.D. 25
Scheduled Tribes	34	Sponsored	M.Tech. 14
Physically Handicapped	04	Project	M.S. 32
			Ph.D. 28
Women Students	80	External Registration	M.S. 14
Defence Officers (M.Tech)	47		Ph.D. 30
			44

3.2 Students/Scholars Enrolment:

The total numbers of students on roll in various programmes of the Institute in the academic year 2006-07 are given below:

TABLE 2 – Students on roll

Sl. No.	Department	B.Tech	Dual Degree	M.Sc.	M.Tech.	M.B.A.	M.A.	M.S.	Ph.D.	Total
1.	Aerospace Engg.	87	48	-	24	-	-	24	20	203
2.	Applied Mechanics	-	-	-	26	-	-	20	36	82
3.	Biotechnology	127	59	-	25	-	-	18	56	285
4.	Chemical Engg.	181	55	-	41	-	-	20	52	349
5.	Chemistry	-	-	60	0	-	-	0	147	207
6.	Civil Engg.	173	62	-	160	-	-	43	116	554
7.	Comp. Sc.& Engg.	117	54	-	99	-	-	114	62	446
8.	Electrical Engg.	252	213	-	102	-	-	107	77	751
9.	Engg, Design	-	50	-	0	-	-	1	3	54
10.	Hum. & Soc. Sc.	-	-	-	0	-	29	0	38	67
11.	Management Studies	-	-	-	0	126	-	18	65	209
12.	Mathematics	-	0	62	19	-	-	0	49	130
13.	Mechanical Engg.	270	193	-	149	-	-	96	210	918
14.	Met. & Mat. Engg	111	40	-	28	-	-	19	72	270
15.	Ocean Engg.	76	22	-	13	-	-	22	33	166
16.	Physics	40	0	57	11	-	-	0	101	209
Total		1434	796	179	697	126	29	502	1137	4900

The above total includes the following:

Foreign Nationals	09	QIP	M.Tech Ph.D.	29 113	142
DASA (Indian origin)	06	Sponsored	M.Tech M.S.	32+2 2	36
Scheduled Castes	515	Project	M.S. Ph.D.	85 111	196
Scheduled Tribes	156	External Registration	M.S. Ph.D.	16 128	144
Physically Handicapped	04	Registration Kept Alive	M.S. Ph.D.	102 82	184
Women students	622	User-oriented Programme (M.Tech)			97
Defence Officers (M.Tech)	71	Part -Time Programme (Ph.D)			9

SC/ST Students on roll

Sl.No	Programme	SC	ST
1.	B.Tech	209	65
2.	Dual Degree	100	37
3.	M.Tech	87	34
4.	M.Sc.	30	02
5.	M.B.A	07	0
6.	M.A.	05	02
6.	M.S	7	0
7	Ph.D	70	02
8	PC	-	14
Total		515	156

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	2006	2005	2004	2003	2002& earlier batch	Total
1.	Aerospace Engineering	22	20	23	21	01	87
2.	Biotechnology	27	28	33	38	01	127
3.	Chemical Engineering	42	49	49	38	03	181
4.	Civil Engineering	43	46	41	42	01	173
5.	Computer Sc. & Engg.	28	29	30	28	02	117
6.	Electrical Engineering	52	62	63	69	06	252
7.	Engineering Physics	11	10	07	11	01	040
8.	Mechanical Engineering	55	58	70	84	03	270
9.	Met. & Mat. Engineering	28	22	30	30	01	111
10.	Naval Architecture	20	16	21	17	02	076
Total		328	340	367	378	21	1434

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

Sl. No.	Branch	2006	2005	2004	2003	2002	2001 & others	Total
1.	Aerospace Engineering	11	10	09	08	10	-	48
2.	Biotechnology	13	15	15	09	07	-	59
3.	Chemical Engineering	11	10	11	11	10	02	55
4.	Infrastructural Civil Engg.	16	13	13	11	08	01	62
5.	Computer Science & Engg.	12	12	12	11	07	-	54
6.	Micro Elec. & VLSI Design	17	17	19	14	10	01	78
7.	Communication Engg.	17	17	16	15	12	01	78
8.	Power Sys. & Power Electronics	11	10	17	09	10	-	57
9.	Engineering Design	24	26	-	0	-	-	50
10.	Energy Technology	16	14	16	08	08	-	62
11.	Intelligent Manufacturing	17	15	18	10	08	-	68
12.	Product Design	17	15	15	07	09	-	63
13.	Metallurgical & Materials Engg.	09	08	10	05	08	-	40
14.	Naval Arch. & Ocean Engg.	05	04	06	03	04	-	22
Total		196	186	177	121	111	05	796

TABLE 5 - M.Sc students on roll

Sl. No.	Branch	2006	2005 & others	Total
1.	Chemistry	29	31	60
2.	Mathematics	32	30	62
3.	Physics	26	31	57
Total		87	92	179

TABLE 6 - M.Tech students on roll

Sl. No.	Department \ Discipline \ Batch	2006	2005 & others	Total
1.	Aerospace Engineering	14	10	24
2.	Applied Mechanics:	13	13	26
3.	Biotechnology	12	13	25

Sl. No.	Department \ Discipline \ Batch	2006	2005 & others	Total
4.	Chemical Engineering	22	19	41
5.	Civil Engineering:			
	CE 1 - Building Technology	09	08+1	18
	CE 2 - Environmental Engineering	05	08	13
	CE 3 - Geotechnical Engineering	10	06	16
	CE 4 - Hydraulic & Water Resource Engg.	04	05	09
	CE 5 - Structural Engineering	22	14	36
	CE 6 - Transportation Engineering	09	06	15
6.	CE 7 - Construction Technology & Mgmt.	24	19	43
7.	CE 8 - Computational Engineering	-	10	10
8.	CS 1 - Computer Science & Engineering	46	46+7	99
9.	Electrical Engineering:			
	EE 1 - Communication Systems	24	27	51
	EE 2 - Power Systems and Power Electronics	13	08	21
	EE 3 - Micro Electronics and VLSI Design	13	17	30
10.	Mathematics:			
	Industrial Maths & Scientific Computing	10	09	19
11.	Mechanical Engineering:			
	ME 1 - Thermal Engineering	29	33+3	65
	ME 2 - Design	23	23	46
	ME 3 - Manufacturing Engineering	13	06	19
12.	ME 4 - Automotive Engine Technology	12	07	19
13.	MM - Metallurgical & Materials Engg.	16	12	28
14.	OE - Ocean Engineering	08	05	13
15.	Physics:			
	PH - Solid State Technology	06	05	11
Total		357	340	697

TABLE 7 – M.B.A. students on roll

Sl. No.	Branch	2006	2005	Total
1.	M.B.A	61	64+1	126

TABLE 8 – M.S scholars on roll

Sl. No.	Branch	2006	2005	2004	2003 & others	Total
1.	Aerospace Engg.	06	08	07	03	24
2.	Applied Mechanics	06	06	03	05	20
3.	Biotechnology	07	06	05	0	18
4.	Chemical Engg	09	06	03	02	20
5.	Civil Engg.	06	15	11	11	43
6.	Comp. Sc. & Engg.	18	30	43	23	114
7.	Electrical Engg.	23	36	27	21	107
8.	Engineering Design	01	0	0	0	01
9.	Management Studies	04	08	03	03	18
10.	Mechanical Engg.	26	17	37	16	96
11.	Met. & Mat. Engg.	06	06	03	04	19
12.	Ocean Engg.	04	04	06	08	22
	Total	116	142	148	96	502

TABLE 9 – Ph.D scholars on roll

Sl. No.	Branch	2006	2005	2004	2003	2002 & others	Total
1.	Aerospace Engg.	05	07	05	-	03	20
2.	Applied Mechanics	09	10	04	06	07	36
3.	Biotechnology	12	17	19	04	04	56
4.	Chemical Engg	10	10	16	03	13	52
5.	Chemistry	24	30	23	26	44	147
6.	Civil Engg.	15	27	27	17	30	116
7.	Comp. Sc. & Engg.	09	16	16	06	15	62
8.	Electrical Engg.	10	20	16	20	11	77
9.	Engineering Design	03	0	0	0	0	03
10	Hum. & Soc. Sci.	04	11	09	06	08	38
11	Management Studies	15	09	13	13	15	65
12	Mathematics	06	04	18	10	11	49
13	Mechanical Engg.	36	34	35	56	49	210
14	Met. & Mat. Engg.	14	19	10	12	17	72
15	Ocean Engg.	02	07	06	09	09	33
16	Physics	26	17	10	15	33	101
	Total	200	238	227	203	269	1137

In addition to the above, 5 CSIR Research Associates and 14 preparatory Course students were on the rolls.

3.3 Courses Offered:

In the academic year 2006-07, 1078 courses were offered of which 522 courses in July–Nov. 2006 and 556 courses in Jan–May 2007. The Department-wise details of the courses offered are given below:

TABLE 10 – No. of Courses offered

Sl. No.	Department	No. of courses offered in July – Nov 2006				No. of courses offered in Jan – May 2007			
		Core	Elect.	Lab.	Total	Core	Elect.	Lab	Total
1	Aerospace Engineering	13	06	04	23	6	12	4	22
2	Applied Mechanics	06	04	02	12	14	1	3	18
3	Biotechnology	15	09	04	28	8	17	4	29
4	Chemical Engineering	11	11	02	24	10	15	2	27
5	Chemistry	12	02	05	19	7	13	2	22
6	Civil Engineering	25	22	07	54	26	21	9	56
7	Computer Sc. & Engg.	11	15	07	33	9	20	6	35
8	Electrical Engineering	29	19	07	55	18	28	10	56
9	Hum. & Soc. Science	06	26	-	32	6	32	1	39
10	Management Studies	13	33	-	46	12	31	1	44
11	Mathematics	16	12	02	30	3	29	2	34
12	Mechanical Engineering	29	28	05	62	33	33	9	75
13	Met. & Mat. Engineering	13	11	07	31	10	13	7	30
14	Ocean Engineering	15	09	04	28	10	13	2	25
15	Physics	20	08	07	35	10	17	6	33
16	Composite Technology Centre	-	04	-	04	0	4	1	5
17	Engineering Design	04	-	02	06	4	0	2	6
	Total	238	219	65	522	186	299	71	556

3.4 Convocation:

The 43rd Convocation was held on 28th July 2006. Shri. Ratan N Tata, Chairman, Tata Sons Ltd., & Tata Group of Companies delivered the Convocation address. 1267 candidates were awarded various degrees. 925 candidates received degrees in person. The department-wise details of degrees awarded are given below:

TABLE 11 – Degrees awarded

Sl. No.	Department	B.Tech.	Dual Degree	M.B.A.	M.Sc.	M.Tech.	M.S.	Ph.D.	Total
1.	Aerospace Engineering	20	08	-	-	14	02	02	046
2.	Applied Mechanics	-	-	-	-	22	12	04	038
3.	Biotechnology	32	-	-	-	-	02	01	035
4.	Chemical Engineering	43	07	-	-	33	02	03	088
5.	Chemistry	-	-	-	26	--	-	17	043
6.	Civil Engineering	37	11	-	-	89	17	12	166
7.	Computer Sc. & Engg.	30	08	-	-	62	15	05	120
8.	Electrical Engineering	78	26	-	-	100	27	06	237
9.	Management Studies	-	-	44	-	-	04	05	053
10.	Mathematics	-	-	-	29	07	-	07	043
11.	Mechanical Engineering	85	19	-	-	97	21	17	239
12.	Metallurgical & Materials Engg	24	05	-	-	15	09	08	061
13.	Ocean Engineering	19	06	-	-	12	07	03	047
14.	Physics	09	-	-	23	08	-	11	051
Total		377	90	44	78	459	118	101	1267

With this Convocation, the total number of degrees awarded so far by the Institute is 29590, the details of which are given below:

S.No.	Programme	No.
1	Ph.D.	2681
2	M.S.	2006
3	M.Tech	9999
4	M.Sc.	2206
5	M.B.A.	0160
6	Dual Degree (B.Tech & M.Tech)	0321
7	B.Tech	11952
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 43rd Convocation:

- President of India Prize .. Sundeep B, B.Tech, Electrical Engineering.
- Governor's Prize .. P. Rohit Bhat, B.Tech, Electrical Engineering.

□ Other Prizes:

Sl.No.	Donor	Department	Name of student
Doctor of Philosophy – Ph.D.			
1.	Prof Werner Prize	Chemistry	Akhila Maheswari M Shankara Gayathri S (Joint winners)
2.	Prof C N Pillai Prize	Chemistry	Sanjib Kumar Karmee
3.	Prof Langmuir Prize	Chemistry	T J Dhilip Kumar
4.	GE Ecomagination Excellence Award	Civil Engineering	Mathava Kumar S
5.	Prof A L Lashkar Prize	Physics	N Rama P Sandeep (Joint Winners)
6.	Sudharshan Bhat Memorial Prize	Metal. & Materials Eng	A Krishnaiah R Narayanan Jayaprakash M (Joint Winners)
Master of Technology – M.Tech.			
1.	Air India Prize	Aerospace Engineering	Govinddaraji G
2.	Institute Merit Prize	Industrial Tribology	Sudeep U
3.	Indira Sivasailam Merit Prize	} Applied Mechanics	Senai Bhounsule Pranav Audhut
4.	Prof B V A Rao Endowment Prize		
5.	Usha Kothandaraman Memorial Prize		
6.	Institute Merit Prize	Maintenance Engineering and Management	D Srinivasan
7.	Institute Merit Prize	Biomedical Engineering	Kiruthika N V
8.	Dr K Subba Raju Memorial Prize	Chemical Engineering	Thirumalesha Chittipotula
9.	Valli Anantharamakrishnan Merit Prize	Civil Engineering	Remya N
10.	K Devarajan Memorial Prize	Civil Engg. – Transportation Engg.	Sushil Kumar Mishra
11.	L & T Endowment Prize	Civil Engg. - Construction Technology and Management	Suganya R
12.	Institute Merit Prize	Civil Engg. - Computational Engineering	Sridharan C
13.	CMC Prize	Computer Science & Engg.	P Deepak Subramoniam
14.	Prof H N Mahabala Endowment Prize	Computer Science & Engg	Aneesh Raj K M
15.	Siemens Prize	Electrical Engineering	Prakash N
16.	Prof. Achim Bopp Endowment Prize	Electrical Engineering	Ramalingam Pandarinathan Sudeesh Kumar Soni (Joint Winners)
17.	Prof Helmut Neunzert Endowment Prize	Industrial Mathematics & Scientific Computing	Vikash Kumar Sharma
18.	Prof B Sengupto Prize	Mechanical Engineering	Walunj-Jalindar Appa
19.	Dr S Vaidyanathan Memorial Prize	Mechanical Engineering	Ramalingam M
20.	Giri Brothers Prize	Mechanical Engineering – Metrology	Dixit Kaustubh Shantanu
21.	S Anantharamakrishnan Merit Prize	Mechanical Engineering	Amit Batra
22.	Prof Ramamohana Rao Memorial Prize	Mechanical Engineering	Walunj Jalindar Appa
23.	Bhagyalakshmi and Krishna Ayengar Award	Physics – Solar and alternative energy	Ambily Mathew
24.	Mico-Bosco Prize	Chemical Engineering	K Satyanarayana Kasyap
25.	Delphi-TVS Diesel Systems Ltd. Prize	Mechanical Engg. - Automotive Engine Tech.	Bhalchandra Sureshrao Deshmukh
26.	Sudharshan Bhatt Memorial Prize	Metallurg. & Mat. Engg	Pratik Kumar Roy

27.	American Bureau of Shipping Prize	Ocean Engineering	Vaidyanathan Gopala Krishnan
28.	Institute Merit Prize	Physics-Solid State Technology	Saritha P K

Master of Science – M.Sc

1.	Dr. S R Ramadas 60 th Birthday Commemoration Award	} Chemistry	Sayani Chattopadhyay
2.	Ratna Rao Memorial Prize		
3.	Mira Paul Memorial Prize	Mathematics	Ridhima Vasisht
4.	Prof Chilukury Rama Sastry Memorial Prize	Physics	Shivakumar Ramini

Master of Business Administration - M.B.A.

1.	Coka Parthasarathy Prize	M B A	Sheetal Sharad
2.	K V Arunkumar Memorial Prize	M B A	Anger Sivan

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

1.	Institute Merit Prize for Dual Degree	} Civil Engineering	Nirmal Jayaram
2.	Institute Merit Prize for CE		
3.	B Ravichandran Memorial Prize	Chemical Engineering	Kshitij Prakash
4.	Shankar Dayal Sharma Prize	} Electrical Engineering	Mudit Gart
5.	Philips India Prize		
6.	Dr V Mohan Raman Prize	Aerospace Engineering	Amuthan Arunkumar R
7.	Alumni Association Prize	Computer Science & Engg	Devesh Agrawal
8.	Prof G V N Rayudu Memorial Prize	Mechanical Engineering	Prasad Hemant Bhawe
9.	S Anantharamakrishnan Memorial Prize	Metallurg. & Materials Engg	Krishna A Iyengar
10.	Institute Merit Prize	Naval Architecture & Ocean Engineering	Goutam Roul

Bachelor of Technology - B.Tech.

1.	President of India Prize	} Electrical Engg	Sundeep B
2.	Bharat Ratna M Visvesvaraya Memorial Prize		
3.	Siemens Prize		
4.	Governor's Prize	} Electrical Engineering	P Rohit Bhat
5.	Motorala Prize		
6.	Vaidy Krishnan Memorial Prize	Mechanical Engineering	Siddharth Narayan
7.	HAL Prize	Aerospace Engineering	Santhosh M
8.	Reliance Heat Transfer Pvt. Ltd. Prize	Chemical Engineering	Prabhakar Arvind Shankar
9.	Larsen & Toubro ECC Endowment Prize	Civil Engineering	Venkata Santosh Kumar
10.	Institute Merit Prize	Biotechnology	S Krishnakumar
11.	B Ravichandran Memorial Prize	Computer Science & Engg.	Shyamnath G V S
12.	Institute Merit Prize	Engineering Physics	Supradeepa V R
13.	Banco Foundation Prize	Mechanical Engineering	R Ramsharan
14.	Sivasailam Merit Prize	Mechanical Engineering	Akshay Bansal
15.	Dr Dhandapani Memorial Prize	Metallurg. & Materials Engg	J Karthik
16.	American Bureau of Shipping Prize	Naval Architecture and Ocean Engineering	Swati Khandelwal

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

On the basis of performance during the academic year 2006-07, the following students were awarded Merit Prizes on the 47th Institute Day held on 17.04.2006 at the Central Lecture Theatre (CLT). Shri N Murali, Joint Managing Director, The Hindu was a Chief guest.

I. Institute Merit Prizes:

B.Tech / Dual Degree (1st & 2nd Semesters)

- | | | | |
|----|--------------------------------|----------|------------------|
| 1. | Computer Science & Engineering | CS04B005 | Bandi Chaithanya |
|----|--------------------------------|----------|------------------|

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

Aerospace Engineering	AE02B034	Sivaram A – Dual Degree
Biotechnology	BT02B010	D R Goda – Dual Degree
Chemical Engineering	CH02B054	Ankur Gigras – Dual Degree
Civil Engineering	CE02B050	Purva Bhandari – Dual Degree
Computer Science & Engineering	CS02B006	V Avinash Vaidyanathan
	CS02B027	Shyamnath G V S
		} Joint winners
Engineering Physics	EP02B007	Hari P Nair
Mechanical Engineering	ME02B060	R Ramsharan
Naval Architecture	NA02B006	Devvrath Khatri

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

Aerospace Engineering	AE01B012	Priyank Pradeep
Chemical Engineering	CH01B058	Kshitij Prakash
Infrastructural Civil Engineering	CE01B055	Nirmal Jayaram
Computer Science & Engineering	CS01B032	Devesh Agrawal
Microelectronics and VLSI Design	EE01B038	Kartik Avula Bharath Reddy
Intelligent Manufacturing	ME01B095	Awanish Tiwari
Product Design	ME01B105	Piyush Shakya
Energy Technology	ME01B089	Murukutla Vikram
Metallurgical & Materials Engineering	MT01B032	Gunda Vikram
Naval Architecture	NA01B025	Goutam Roul

II. Donors Prizes:

B.Tech (First Six Semester)

- | | | |
|-------------------------------------|----------|-------------|
| Dr S Chandrasekharan Memorial Prize | ME02B060 | R Ramsharan |
|-------------------------------------|----------|-------------|

B.Tech / Dual Degree (1st & 2nd Semesters)

- | | | |
|-------------------------|----------|---------------------|
| Sri S Subramanian Prize | CS04B010 | George Kurian |
| | CS04B027 | Vibhav Bukkapatanam |

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

- | | | |
|--|----------|--------------|
| K Srinivasan & Indira Srinivasan Prize
(Cash Prize of Rs.5,000/- with a certificate and Silver Medal) | BT02B026 | P Shrivatsav |
|--|----------|--------------|

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

- | | | |
|--|----------|-----------------|
| Sri Ramasarma V Kolluri Memorial Prize | EE02B071 | Sundeep B |
| Ratna Award | MT02B005 | Durgesh Kashyap |

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

D Anand Subramanian Memorial Award EE01B102 Mudit Garg

Dual Degree (1st to 9th Semesters)

Prof V Radhakrishnan Endowment Award ME01B095 Awanish Tiwari

B.Tech / Dual Degree (Best Project)

ClassNK-100 Award - First Prize (Cash award of Rs.10,000/- with a silver medal)	NA01B006	Deep Gosh
ClassNK-100 Award – Second Prize (Cash award of Rs.5,000/- with a silver medal)	NA00428	Bhagatwala Ankit Vijay - Dual Degree
Prof C S Krishnamurthy Endowment Prize	EE00211	Murtuza Zoeb Hussain Kagalwala

M.Tech (Best Project)

Prof V Ramamurti Prize	AM03M014	Aditya Chowdhry
Lucas–TVS Limited Prize	AT03M010	Nitin Ramchandra Sheth
Bhagalakshmi & Krishna Ayengar Award (Cash Prize of Rs.7,500/- for faculty having guided the project work of Sri Pradeep V, M.Tech)	Mechanical Engineering	Prof R P Sharma Henry Ford Chair Professor
Bhagalakshmi & Krishna Ayengar Award (Cash Prize of Rs.7,500/- for faculty having guided the project work of Sri Sajith, M.Tech)	Mechanical Engineering	Prof A Ramesh
48 th Indian Pharmaceutical Congress Prize	CH04M025	Satya Sekhar Chakka

DEPARTMENT LEVEL PRIZES

I. Institute Merit Prizes:

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

Aerospace Engineering	AE03B032	Varun Hiremath – Dual Degree
Biotechnology	BT03B012	N Harish
Chemical Engineering	CH03B044	Vinay R
Civil Engineering	CE03B003	Arun Lai Gain
Electrical Engineering	EE03B042	Raghunandan H K
Engineering Physics	EP03B011	Rahul R
Mechanical Engineering	ME03B110	K Bharath Kumaran } Joint winners
	ME03B111	Ajith Muralidharan }
Metallurgical Engineering	MT03B009	Ashkar Ali A
Naval Architecture	NA03B015	Sowmitra Singh

M.Tech (First Two Semesters)

Aerospace Engineering	AE04M004	Jasdeep Singh
Engineering Mechanics	AM04M005	Senai Bhounsule Pranav Audhut
Industrial Tribiology	AM04M014	Sudeep U

Maintenance Engineering & Management	AM04M025	D Srinivasan
Biomedical Engineering	AM04M032	Kiruthika N V
Chemical Engineering	CH04M022	Ranadheer Pamidimukkala
Civil Engineering	CE04M104	Suganya R
Computer Science & Engineering	CS04M008	P Deepak Subramoniam
Electrical Engineering	EE04M021	Prakash N
Mathematics	MA04M005	Vikash Kumar Sharma
Mechanical Engineering	ME04M008	Dharmadhikari Chetan Avinash
Metallurgical & Materials Engineering	MM04M004	Hemant Pareek
Ocean Engineering	OE04M010	Vaidyanathan Gopala Krishnan
Physics	PH04M008	Saritha P K

M.Sc. (First Two Semesters)

Chemistry	CY04C028	Sayani Chattopadhyay
Mathematics	MA04C020	Ridhima Vasisht

II. Donors Prizes:

B.Tech / Dual Degree (First Two Semesters)

Sri Biswajit Sain Endowment Prize (Silver Medal & Cash Award of Rs.2,000/-)	CS03B040	Kirtane Varad Anil – Dual Degree
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B.Tech (First Four Semesters)

Sri Raghavendra Memorial Prize	ME03B017	P Bharat Prasad	} Joint } Winners
	ME03B110	K Bharath Kumaran	

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

Rajalaskhmi Krishnamurthy English Prize	EE03B082	Suryadeep Das - Dual Degree
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M.Tech (First Two Semesters)

Prof N Venkatarayulu Memorial Prize	ME04M008	Dharmadhikari Chetan Avinash
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M.Sc. (First Two Semesters)

Chilukuri Ramasastry Memorial Prize (A Silver Medal & Cash Award of Rs.1,500/-)	PH04C024	Shiva Kumar Ramini
R Padmanabhan Memorial Prize	CY04C010	M Kumaravel
CFD Award (Silver Medal & Cash Award of Rs.5,000/-)	Applied Mech.	S Vengadesan, Asst.Professor

Notional Prize – Certificate and cash award of Rs.1,000/- awarded to the following students for having secured high position in the merit list of JEE 2006.

1.	CS05B011	Narendhranath P	16.	EE05B051	Shankar M
2.	CS05B020	N. Srivatsan	17.	EE05B018	Dinesh Kumar K R
3.	CS05B026	S. Vivek	18.	EE05B020	Ghanta Bharath
4.	CS05B019	Sriram K R	19.	CS05B041	Jyothsni Reddy Gondesi
5.	CS05B012	B. Nishanth Reddy	20.	EE05B056	Tushar Rathee
6.	CS05B004	P. Gowri Sankar	21.	EE05B049	S. Sandeep Nair
7.	CS05B014	Rakesh Guttikonda	22.	EE05B023	Karthik Krishna S
8.	CS05B008	G. Karthick	23.	EE05B009	Arun Sashank TH
9.	CS05B009	Kartik Bommepally	24.	EE05B003	Anupam Prasad Vedurumudi
10.	CS05B021	Suket Murarka	25.	EE05B052	K. Sharath Chandra
11.	CS05B001	Ananth R	26.	EE05B047	Sameer Singh
12.	CS05B025	Vimalkumar Jeyakumar	27.	EE05B035	M. Nanda Kishore
13.	CS05B018	A. Srichakri	28.	EE05B006	K. Arjun
14.	CS05B015	K. Ravi Teja	29.	EE05B015	Chaitanya A.V.
15.	CS05B023	Venkatesh Medabalimi	30.	EE05B040	Pankaj Gupta

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., Dual Degree, M.Tech., M.S and Ph.D. Programmes. The areas of teaching and research of the Department are Aerodynamics, Propulsion and Structures.

4.1.2 Academic Programmes:

New Courses Introduced:

S.No.	Course No.	Title
1	AS555	Aerospace Systems Control/Estimation
2	AS568	High Temperature Gas Dynamics
3.	AS569	Radiation Heat Transfer
4	AS581	Theories of Modern Plate Structures

Students on roll as of September 2006- MS&Ph.D admission in Jan 2007:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	22	20	23	21	01	87
Dual Degree	11	10	09	08	10	48
M.Tech.	14	10	0	0	0	24
M.S.	06	08	07	03	0	24
Ph.D.	05	07	05	0	03	20
Total	58	55	44	32	14	203

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

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf./ Seminar/ Symposia	Date & Venue
Conference:				
1.	Mr. Sarith Sathian Ph.D Scholar	International Symposium	25 th International Symposium on Rarified Gas Dynamics	From 21.7.06 to 28.7.06 in Saint Petersburg, Russia

4.1.3 Faculty and their activities :

Faculty:

Sl. No.	Name and Qualification	Major Area of Specialization
1.	Job Kurian, Ph.D., (IIT Madras)	Gas Dynamics, Combustion, Shock tube flows and measurements
2.	Santhakumar S., Ph.D., IIT Madras	Aerodynamics, flight mechanics, instrumentation
3.	Tulapurkara E.G., Ph.D., IIT Madras Emeritus Fellow	Aerodynamics, Fluid mechanics, turbulent flows, CFD
4.	Ramakrishna M., Ph.D., Univ. of Texas at Arlington	Fluid Mechanics, numerical methods, computer solutions
5.	Sriram P., Ph.D. Georgia Inst. of Technology	Structural mechanics, fatigue & fracture, Parallel computing
6.	Bhaskar K., Ph.D., (IIT Madras)	Structural mechanics, Plants & Shells, composite structures
7.	Sujith R.I., Ph.D., Georgia Inst. of Technology	Acoustics and combustion Instability Optical Flow Diagnostics
8.	Chakravarthy., S.R. Ph.D., Georgia Inst. of Technology	Propulsion, Combustion & Fluid Mechanics

Sl. No.	Name and Qualification	Major Area of Specialization
10.	Luoyi Tao, Ph.D. University of Pittsburgh	Continuum mechanics and its applications (fluids, solids, multiphase flows, etc.)
11.	Rajan S.C, M.Tech. IIT Madras	Aerodynamics, Theory and Computation of Vortex Dominated Flows
12.	H.S.N. Murthy, Ph.D Purdue University	Fatigue and Fracture, Non-destructive evaluation, Tribology, Advanced Materials., Elasticity
13.	Amit Kumar, Ph.D Case Western Reserve Univ.	Fluid-Thermal science & engineering
14.	K.V. Nagendra Gopal, Ph.D. Ph.D. (Aero) Indian Institute of Science, Bangalore	Structural Mechanics, Composites and Advanced Materials, Fatigue and Fracture, Computational Mechanics
15.	P.A. Ramakrishna, Ph.D., Indian Institute of Science, Bangalore	Combustion, Propulsion & Fuel Cells
16.	Nandan Kumar Sinha, Ph.D IIT Bombay	Non linear dynamics, Bifurcation Theory and Continuation methods, Flight Dynamics and Controls
17.	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:

Sl. No.	Co-ordinators	Title	Period
Conference:			
1.	Prof. Job Kurian	Aerospace Technologists Meet	1 st and 2 nd February 2007.
Short term Course:			
1.	HAL Management Trainees (Technical) Program	-	4 th January 2007 to 4 th May 2007

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

Sl. No.	Name of faculty	Title	Period
(i) Symposia			
1.	Prof. R.I. Sujith	International Symposium of Flow Visualization (ISFV 12- 2006)	Sep 2006
2.	Prof. R.I. Sujith	Aerospace Sciences Meeting of the American Institute of Aeronautics and Astronautics (AIAA)	Jan 2007
(ii) Conference			
1	Dr. Amit Kumar	20 th National convention of Aerospace Engineers organized by Indian institute of Engineers, Trivandrum	29-30 October 2006
2	Dr. T.M. Muruganandam	National Conference on Air Breathing Engines & Aerospace Propulsion (NCABE-2006) held in 'Defense Institute of Advanced Technology (DIAT), Pune	Dec 12-14, 2006.

Special lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
1	Prof. Job Kurian	Scramjet Technology	DRDL Hyderabad
2	Prof. Job Kurian	Aerospace Scenario in India: Current Status and Challenges ahead – Keynote address at the Golden Jubilee celebration	NIAT, Kochi during February 2007.

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
3	Dr. S.R. Chakravarthy	Gas Turbine Combustor Diagnostics	GTRE, Bangalore on June 9, 2006.
4	Dr. S.R. Chakravarthy	Modelling of Solid Propellant Combustion" at the as part of the Continuing Education Programme (CEP) short-term course on "Ballistics in Defence"	High Energy Materials Research Laboratory, Pune on Sep. 20, 2006.
5	Dr. S.R. Chakravarthy	Combustion Instability Unsteady Combustion and Excitation of Oscillations	GTRE, Bangalore on Oct. 5, 2006.
6	Dr. S.R. Chakravarthy	The Significance of Ingredient Supply Consistency in Solid Rocket Propulsion on the occasion of National Science Day	February 28, 2007
7	Dr. P.A. Ramakrishna	Lecture on Solid Propellant combustion at VSSC, Thiruvananthapuram	June 15-16, 2006
8	Dr. P.A. Ramakrishna	Visited DRDL to discuss about the use of hybrid rocket engines in the missiles and the possibility of support for a fundamental study on composite solid propellant combustion.	18 th of August 2006
9	Dr. P.A. Ramakrishna	2 days of lecture on Solid propellant combustion at SHAR	22 & 23 Aug., 2006
10	Dr. P.A. Ramakrishna	Made a presentation titled "Car engines for aircrafts" at the one day workshop on INTERACTION WITH ACADEMIA ON REGIONAL TRANSPORT A/C DEVELOPMENT held at NAL	11/10/2006
11	Dr. P.A. Ramakrishna	2 days of lecture on Solid propellant combustion at SHAR	2 & 3 April, 2007
12	Prof. R.I. Sujith	Invited Seminar at Technical University of Munich, on "Nonlinear Combustion Acoustic Interactions in Diffusion Flames"	Sept 2006
13	Dr. Amit Kumar	Fire safety considerations: Flame spread in Terrestrial Space Environment organized by DRDL Delhi	13 th October 2006
14	Amit Kumar	Performance Enhancement of Hybrid rocket motors organized by DRDL Hyderabad	18 th August 2006
15	Amit Kumar	Thermal Stability studies on kerosene in regenerative cooling of rocket engines organized by LPSC, Mahendragiri	17 th November 2006

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of visit
1.	Dr.S.R. Chakravarthy	Malaysia	22-25 May 2006	To attend the 11th Asian Congress of Fluid Mechanics, Kuala Lumpur, INCOAF
2.	Dr.S.R. Chakravarthy	Germany	11 June -- 10 August 2006,	DAAD Study Visit to Technische Universitat Darmstadt, Darmstadt, DAAD/IIT Madras
3.	Prof. R.I. Sujith	Germany	Sept 2006	Funding from DST, CSIR, INSA, to attend ISFV 12 USA, Jan 2007, Funding from IIT Madras, to attend ASM of AIAA

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award for	Date
1.	Prof. Job Kurian	Excellence in Aerospace Education Award for the year 2006 awarded by Aeronautical Society of India			
2.	Prof. R.I. Sujith	Swarnajayanti Fellowship from DST, Jan 2007			

Journal Editorial Boards:

Sl.No.	Name of faculty	Position	Journal Name
1.	Prof. R.I. Sujith	Associate Editor	International Journal of Aerospace Engineering
2.	Amit Kumar	Reviewed papers (2 nos)	Int. Journal of Heat & Mass Transfer.

4.1.4 Design and Development Activities:**Brief and specific details of Process/Instruments/Equipment/Software**

- i) Designed and developed: Software for the Aerodynamic Analysis for Air breathing Missiles
- ii) A 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.

Patents awarded: one

4.1.5 Research and Consultancy:**Sponsored Research Projects:**

Sl.No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-codinators
1.	Investigation of Titanium lined composite Pressure bottles	2005-07	VSSC	Rs.12.50	--
2.	Development and behaviour of polymer nano composites under dynamic load conditions in Marine atmospheres	2 years	NRB, New Delhi	Rs.18.34	--
3.	Characterization of Nano-Aluminium Powder for Combustion in Solid Propellants	2 years	Armament Research Board	Rs. 9.6	Dr. R. Sarathi, EE
4.	Investigation of the Onset of Acoustic Instability in Turbulent Combustion Systems	3 years	MHRD	Rs.10	Dr. R.I. Sujith, AE
5.	Impedance Tube Technique for the Measurement of Driving Provided by Solid Propellants during Combustion Instabilities	3 years	ISRO-IIT(M) Space Technology Cell	Rs.17	Dr. R.I. Sujith, AE
6.	Pressure Transducers – Impedance Tube Technique for the Measurement of Driving Provided by Solid Propellants during Combustion Instabilities	3 years	ISRO	20.3	Dr. R.I. Sujith, AE
7.	Investigation of Combustion Instability in Bluff-body Flame-Stabilized Afterburner Combustors,	3 years	ARDB	16.00	Dr. R.I. Sujith
8.	Investigation of the Behaviour of Sprays in an Acoustic Field	---	ARDB	---	Dr. S.R. Chakravarthy

Sl.No.	Title	Period	Funding Agency	Amount (in lakhs)	Co-cordinators
9.	Analysis and Identification of Local and Global Nonlinearities in Thermo-acoustic Systems	---	DST-DFG	---	Dr. W. Polifke, TU Munich, Germany
10.	Numerical studies on coke deposit in a heat transfer in kerosene based liquid rocket engines	2 years	LPSC (Respond)	3.73	Dr. Nandan Kumar K, LPSC
11.	Computational studies on regression rate enhancement in hybrid rocket motors	2 years	DRDL Hyderabad	9.9	Dr. Debasis chakraborty, DRDL Hydreabad

Industrial Consultancy:

Sl. No.	Name of the Faculty	Title	Industry	Amount
1.	Dr. R. Velmurugan with Dr.S.K. Malhotra, CTC	Design of Composite Vibration Test Fixture	SDSC, SHAR, Sriharikota	Rs.2.5 lakhs

RBIC:

Sl. No.	Name of Faculty	Title	Industry	Amount (in lakhs)
1.	Dr. R. Velmurugan	Energy absorbing characteristics of dual phase steel tubes	Tube Investments India Ltd., Chennai	4.90
2.	Chakravarthy, S. R. and Sujith, R. I.,	Development of T-Burner Facility for Characterization of Oscillatory Combustion Response of Solid Propellants	DRDL, Hyderabad	9.93
3.	Chakravarthy, S. R., Sujith, R. I., and Sarathi, R	Development and Testing of Composite Propellant Formulations for Control of Solid Rocket Motors," Programme	'AD', Research Centre Imarat, Hyderabad	9.90
4.	Chakravarthy, S. R. and Sujith, R. I	Fuel Injection Characterization Studies	VSSC Thiruvananthapuram	6.00
5.	Chakravarthy, S. R. and Sujith, R. I	PDPA Characterization of Binder Spray Nozzles for the TEL Process	Saint Gobain Isover, France	11,000 euros
6.	Chakravarthy, S. R. and Sujith, R. I	Preparatory Studies for Testing of Annular and Reverse Flow Combustors	Gas Turbine Research Establishment, Bangalore	1.48
7.	Chakravarthy, S. R., Sujith, R. I., and Sarathi, R	Quench Collection of Aluminium Agglomerates from Combustion of Propellants Including Nano-Aluminized Formulations	High Energy Materials Research Laboratory, Pune	9.90
8.	Chakravarthy, S. R. and Sujith, R. I	Testing of Annular Combustor Components	Gas Turbine Research Establishment, Bangalore	9.60
9.	Chakravarthy, S. R. and Sujith, R. I	PDPA Characterization of the Ladenburg Injector	Gobain Isover, France	4,000 euros
10.	Chakravarthy, S. R. and Sujith, R. I	Testing of Annular Combustor Components	GTRE	9.93

Retainer Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (in lakhs)
1.	Dr. Nandan Kumar Sinha	Modeling & Simulation of Missile Trajectory	Sameer-CEA Chennai	-
2.	Dr. T.M. Muruganandam & Dr. Nandan Kumar Sinha	Development of correction algorithm & its validation	Sameer – Center for electromagnetics	0.90

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	:	6
Total No. of papers published in Refereed International Journals	:	21
Total No. of papers presented in National Conference	:	11
Total No. of papers presented in International Conferences	:	14

In Refereed National Journals:

1. R Velmurugan and K Karthikeyan, "Damping characteristics of Montmorillonite based Polyester/clay nano composite", *Journal Aerospace Sciences and Technologies* 58(3), 213-224, 2006.
2. Sindhu, T. K., Sarathi, R., and Chakravarthy, S. R., Generation and Characterization of Nano-Aluminium Powder Obtained through Wire Explosion Process, *Bulletin of Materials Science*, Vol. 30, No. 2, 2007, pp. 1-9.
3. Kumar TS, Patle MK, Sujith RI, Characteristics of acoustic standing waves in packed-bed columns, *AIChE JOURNAL* 53 (2): 297-304 FEB 2007.
4. P. REDDY, S. R. CHAKRAVARTHY and R. I. SUJITH (2006) Swirler Flow Field Characteristics in a Sudden Expansion Combustor Geometry, *Journal of Propulsion and Power*, 22, 800-808.
5. D. SCARBOROUGH, R. I. SUJITH and B. T. ZINN (2006) "The Effect of Resonant Acoustic Oscillations on Heat and Mass Transfer Rates in a Convection Air Dryer", to appear in *Drying Technology*, 24, 931-939.
6. H. SANTOSH and R. I. SUJITH (2006) "Acoustic Nearfield Characteristics of a Wrinkled Premixed Flame", *Combustion Science and Technology*, 178, 1263-1295.

In Refereed International Journals

1. T P Mohan, Ramesh Kumar and R Velmurugan, "Mechanical and barrier properties of Epoxy polymer filled with Nano layered silicate clay particles", *Journal of Materials Science*, V 41 (10), 2929-2937, May 2006.
2. M Ganesh Babu, R Velmurugan and N K Gupta, "Energy absorption and ballistic limit of targets struck by heavy projectiles", *Lt. American Journal of Solids and Structures*, 3, 21-39, 2006.
3. Ganesh Babu, R Velmurugan and N K Gupta "Medium Velocity Impact of sandwich composite plates", *International Journal of Crashworthiness* 11,1,1-12, 2006.
4. T.P. Mohan, M. Ramesh Kumar and R Velmurugan, "Mechanical, Thermal and Vibration Characteristics of Epoxy-Clay Nanocomposites", *Journal of Materials Science*, 41(18), 5915-5925, 2006.
5. N.K. Gupta, N. Mohamed Sheriff and R. Velmurugan, "A study on buckling of thin conical frusta under axial loads", *Thin-Walled Structures*, Volume 44, Issue 9, September 2006, Pages 986-996.
6. S. Solaimurugan and R. Velmurugan "Progressive crushing of stitched glass/polyester composite cylindrical shells", *Composites Science and Technology*, Volume 67, Issues 3-4, March 2007, Pages 422-437.

7. S. Solaimurugan and R. Velmurugan, "Improvements in Mode I interlaminar fracture toughness and in-plane mechanical properties of stitched glass/polyester composites", *Composites Science and Technology*, Volume 67, Issue 1, January 2007, Pages 61-69.
8. Kartheekyan, S. and Chakravarthy, S. R., "An Experimental Investigation of an Acoustically Excited Laminar Premixed Flame," *Combustion and Flame*, Vol. 146, 2006, pp. 513-529.
9. Pandu Ranga Reddy, A., Sujith, R. I., and Chakravarthy, S. R., "Swirler Flow Field Characteristics in a Sudden Expansion Combustor Geometry," *Journal of Propulsion and Power*, Vo. 22, No. 4, 2006, pp. 800-808.
10. 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*, Vol. 293, No. 2, 2006, pp. 496-499.
11. T. K. Sindhu, S. R. Chakravarthy, R. Jayaganthan, R. Sarathi, "Studies on Generation and Characterization of Nano Aluminium Nitride through Wire Explosion Process", *Metal-Organic and Nano-Metal Chemistry*, Vol. 36, No. 1, 2006, pp. 53-58.
12. Tyagi, M., Chakravarthy, S. R., and Sujith, R. I., "Unsteady Combustion Response of a Ducted Non-Premixed Flame and Acoustic Coupling", *Combustion Theory and Modelling*, Vol. 11, No. 2, 2007, pp. 205-226.
13. Tyagi, M., Jamadar, N., and Chakravarthy, S. R., "Oscillatory Response of an Idealized Two-Dimensional Diffusion Flame: Analytical and Numerical Study," *Combustion and Flame* (in press; available online at <http://dx.doi.org/10.1016/j.combustflame.2006.12.020>), 2007.
14. Sarathi, R., Sindhu, T. K. and Chakravarthy, S. R., "Generation of Nano-Aluminium Powder through Wire Explosion Process and its Characterization," *Materials Characterization*, Vol. 58, No. 2, 2007, pp. 148-155.
15. Sarathi, R., Sindhu, T. K. and Chakravarthy, S. R., "Impact of Binary Gas on Nano-Aluminium Particle Formation through Wire Explosion Process," *Materials Letters*, Vol. 61, Nos. 8-9, 2007, pp. 1823-1826.
16. Nandan Kumar Sinha, "Optimum Flight Parameters & Stability computation using continuation technique", *Proc. I MechE*, Vol 221 Part G, *Journal of Aerospace Engineering*, 2007.
17. Nandan Kumar Sinha & Petr Mazedorn, "Wind-excited overhead transmission lines: Estimation of connection stresses at junction", *Journal of sound and vibration*, Vol.301 Issues 1-2, March 07, pp 400-409.
18. Amit Kumar, James S. Tiers, "A computational study of low oxygen flammability for thick slabs, combustion & Flames, Vol.146 (1-2) July 2006, pp.366-378.
19. K.Bhaskar, An elegant and rigorous analytical solution for anti-symmetric angle-ply rectangular plates with any combination of simply supported and clamped edges, *Jl. of Reinforced Plastics and Composites*,25(16), 2006, 1679-1689.
20. Prasun Jana & K. Bhaskar, Stability analysis of simply-supported rectangular plates under non-uniform uniaxial compression using rigorous and approximate plane stress solutions, *Thin-walled Structures*, 44(5), 2006, 507-516.
21. P.Umasree & K.Bhaskar, Analytical solutions for flexure of clamped rectangular cross-ply plates using an accurate Zig-zag type higher-order theory, *Composite Structures*, 74(4),2006, 426-439.

In Proceedings of National Conference

1. Ganesh babu and R Velmurugan, "Effect of fiber orientation on energy absorption capacity of thin laminates subjected to heavy mass projectile impact", PP., 154-164, Inccom-5, ASL, Hyderabad, Nov. 2006 .
2. R Velmurugan, Lubeena, et.al, " Structural and thermal analysis of cylindrical laminated composite shell using FE method", PP., 140-153, Inccom-5, ASL, Hyderabad, Nov. 2006 .
3. T P Mohan and R Velmurugan, "VIBRATION CHARACTERISTICS OF EPOXY-CLAY NANOCOMPOSITES AND GLASS FIBRE REINFORCED EPOXY-CLAY HYBRIDS", PP., 604-611, Inccom-5, ASL, Hyderabad, Nov. 2006 .
4. R Velmurugan S solaimurugan and N K Gupta, "Crashworthiness studies of stitched composite shells", *Proceedings of Large deformations (Indo-Russian workshop)*, PP 162-174, IIT Delhi, Nov. 2006.

5. R Velmurugan, J Chandradass and M Ramesh Kumar, "Effect of Nano clay addition on Vibration properties of Glass Fibre reinforced vinylester Composites, pp. 61-65, National Conference on Materials, Manufacturing and Design, MSEC, Sivakasi, Feb 2007.
6. R Velmurugan and T P Mohan, "Barrier Properties of Nanolayered silicate clay/epoxy polymer composites", pp.35-46, National Workshop on NanoTechnology, Annamali University, March 2007.
7. R Velmurugan and R.Muralikannan, "Energy absorbing characteristics of heat treated circular steel tubes", PP. 2-10, NCETE 07, Sona college of Technolog, Salem, March 2007 (**Invited Paper**).
8. Amit Kumar, "Fire safety considerations: Flame spread in Terrestrial and space environments", 20th NCASE, Trivandrum, 20-30 October 2006.
9. Ignatius, J. K., Prasanna Kumar, N. K., Ashok Kumar, R., Satyanarayana, T. N. V., Sankaran, S., Viswanathan, K., and Chakravarthy, S. R., "Understanding Ignition Over-Pressure Signatures During the Start-Up of Solid Rocket Motors," Conference on Advances in Space Science and Technology, Bangalore, Jan. 29-31, 2007.
10. Sarathi, R., Sandeep, K.V., Chakravarthy, S. R., Jayaganthan, R. "Generation of Nano Copper Powder by Electric Explosion Process (EEP) and its Characterization," Proceedings of National Power System Conference (NPSC), Roorkee, India, 26-28 Dec. 2006.
11. P. A. Ramakrishna, "Relevant Sandwich propellant combustion", *Eighth National Conference on Air Breathing Engines and Aerospace Propulsion, DIAT Pune, India, 2006*, pp 651-660.

In Proceedings of International Conference

1. S.Sambamurty, R Velmurugan, R Palaninathan, and T Sekar, "Analysis and Design of Metallic Plates for Biaxial Loading using FEM", IInd International Congress on Computational Mechanics and Simulation – PP.853-859, ICCMS-06, IIT Guwahati, Dec 2006.
2. R.Sarathi, R.K.Sahu and R Velmurugan, "Understanding the Electrical and Mechanical Properties of Epoxy Nanocomposite Insulating Material", International Conference on Nanotechnology – Materials and Methods, pp- , CIT – NANOTECH 2006.
3. D Alagia Meenal, R Velmurugan and A.S.S. Sekar, "Study of Mechanical Properties of GFRP Composites with Cement and Fly ash", pp.-117-125, AMPC 2006 .
4. Kumara Gurubaran, R., Sujith, R. I., and Chakravarthy, S. R., "Characterization of a Pre-filming Airblast Atomizer in a Strong Swirl Field using 3C-LDV/PDPA," Proceedings of the 11th Asian Congress of Fluid Mechanics, Kuala Lumpur, Malaysia, 22-25 May 2006.
5. Sivakumar, R., Chakravarthy, S. R., and Babu, V., "Experimental and Numerical Investigation of the Acoustic Field in a Bluff-Body Combustor," AIAA Paper No. 2006-2613, 12th AIAA/CEAS Aeroacoustics Conference, Cambridge, MA, USA, June 2006.
6. Sriram, D., Tyagi, M., Dhanya, P., and Chakravarthy, S. R., "A Numerical Investigation of the Combustion Instability in a Ducted Non-Premixed Flame," accepted in the the 42nd AIAA/ASME/SAE/ASEE Joint Propulsion Conference and Exhibit, Sacramento, CA, USA, July 2006.
7. Jayaraman, K., Anand, K. V., Chakravarthy, S. R., and Sarathi, R., "Production and Characterization of Nano-Aluminium and its Effect in Solid Propellant Combustion," Paper No. AIAA-2007-1430, 45th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, USA, Jan 2007.
8. Shreekrishna, Hiremath, V., and Chakravarthy, S. R., "Oscillatory Response of Free-Anchor Laminar Premixed Flames with Non-Constant Flame Speed," Paper No. AIAA-2007-0182, 45th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, USA, Jan 2007.
9. Mansu, N. and Chakravarthy, S. R., "Coupling of Leading Edge Flames in the Combustion Zone of Composite Solid Propellants," Paper No. AIAA-2007-0780, 45th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, USA, Jan 2007.
10. Gopala, Y., Kochar, Y., Shareef, A., and Chakravarthy, S. R., "Experimental Investigation of Rectangular Confined Laminar Jet Subjected to Downstream Acoustic Excitation," Paper No. AIAA-2007-1321, 45th AIAA Aerospace Sciences Meeting and Exhibit, Reno, NV, USA, Jan 2007.

11. K. BALASUBRAMANIAN and R. I. SUJITH (2007) "Non-Normality and Nonlinearity in Combustion-Acoustic Interaction in Diffusion Flame", AIAA Paper 2007-0567, Reno, Nevada, USA, January 8-11.
12. A.V. VARUN, K. BALASUBRAMANIAN, E. ARUNRAJ and R. I. SUJITH (2006) "An Automated Vortex Detection Scheme using Wavelet Transforms" International Symposium on Flow Visualization, ISFV12, September 10 - 14, 2006, Goettingen, Germany.
13. Aditya Paranjpe, Nandan Kumar Sinha, Narayan Anathkrishnan 'use of bifurcation and continuation methods for aircraft trim and stability analysis – A state of the art", 45th AIAA Aerospace Sciences Meeting and Exhibit", 45th AIAA Aerospace Sciences Meeting and Exhibit, 8-11 January 2007, Reno, Nevada, USA. Paper no. AIAA 2007-1051
14. Han B, James S Tiers, Amit Kumar, "Effects of virgin fuel temperature, external radiation & Fuel vapor doping on opposed air flame spread, CSSCI, 21-23 May 2006, Cleveland, Ohio, USA,

Distinguished Visitors to the Department:

S. No.	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
1.	Mr. Jayant Sirohi, University of Maryland, USA	12.4.06	Guest Lecture
2.	Dr. N. Ananthkrishnan, Asst. Professor, IIT Bombay	16.5.06	Guest Lecture
3.	Dr. Radhakant Padhi, Asst. Professor, IIT Bombay	8.6.06	Guest Lecture
4.	Mr. H. Santhosh, Georgia University of Tech., USA	21.6.06	Guest Lecture
5.	Dr. Anuradha Annaswamy, Director, Active Adaptive Control, Laboratory & Senior Research Faculty, Dept. of Mech. Engg., MIT, USA	2.8.06	Guest Lecture
6.	Dr. Anupam Sharma, Mechanical Engineer, Global Research Centre, Niskayuna, New York	26.10.06	Guest Lecture
7.	Dr. T.M. Muruganandam, Asst. Professor, IIT Madras	2.11.06	Seminar Talk
8.	Dr. K. Viswanathan, Associate Technical Fellow Aeroacoustics and Fluid Mechanics group, Boeing, USA	9.11.06	Guest Lecture
9.	Prof. R. Peter Lindstedt, Head, Department of Mechanical Engg., Imperial College, London, UK	21.12.06	Guest Lecture
10.	Dr. Peter H. Zipfel, Adjunct Associated Professor Mechanical & Aerospace Engg., University of Florida, USA	6.2.07	Guest Lecture
11.	Prof. Yeshayahou Levy, Faculty of Aerospace Engg. Israel Institute of Technology, Haifa 32000, Israel	12.2.07	Guest Lecture
12.	Shri Ananth Veeraraghavan, University of Maryland, USA	14.2.07	Guest Lecture
13.	Prof. Wolfgang Polifke, Technical University of Munich, Germany	26.2.07	Guest Lecture

International collaboration achievements by the Department

1. Prof. Wolfgang Polifke, Technical University of Munich, Germany visited the Department from Feb-March 2007.
2. Indo-German (DST-DFG) project with Technical University of Munich, Germany was sanctioned.

4.2 DEPARTMENT OF APPLIED MECHANICS

4.2.1 Introduction:

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

The Department also offers minor streams to undergraduate students.

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

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

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

4.2.2 Academic Programmes:

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

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

The Department will introduce a Dual Degree Programme from July 2007 admission with the Departments of Aerospace Engg, Civil Engg, Electrical Engg and Ocean Engg. The Department will offer specializations in the areas of Bio-Medical Engg, Fluid Mechanics and Solid Mechanics. Based on the students' choice and performance records as well as availability of seats for each of the specialization at the end of 7th semester. At the end of successful completion of 5 years, the students will be offered a B.Tech degree in AE/CE/EE/NA and M.Tech degree in Applied Mechanics with appropriate specialization.

New Courses introduced:

Sl. No.	Course No.	Title
1.	AM 519	Haptics in Biomedical Engineering
2.	AM 546	Physico Chemical Hydrodynamics

New lab(s) established:

1. Laser Velocimetry & fluorescence lab
2. CFD Lab
3. M.Tech computational lab

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Tech.	13	13	-	-	-	26
M.S.	06	06	03	05	-	20
Ph.D.	09	10	04	06	07	36
Total	28	29	7	11	7	82

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
ABROAD					
1.	M.Kishorekumar P. Bhounsule	AM03D006 AM04M005	WCCM VII-7 th World congress on computational mechanics	16-22, July 2006, USA	Institute funds
2.	M. Ramji	AM03D003	Intl. conf. on exp. mech (ICEM06)	26-29 September'06 Korea	Institute funds
3.	K. Chithra	AM05D001	5 th Intl. conference on computational fluid dynamics in proc.ind.	13-16 Dec'06 Australia	Institute funds
INDIA					
1.	Arun C.O	CE05D002	Intl. conf. on computational and experimental engg & sciences (ICES05), IIT Madras	1-6, Dec. 06	Institute funds
2.	L. Anjaneyulu	AM04D015	33 rd National & 3 rd Intl. conference on fluid mech	6-10 Dec. '06 IIT Bombay	Institute funds
3.	K. Ashokan	AM04D001	Intl. conf. on computational mechanics and simulations (ICCMS-06)	8-10 December'06 Guwahati	Institute funds
4.	R.Manivasagam	AM04D009	Intl.Conf.computational mechanics and simulations (ICCMS-06)	8-10 December'06 Guwahati	Institute funds
5.	K. Ashokan	AM04D001	Intl. conf. on optoelectronics, fiber optics and photonics (Photonics 2006)	13-16 December'06 Hyderabad	Institute funds
6.	M. Ramji	AM03D003	VIII Intl. conf. on optoelectronics, fiber optics and photonics (Photonics 2006)	13-16 December'06 Hyderabad	Institute funds
7.	P.Selvaganesh G.Seetharaman	AM05S008	51 st congress of ISTAM	13-16 Dec.'06 Vizag	Project
8.	S. Anup	AM04D017	51 st congress of ISTAM-2006	18-21,Dec.'06 Vizag	Project
9.	M.Kishorekumar	AM03D006	International Symposium for Research Scholars on Metallurgy, Materials Science & Engineering, IIT Madras	18-20 Dec. '06	Own fund
10.	M.Kishorekumar P.Bhounsule	AM03D006 AM04M005	International Symposium for Research Scholars on Metallurgy, Materials Science & Engineering, IIT Madras	18-20 Dec. '06	Own fund
11.	N. Sekarapandian	AM05D004	XIV International conference on CMAS, IIT Madras	6 Jan. 2007	Project

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
12.	K. Jayabal	AM05D003	National Conference on Smart Electro Ceramics Thrissur	8 March 2007	Project
13.	K. Jayabal	AM05D003	National Conference on Smart Electro Ceramics 2007 – Poster presentation	8 March 2007	Project
14.	K. Pazhanivel G.R. Balachandran	AM05D005	National workshop on Smart Material for design of Intelligent systems and Industrial Applications	23 – 24 March 2007 IIT Kanpur	Institute fund

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

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1.	Senai Bhounsule Pranav Audhut	AM04M005	Best academic record for first 2 semesters in Engg Mech. – M.Tech	Institute
2.	U. Sudeep	AM04M014	Best academic record for first 2 semesters -Industrial Tribology – M.Tech	Institute
3.	D. Srinivasan	AM04M025	Best academic record for first 2 semesters- Maintenance Engg & Management – M.Tech	Institute
4.	N.V. Kiruthika	AM04M032	Best academic record for first 2 semesters- Biomedical Engg – M.Tech	Institute

4.2.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization

Professor:

Prof. K. Ramesh [Head]

Digital photoelasticity, Fracture Mechanics

Prof. C. Lakshmana Rao

Fracture mechanics, Modeling of materials

Prof. J. Lakshmaninarasimhan

Fluid Mechanics, Aerodynamics

Prof. R. Palaninathan

Structural Mechanics, Composites

Prof. M. Ramasubba Reddy

Bio-signal and image processing, Bio Instrumentation

Prof. M.S. Sivakumar

Smart Materials & Structures, Plasticity

Associate Professor:

Prof. N.R. Panchapakesan

Fluid Mechanics, Turbulence

Assistant Professor:

Dr. Anuradha Banerjee

Fracture Mechanics, Composites

Dr. A. Baburaj Puthanveettil

Turbulent convection, Interfacial phenomena

Dr. M. Manivannan

Haptics, Brain and Cognition

Dr. B.S.V. Prasad Patnaik

Bio Fluid Mechanics, CFD

Dr. G. Santhanakrishnan

Engineering Mechanics, Rotor Dynamics

Dr. N. Sujatha Biomedical Imaging, Speckle Metrology
 Dr. S. Vengadesan Fluid Mechanics, Turbulence
Adjunct Faculty:
 Prof. V.B.N. Murthy Plastic Surgery, Diabetic foot
Emeritus Scientist / Emeritus Professor:
Scientific Officer:
 V. Ganesh Engineering Mechanics

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

Sl. No.	Coordinator(s)	Title	Period
Symposia:			
1.	Prof.M. Ramasubba Reddy Prof.C. Lakshmana Rao Dr.M.Mankivannan	Alternative Medicine and Biomedical Engineering	12-13, June 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.	Dr.A.P. Baburaj	International workshop on wave dynamics and stability of thin film flow systems	IIT Madras	1-4, Sept. 2006
2.	Dr.A.P. Baburaj	Assembly, organization and propulsion in complex systems	IIT Madras	22-24 Feb. 2007
Conference:				
1.	Dr.N.R.Panchapakesan	9 th AeSI CFD Symposium, Aeronautical Society of India	NAL, Bangalore	10-11 Aug. 2006
2.	Dr.A.P. Baburaj	International workshop on wave dynamics and stability of thin film flow systems	IIT Madras	1-4, Sept. 2006
3.	Prof.R. Palaninathan	5 th ISAMPE National conference on Composites	ASM, Hyderabad	24-25 Nov. 2006
4.	Dr. S. Vengadesan	33 rd National and 3 rd International conf. on FMFP	IIT Madras	6-9 Dec. 2006
5.	Prof.R.Palaninathan	International Congress on Computational Mech & Simulation	IIT Guwahati	8-10 December 2006
6.	Prof. C.Lakshmana Rao	International Congress on Computational Mech & Simulation	IIT Guwahati	8-10 December 2006
7.	Dr. Anuradha Banerjee	International Congress on Computational Mech & Simulation	IIT Guwahati	8-10 December 2006
8.	Prof. M. Ramasubba Reddy	Intl. Conference on Biomedical and Pharmaceutical Engg	Singapore	11-14 Dec. 2006
9.	Prof.R. Palaninathan	Intl. Conference on Advances in Mechanical Engg	SRM Inst. of Science & Tech, Chennai	13-17 Dec. 2006
10.	Dr.A.P. Baburaj	Assembly, organization and propulsion in complex systems	IIT Madras	22-24 Feb. 2007
11.	Dr. Anuradha Banerjee	Pravartanah	IIT Kanpur	March 2007

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr.M.Manivannan	Research issues in Haptics	---	10 May 2006.
2.	Prof.K.Ramesh	Novel initiative in content generation using Multimedia	IISc Bangalore	4 July 2006
3.	Prof. K. Ramesh	Measurement of optical birefringence using Photoelasticity	Kolkatta	29 th Dec. 2006
4.	Prof. K. Ramesh	Photoelasticity – Current Practice and Recent Developments	FNAE, Membership	8 th Jan 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Prof. M. Ramasubba Reddy	Singapore	11-14 Dec. 2006	Intl. Conf.	Institute

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Awards:					
1.	Dr.S.Vengadesan	Best paper award for CFD	IIT Madras	Best paper	17 April 2006

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
INAE:		
1.	Prof. K. Ramesh	Inducted as a Fellow of the National Academy of Engineering – 4 th July 2006.

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	K. Ramesh	Member in Editorial Board	EUROSEM – Strain

4.2.4 Design and Development Activities:

New facilities added or major equipment procured:

Sl.No.	Name of Equipment	Value (Rs. In lakhs)
1.	PIV, PLIF, μ PIV, Dropsize measurement	100.0
2.	Phantom Haptic Feedback devices	3.0
3.	Tactile Array Touch Pad	2.0
4.	EMG Signal acquisition and analyzer	0.5
5.	Servo Motors with encoders	0.8

4.2.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
1.	FE simulation of biofluid mechanics	3 years	DST under women Scientist	16.30	K Chithra Dr.S.Vengadesan
2.	Adaptive EFGM for Analysis of laminated composite plates	3 years	ARDB, New Delhi	4.46	Prof.M.S. Sivakumar
3.	Simulation of ballistic impact on armour plates	3 years	PXE Chandipur, Balasore	9.76	Prof.C.Lakshmana Rao Prof. B.N.Rao Co-Investigator
4.	Pilot scale demonstration, evaluation and enhance-ment of open source GIS Tools for use by local people	3 Years	Ministry of Rural Development	23.43	Prof.C.Lakshmana Rao Co-Investigator
5.	Investigations on modern technologies for construction of road/rail embankments on soft clay soils	3 years	MHRD, New Delhi	23.00	Prof.C.Lakshmana Rao Co-Investigator Prof. Koshy Varghese Principal Investigator
6.	Characterization of vibration characteristics of piezoelectric materials used in hydrophones	3 years	MHRD New Delhi	9.00	Prof. M.S. Sivakumar Prof.C.Lakshmana Rao Co-Investigator
7.	Buckling control of nozzle shell using PZT	3 years	IITM-ISRO Cell	19.53	Prof.C.Lakshmana Rao Prof. M.S. Sivakumar
8.	Isoclinic unwrapping and colour adaptation in digital photoelasticity	2 years	ISRO-IITM Cell	7.74	Prof. K.Ramesh
9.	Stress separation in Digital photo elasticity	2 ½ yrs	ISRO-IITM Cell	14.06	Prof.K. Ramesh

RBIC projects:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. In lakhs)
1.	Prof.C.Lakshmana Rao	Simulation of Ballistic impact on armour plates	Proof and experimental establishment	9.76
2.	Prof.M.S. Sivakumar Prof.C.Lakshmana Rao	Development of algorithms and codes for analysis and modeling of SMA components	GM Tech India, Bangalore	10.0
3.	Prof. K. Ramesh	Digital Photoelastic Analysis of RP models of Kaveri K 10 Engine	GTRE	9.98

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals:	---	01
Total No. of papers published in Refereed International Journals:	---	25
Total No. of papers presented in National Conferences:	---	03
Total No. of papers presented in International conferences:	---	21

Details:**In Refereed National Journals:**

SI.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Prof. K. Ramesh P.L. Prashant	Genesis of various optical arrangements of circular polariscope in digital photoelasticity	J. Aerospace science and tech., 2006

In Refereed International Journals:

SI.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Prof. K. Ramesh K. Ashokan	A novel approach for ambiguity removal in isochromatic phasemap in digital photoelasticity	Meas. sci. technology, 2006
2.	Prof. K. Ramesh M. Ramji V.Y. Gadre	Comparative study of evaluation of primary isoclinic data by various spatial domain methods in digital photoelasticity	J.Strain analysis for engineering design 2006
3.	Prof. K. Ramesh K. Babu	Role of finite elements in evolving the slicing plan for photoelastic analysis.	Exp. Tech. 2006
4.	Prof. K. Ramesh P.R.D.Karthick Babu	Development of fringe plotting scheme from 3D FE results	Comm. num method in engineering 2006
5.	Prof. M.S.Sivakumar	Domain switching criteria for ferroelectrics	Computational material science
6.	Prof. R.Palanimathan Dr.V. Sampath N. Ramanan	Modeling of liquid metal infiltration of porous fiber perform during squeeze casting	Materials and manufacturing processes
7.	Prof.M. Ramasubba Reddy	Automated assessment of aortic regurgitation using 2D Doppler echocardiogram	Journal of digital imaging, Springer, New York
8.	Prof.M. Ramasubba Reddy	Acoustic analysis and detection of hypernasality using a group delay function	IEEE Transactions on Biomedical Engineering
9.	Prof. M.S.Sivakumar	A performance study on configurational force and spring analogy based mesh optimization schemes	International Journal of Computational Meth. in Engg. Science& Mech, 2006
10.	Prof.M. Ramasubba Reddy	Automated assessment of aortic regurgitation using 2D Doppler echocardiogram	Journal of Digital Imaging, Springer, New York, 2006
11.	Dr. Patnaik BSV Dr. S. Vengadesan	Efficient numerical algorithm for multiphase field simulations	Physical Review E 2006
12.	Dr. Patnaik BSV Huang CM Joanne CL, Jayaganthan R	Monte Carlo simulation of grain growth in polycrystalline materials	Applied surface science, 2006
13.	Dr.M.Manivannan	Physically Realistic Virtual Surgery Using the Point-Associated Finite Field (PAFF) Approach	Presence: Teleoperators & Virtual Environments, 2006
14.	Dr.C.Lakshmana Rao Dr.Srinivasan M.Sivakumar S.Sathiyarayanan	Nonlinear and time-dependent electromechanical behaviour of polyvinylidene fluoride	Smart Mater. and Structures, 15, June 2006
15.	Dr.C.Lakshmana Rao G.Baskaran K.Balasubramaniam	Shear wave time of flight diffraction (S-TOFD) technique	NDT & E International 39, 2006.
16.	Dr. S. Vengadesan V. Ramesh J.L. Narasimhan	3D unsteady RANS simulation of turbulent flow over bluff body by non-linear model	Intl. journal for numerical methods in heat and fluid flow, 2006
17.	Dr. S. Vengadesan V. Ramesh J.L. Narasimhan	Mean pressure prediction for the case of 3D unsteady turbulent flow past isolated prismatic cylinder	Intl. Journal of wind and structures. 2006

Sl.No.	Name of the faculty	Title of the paper	Name of the Journal
18.	Dr. M.S. Sivakumar Dr. G.K.Suraishkumar S. Anup	National Optima in human skull : a low velocity impact study	International Journal of crashworthiness – January 2007
19.	Dr.M.Manivannan	Rendering stiffer walls: A hybrid haptic system using continuous and discrete time feedback	Journal of advanced robotics, 2007.
20.	Dr.C.Lakshmana Rao Dr.S.M.Sivakumar R. Mini R.P. Indira	Active control of buckling of columns using PZT as Actuators	Intl. Journal of COMADEM, 2007
21.	Prof. M.S. Sivakumar	Thermomechanical modeling of hysteresis in SMA using the dissipationless	Smart material structures – January 2007
22.	Dr. C.Lakshmana Rao Dr.Srinivasan Dr.M.S.Sivakumar M.Kishorekumar K.Sakthivel, PO	Thermomechanical Modeling of Hysteresis in SMAs using the Dissipationless reference response	Smart materials and structures, 16, 2007
23.	Prof. K. Ramesh K.R. Madhu R.G.R.Prasath	Colour adaptation in three fringe photo-elasticity.	Experimental mechanics 2007
24.	Prof. K. Ramesh K.R. Madhu	New boundary information encoding and auto seeding for effective phase unwrapping of specimens and cutouts	Strain 2007
25.	Prof. K. Ramesh K.R. Madhu	Noise removal in three-fringe photoelasticity by adaptive colour difference estimation	Opt. and lasers in engineering 2007

In Proceedings of National Conferences:

Sl.No.	Name of the faculty	Title of the paper	Institution	Period
1.	Dr.M.Manivannan	Haptic Pulse Simulator Training Module For Disease Diagnosis	International Society of Biomedical Engineering, 2006	Nov 2006
2.	Dr.C.Lakshmana Rao Dr.S.M.Sivakumar Ms.R.Indira Priyadarshini	Buckling control of thin plated structure with piezoelectric actuators	1 st National conference on Smart Structures and MEMS systems for Aerospace Applns.	1-2 Dec. 2006
3.	Dr. C. Lakshmana Rao Dr. S.M.Sivakumar Ms.R.Mini Remanan	Exact theoretical analysis for the buckling load enhancement of columns using PZT	1 st National conference on Smart Structures and MEMS systems for Aerospace Applns.	1-2 Dec. 2006

In Proceedings of International Conferences:

Sl.No	Name of the faculty	Title of the paper	Institution	Period
1.	Prof. K. Ramesh M. Ramji	A new six step phase shifting technique using mixed-polariscope in digital photoelasticity	Intl. conf. on exp. mech (ICEM '06), Korea	26-29 Sep. 2006
2.	Prof.M.Ramasubba Reddy P. Vijayalakshmi	Assessment of dysarthric speech and analysis of velopharyngeal incompetence	IEEE – EMBC, New York, USA	Sep. 2006

Sl.No	Name of the faculty	Title of the paper	Institution	Period
3.	Dr.M.Manivannan	Haptic Pulse Simulator Training Module For Disease Diagnosis	International society of biomedical engineering, 2006	Nov 2006
4.	Dr.M.Manivannan Vasudevan H	Recordable haptic textures	IEEE International workshop on haptic audio visual environments and their applications	Nov 2006
5.	Dr. Anuradha Banerjee Prof. K. Ramesh R. Manivasagam	A cohesive zone model to predict fatigue crack growth and constraint effects	Intl. Conf. computational mechanics and simulations, IIT Guwahati	8-10 Dec 2006
6.	Prof.M.S. Sivakumar Dr. Rao, B.N Arun, C.O.	Probabilistic damage mechanics using element free galerkin method	Intl. Conf. computational mechanics and simulations, IIT Guwahati	8-10 Dec 2006
7.	Prof. K. Ramesh K. Ashokan	Numerical and digital photoelastic study of a spline shaft	Intl. Conf. computational mechanics and simulations, IIT Guwahati	8-10 Dec 2006
8.	Prof.C.Lakshmana Rao M.P.Ramnavas A.Bala Ganesa Moorthy	A study on biaxial fatigue of components in steel railway bridges	2 nd Intl. conf. on computational mechanics and simulation, ICCMS06	8-10 Dec. 2006
9.	Prof.C.Lakshmana Rao Prof.S.M. Sivakumar A.Bala Ganesa Moorthy M.P.Ramnavas	A study on biaxial fatigue of components in steel railway bridges	2 nd Intl. conf. on computational mechanics and simulation, ICCMS 06	8-10 Dec. 2006
10.	Prof. K. Ramesh K. Ashokan M. Ramji R. Raja Guruprasath	Autonomous Isochromatic Phase unwrapping by domain delimiting in digital photoelasticity	Intl. Conf. on optoelectronics, fiber optics and photonics (Photonics 2006)	13-16 Dec. 2006
11.	Prof. K. Ramesh M. Ramji	Quality aided isoclinic phase unwrapping in digital photelastcity	Intl. Conf. on optoelectronics, fiber optics and photonics (Photonics 2006)	13-16 Dec. 2006
12.	Dr. S. Vengadesan K. Chitra T. Sundararajan P. Nithiarasu	Hemodynamic study in cavopulmonary vascular system by characteristic based split and artificial compressibility scheme	5 th Intl. conf. on CFD, CSIRO, Melbourne, Australia	13-15 Dec. 2006
13.	Prof. R. Palaninathan G. Harishanker	Coupled thermoelastic problems: effect of heating rates	Intl. conf. on advances in mechanical engg. (ICAME 2006), Chennai	14-16 Dec 2006
14.	Prof. R.Palaninathan N. Jaganathan	Thermal issues in electronic packages	Intl. conf. on advances in mechanical engg. (ICAME 2006), Chennai	14-16 Dec 2006
15.	Dr. S. Vengadesan A. Lankadasu	Numerical simulation of flow over a square cylinder with linear shear	33 rd National conf and 3 rd Intl. conf on FMFP, IIT Bombay	Dec. 2006

Sl.No	Name of the faculty	Title of the paper	Institution	Period
16.	Prof.S.M.Sivakumar A. Rajagopal G.R.Balachandran	Adaptive meshfree methods based on configurational forces and natural neighbours	The XIV Inter - national conference of the forum for interdisciplinary mathematics	Jan 6-8, 2007.
17.	Dr.M.Manivannan	Combat Tactile jacket,	International conference on systemics, cybernetics and informatics, 2007	Jan 2007
18.	Dr.M.Manivannan	Combat Tactile jacket,	International conference on systemics, cybernetics and informatics, 2007	Jan 2007
19.	Prof.C.Lakshmana Rao Prof.S.M.Sivakumar N.Ashok Kumar V. Rakesh Varma	Modified fourth order runge-kutta method for large deflection analysis of curved cantilever beam under follower loads	Intl. conf. on computational, mathematical and statistical methods	6-8 Jan 2007 IIT Madras
20.	Prof.C.Lakshmana Rao K. Rajagopal K.V.Sridhanya	Mathematical framework for cyclic behaviour of soils	Intl. conf. on computational, mathematical and statistical methods	6-8 Jan 2007 IIT Madras
21.	Prof.C.Lakshmana Rao M.P. Ramnavas A. Balakrishna Moorthy	Biaxial fatigue experiments for components in steel railway bridges	International conf. on civil engineering in new millennium : opportunities & challenges (CEBeM 2007)	11-14 Jan. 2007 Howrah, India

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. B.S.V. Prasad Patnaik, National University of Singapore	6 April 2006	Delivered seminar on "flow control of bluff body wakes and some bench mark simulations"
2.	Prof. Eckart Schnack, Karlsruhe University	19 June 2006	Iterative solutions of integral equations for high gradient problems
		21 June 2006	Numerics and experiments on free-surface effects in crack propagation
		23 June 2006	Iterative identification of the design variables for interface delamination in layered composites materials
3.	Dr. Arun Srinivasa, Texas A & M University, USA	1-12 July 2006	Lecture on continuum plasticity & continuum thermo dynamics
4.	Prof S. Annamala Pillai, Head, Experimental Mechanics Divn. VSSC	16 July 2006	Seminar on "Residual stress measurement on aluminium alloy components using high speed hole drilling"
5.	Dr. A. Arockiarajan, Univ. of Kaiserslautern	14 Sept. 2006	Lecture on Computational modeling of domain switching effects in piezoceramic materials
6.	Dr. Ishan Sharma, IIT Kanpur	2 Nov. 2006	Lecture on Equilibrium configurations and the Roche limit for spinning ellipsoidal soil-like asteroids

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
7.	Mr. Harsha Prahlad, Research Engineer, SRI	15 Dec. 2006	Dielectric elastomers : Plastics for actuation, sensing and power generation
8.	Dr. P. Nithiarasu, Swansea Univ, Swansea	15 Dec. 2006	Patient specific medical modeling – current state of the art, difficulties and future direction
9.	Dr. Srikanth Vedantam, National University of Singapore	3 January 2007	Lecture on Multiscale modeling of shape memory alloys

Socially relevant activities carried out by the Department:

Prof. R. Palaninathan	Expert Member, Department Production Committee, VSSC Trivandrum – June 2006.
Dr. M. Manivannan	Member of three member committee to develop academic programmes in Medical Technology and Medical Device Technology programme – September - 2006
	Visited Johnson & Johnson & GE Health care as part of Industry collaboration – September 2006.
	Visited AU-KBC Chennai Optical Tweezer set-up – October 2006.
	Visited Shree Chitra Tirunal Institute of Medical and Technology, Tiruvananthapuram – October 2006.
	Visited Johnson & Johnson Co. Surgical Training Institute – October 2006.
	Presentation to DBT, Delhi defending project proposals.

Major infrastructure development made in the Department

Inaugurated a new Conference room named Sushruta.	MSB 221	April 2006
Opened a new Laser velocimetry and Fluorescent Facility – Developed under FIST assistance from DST	FM Lab.	October 2006

4.3 DEPARTMENT OF BIOTECHNOLOGY

4.3.1 Introduction:

The Biotechnology Department came into formal existence in 2004. The first batch of B.Tech. students graduated in July 2006, and the first dual degree batch will graduate in July 2007; during the first two years of the same batches, 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 Medical Biotechnology (Cardiovascular and Cancer aspects) and Bioprocesses. The Department has 20 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 discipline/branch introduced:

New Courses introduced:

Sl. No.	Course No.	Title
1	BT520	Principles of Neuroscience

New lab(s) established:

The Department moved into its new building, the Bhupat and Jyoti Mehta School of Biosciences building in January 2007. Thus many new labs (labs in the entire building) have been established.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech	27	28	33	38	01	127
Dual Degree	13	15	15	09	07	59
M.Tech.	12	13	-	-	-	25
M.S.	07	06	05	-	-	18
Ph.D.	12	17	19	04	04	56
Total	71	79	72	51	12	285

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

Sl. No.	Name of the Student/Scholar	Dept.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	P M Sivakumar	BT	5 th International conf on Material processing for properties and performance,	11-15 Dec, 2006, Singapore.	Project funding
India					
1.	Kiranmayee Bakshy	BT	11 th ADNAT Convention	23-25 th Feb 2007, CCMB Hyderabad	IIT Madras
2.	N. Kamesh	BT	11 th ADNAT Convention	23-25 th Feb 2007, CCMB Hyderabad	DST

Sl. No.	Name of the Student/Scholar	Dept.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
3.	Jeba Kumar	BT	Advances in Structural Biology and Structure Prediction	23-25 Feb, CCMB, Hyderabad	Part IITM
4.	Lavanya Madhuri	BT	Advances in Structural Biology and Structure Prediction	23-25 Feb, CCMB, Hyderabad	Part IITM
5.	V. Prasanna Kumar	Chem	Summer school on frontiers in polymer chemistry	IISc, 25 June, 06 – 8 July, 06	DAAD, GERMANY
6.	Vidya	BT	Poster presented at the CRSI meeting, <i>Increased activity of PS lipase in ionic liquids in transesterification reactions</i>	IITM, Chennai 12-13 July, 06	Project
7.	T. Vaijayanthi	Chem	Poster presented at the CRSI meeting, <i>Biocatalytic deracemisation of racemic (3E)-alkyl-4-(heter)-2yl)-2-hydroxybut-3-enoates</i>	IITM, Chennai 12-13 July, 06	Project

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

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Tushar Sharma	BTech 3 rd yr	Second Prize for Best Oral presentation on Microbial fuel cells at 'Nanostructured Materials and Application,' a National Workshop held at Stella Maris during 9 th -12 th Jan, 2007:	Stella Maris College
2.	Tushar Sharma	B.Tech 3 rd	Won first prize for Paper Presentation at Biotechcellence'07	Association of Biotechnologists, held by Anna University.

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

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prizes
1.	Sanjib Kumar Karnee	Chemistry Dept. (guide in BT)	CN Pillai Best Thesis award

4.3.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor:

- | | |
|---------------------------|--|
| Anju Chadha | - Biocatalysis, Enzyme Mechanisms, Biosensors |
| T. S. Chandra | - Microbial Biochemistry, Nutritional biochemistry, Environmental biotechnology |
| Mukesh Doble | - Biopolymers, Biodegradation, Drug design |
| D. Karunakaran | - Cancer Biology, Signal transduction, Apoptosis |
| K.B. Ramachandran | - Bioreactor Design and Analysis, Modeling, Simulation and Control of Bioprocesses, Enzyme Engineering and Environmental Biotechnology. Bio-refinery |
| G. K. Suraishkumar [Head] | - Reactive Oxygen Species in Bioreactor cultures, Liquid-phase oxygen supply strategy, Biosorption |

Associate Professor:

- Guhan Jayaraman - Biochemical Engineering; Recombinant Microbial Bioprocesses; Cellular Dynamics of Stress Response
- Rama S. Verma - Biochemistry and Molecular Biology

Assistant Professor:

- Venkatesh Balasubramanian - Ergonomics, Biomedical devices, Biomechanics and Psychophysics
- R Baskar - Molecular Genetics of Development
- K. Chandraraj - Biochemistry and Genetic Engineering
- V. S. Chakravarthy - Computational Neuroscience
- A. Gopala Krishna - Biochemistry and Molecular Biology
- S.N. Gummadi - Biochemical and Bioprocess Engineering
- Sanjeev Gupta - Mechanisms of Cell death
- Manoj Narayanan - X-ray Crystallography of Biomolecules
- Sanjib Senapati - Computational Biophysics

Visiting Faculty:

- R. Jayaraman (for 1 year) - Bacterial Genetics
- Karim Fahmy (27th Nov to 16th Dec, 2006) - Spectroscopy, Molecular Biology
sponsored by DST
- Nitish R. Mahapatra - Molecular Biology, Genetics, Cell Biology
Emeritus Scientist/
Emeritus Professor:

Scientific Officers /
Engineers:

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

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1.	G. K. Suraishkumar	Brainstorming on Cardiovascular Devices and Implants	29 July 2006
2.	T.S.Chandra (Co-ordinator)	1. DBT sponsored Workshop on Industrial Biotechnology Dec 27 th to Jan 6 th 2007 2. Applied Microbiology workshop with ASM supported US India Professorship to Dr. M. K. Jain	Dec 27 th to 6 th Jan 2007
Short term Course:			
	Venkatesh Balasubramanian	Introduction to Industrial Engineering and Ergonomics for M/s Baxter India, Chennai	July 20, 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.	G. K. Suraishkumar	India-Stanford Biodesign meeting	DBT India	Jan. 24-25, 2007
2.	G. K. Suraishkumar	Healthcare Sciences and Technology Initiative in India	DBT India and Indo-US forum	17-18 Aug, 2006

Sl. No.	Name of faculty	Title	Institution	Period
3	Sanjib Senapati	Molecular Dynamics Simulations and its application to complex biological systems	Presented two lectures in "IBRO-NBRC-IITM Workshop on Computational Neuroscience"	Dec. 4 -12, 2006
4.	Sanjeev Gupta	INDO US Workshop on Mitochondrial Research and Medicine	CCMB, Hyderabad, India	Jan. 22-24, 2007
5.	K.B Ramachandran	Industrial Biotechnology - Taking ideas from the laboratory to the market place	Indian Institute of Technology Madras	27-12-2006 to 07-1-2007
6.	Rama S Verma	Industrial Biotechnology - Taking ideas from the laboratory to the market place	Indian Institute of Technology Madras	Dec. 27,2006 to Jan,7, 2007
7.	Venkatesh Balasubramanian	Intelligent assistive systems for Health-care Applications	IIT Kanpur	Jan 30, 2007
8.	Venkatesh Balasubramanian	Indo-US workshop on Tissue Engineering	DST	Feb 22-24, 2007
9.	Anju Chadha	Biodiesel from local non-edible oils- A practical Reality?	IITM- EU Renewable Energy Network	Sept. 27-28, 2006
10	T. S. Chandra	Patents	BCIL	Feb, 2007
Seminar:				
1.	Guhan Jayaraman	DRDO Sponsored National Seminar on Advanced techniques in Biotechnology - Process Chromatography: Applications to Protein Purification	Bannari Amman Institute of Technology	30-31 July 2006
Symposia:				
1.	K.B. Ramachandran	Biohorizon2007	Indian Institute of Technology: Delhi	22-2-2007 to 24-2-2007
2.	K.B. Ramachandran	Symposium of Malaysian Chemical Engineers (SOMChE)	University Institute Technology Mara, Malaysia	19-12-07 to 20-12-2007
	Bijesh Kumar, Sreejit P. and Rama S. Verma	75th annual meeting of the Society of Biological Chemists (INDIA)	JNU, New Delhi	8-11 Dec., 2006
3.	Sirisha.Potala, Mridula Mathew and Rama S Verma	75th annual meeting of the Society of Biological Chemists (INDIA)	JNU, New Delhi	8-11 Dec., 2006
4.	Dillip Kumar Bishi, Verghese Susan and Verma Rama S	IX National Conference of Hospital Society of India IX HISICON-2007	Chandigarh	Feb 15-18 2007
5.	Suneel R, Verghese Susan and Verma Rama S	IX National Conference of Hospital Society of India IX HISICON-2007	Chandigarh	Feb 15-18 2007
6.	Rama S. Verma*, Mridula Mathew and Sirisha Potala	Department of Biochemical engineering and Biotechnology	Vellore institute of Technology University Vellore	at 27-28 Feb 2007
7.	Venkatesh Balasubramanian	Safety: A Key Design Driver for Vehicle	GM R&D, Bangalore	Dec 4, 2006
8.	Venkatesh Balasubramanian	Interl. Symp. on Engineering Analysis and Simulation: Frontiers in FEM & CFD Practices	NAFEMS – EDAF, Bangalore	Jan 11-12, 2007

Sl. No.	Name of faculty	Title	Institution	Period
Conference:				
1.	Sanjib Senapati	Induced fit in mouse acetylcholinesterase upon binding a femtomolar inhibitor	Invited talk in the International Conference on "Assembly, Organiz. and Propulsion in Complex Systems" IIT Madras	Feb. 22 -24, 2007
2.	Venkatesh Balasubramanian	5 th World Congress on Biomechanics	International Society of Biomechanics	Jul 29 – Aug 5, 2006
Training:				
1,	Venkatesh Balasubramanian	Two weeks Training was organized on " Animal Tissue Culture"	Sun Pharma scientists	15-06-06 to 30-06-06
Short term Course:				
1.	G. K. Suraishkumar	Innovations from our Lab	Indo-US	
	Series of 4 lectures on Biocatalysis	Biocatalysis	NCCR, IITM	Dec., 2006
2.	Guhan Jayaraman	Synthetic Systems Biology	N. C. B. S, Bangalore	Feb. – June 2006

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	G. K. Suraishkumar	Innovations to improve Bioprocesses	SASTRA University, Thanjavur	Feb. 6, 2007
2.	G. K. Suraishkumar	Supply of Oxygen to Bioreactors	JNTU, Hyderabad	Dec. 23, 2006
3.	G. K. Suraishkumar	Free Radicals: Bioreactors and Beyond	Pondicherry Univ.	Oct. 16, 2006
4.	D. Karunakaran	Apoptosis Induced by Alicin and Its Derivatives: Implications for Cancer Therapy	26 th Annual Convention of Indian Association for Cancer Research and International Symposium on Translational Research in Cancer at Bhubaneswar	Jan. 18, 2007
5.	D. Karunakaran	An Overview of Bioinformatics	Sri Venkateswara college of Engineering, Pennalur, Sriperumbudur	Feb. 15, 2007
6.	D. Karunakaran	Strategies to sensitize cancer cells to curcumin-induced apoptosis	Annamalai University	Mar. 4, 2007
7.	D. Karunakaran	Molecular Biology of Cancer	Madurai Kamaraj University	Mar. 26, 2007
8.	Mukesh Doble	Target based drug design	ABL Biotechnology, Chennai	Mar. 8, 2007
9.	Mukesh Doble	Drug design and QSAR	Kemin Pharmaceuticals Ltd	Oct. 20, 2006
10.	Mukesh Doble	Blomaterials	Reliance Life Science, Mumbai	Mar. 29, 2007
11.	Mukesh Doble	Modelling in Paints	Asian Paints, Mumbai	Sep. 18, 2006
12.	Mukesh Doble	Molecular modeling	Annamalai University, Chidambaram	Mar. 3, 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
13.	Mukesh Doble	Molecular modeling and drug design	Barathidasan University, Trichy	Mar. 4, 2007
14.	Mukesh Doble	Biopolymers	Barathidasan University, Trichy	Mar. 15, 2007
15.	Mukesh Doble	Biodegradation of polymers	Green Chemistry Workshop, organised by DST, MS University, Vadodara	Sep. 22-23, 2006
16.	Sanjib Senapati	Theoretical and computational methods in chemistry and biochemistry: Application to the interfacial properties of dipolar liquids and the dynamical behavior of acetylcholinesterase	Indian Institute of Science, Bangalore	Nov. 17, 2006
17.	K.B. Ramachandran	Modern Separation Processes	National Workshop on "Separation Processes" Conducted by St. Joseph College of Engineering, Chennai.	Aug. 8, 2006.
18.	K.B. Ramachandran	Bioprocess Engineering: Recent Trends (Plenary lecture)	Symposium of Malaysian Chemical Engineers (SOMChE). University Institute Technology Mara, Malaysia.	Dec. 20, 2007
19.	K.B. Ramachandran	Microbial production of Hyaluronic acid (Plenary Lecture)	Joint Indo-Korean symposium on Biochemical Engineering and Biotechnology, Indian Institute of Technology: Delhi, New Delhi.	Feb. 2, 2007
20.	K.B. Ramachandran	Downstream Processing	Industrial Biotechnology: Recent developments and innovations", IIT Madras.	Dec. 27, 2006
21.	Rama S. Verma	Stem Cell and its Potential	National symposium on stem cell organized Department of Biotechnology Panjab University Chandigarh	Nov. 11-12, 2006
22.	Rama S. Verma	Folate Receptor Mediated Drug Delivery	International conference on Nanomedicine held at Institute of life sciences, Bhubaneswar Indian	Feb 22-23, 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
23.	Rama S. Verma	Chimeric Protein and their applications	National Seminar on Protein Science and Engineering organized by department of Biochemical engineering and Biotechnology, held at Vellore institute of Technology University Vellore	Feb 27-28, 2007
24.	Venkatesh Balasubramanian	CAE applications in development novel orthopaedic implants	M/s Sushrut-Adler Orthopaedics, Pune,	Apr. 28, 2006
25.	Venkatesh Balasubramanian	A method for objective evaluation of driver performance	Mechanical Transport Training Institute, IAF, Avadi,	Jul. 13, 2006
26.	Venkatesh Balasubramanian	Frontiers in biomedical engineering	Armed Forces Medical College SD, Pune	Sep 23, 2006
27.	Venkatesh Balasubramanian	Introduction to ergonomics	M/s LMW, Coimbatore	Nov. 10, 2006
28.	Venkatesh Balasubramanian	Ergonomics, aesthetics and design	D J Academy of Design, Coimbatore,	Nov. 11, 2006
29.	Venkatesh Balasubramanian	Occupant ergonomics – Objective evaluation of ride comfort	TVS Motors R&D Hosur	Dec. 26, 2006
30.	Venkatesh Balasubramanian	Human body modeling – Cervical Spine models	JFWTC, General Electric, Bangalore,	Dec. 27, 2006
31.	Venkatesh Balasubramanian	Bio-signal based HSI for rehabilitation - A RBG Experience	IIT Kanpur	Jan. 30, 2007
32.	Venkatesh Balasubramanian	Helicopter cockpit ergonomics – Study of LBP and neck pain in Chetak helicopters	RWRTC, HAL Bangalore	Feb. 22, 2007
33.	Anju Chadha	Biocatalysis: Towards Green Chemistry	Asan college, Chennai	March, 2007
34.	Anju Chadha	Chemical Biology: Exciting interface for research	JNTU, Hyderabad	March, 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	VS Chakravarthy	Japan	March 5-10, 07	Attend conference	Project
2.	K.B. Ramachandran	Malaysia	December 26, 2006 to December 28, 2007	To deliver a Plenary lecture on "Bioprocess Engineering: Recent Trends".	The host
3.	Venkatesh Balasubramanian	Munich, Germany	July 28 – Aug 6	To attend and present papers at the 5 th World Congress on Biomechanics	
4.	Anju Chadha	France, Paris	16 Sept. 06 to 22 Sept.06	Invited to give a talk and discussion for research collaboration	The host

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
Awards:					
1.	S.N. Gummadi	AMI-Young Scientist	AMI-India	Young scientist in the field of Food & Industrial Microbiology	Dec 06, 2006

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1	D. Karunakaran	TGF- β , Smads and Cervical Cancer. In "Transforming Growth Factor-Beta in Cancer Therapy" Volume II Cancer Drug Discovery and Development Jakowlew, Sonia (Ed.)	The Humana Press, Inc., NJ, USA.	Karunakaran, D. and Goodwin Jinesh
2	D. Karunakaran	Cell Growth Regulation by Curcumin. In "The Molecular Targets and Therapeutic Uses of Curcumin in Health and Disease " Advances in Experimental Medicine and Biology , Vol. 595 Aggarwal, Bharat B.; Surh, Young-Joon; Shishodia, Shishir (Eds.)	Springer Publishers, New York.	D. Karunakaran, Jeena Joseph and T. R. Santhosh Kumar
3.	Rama S Verma	Book Chapter: Targetting Human growth factors, cytokines gene into Silkworms Muga silkworm in Biochemistry, Biotechnology and Molecular Biology, pp 204-211	Published at RRL Jorhat	Rama S. VErma
4.	S.N. Gummadi	Biochemical engineering	Prentice Hall India	Mukesh Doble and S. N. Gummadi
5.	Guhan Jayaraman	Book Chapter: Dynamics of Cellular Response to Recombinant Protein Production, in Bioseparations and Bioprocessing, G. Subramanian (Edited)	Wiley-VCH	Guhan Jayaraman and Balaji Balagurunathan

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Others:		
1.	Mukesh Doble	Member of American Institute of Chemical Engineers since 1980
2.	Mukesh Doble	Fellow of Indian Institute of Chemical Engineers since 1977

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	D. Karunakaran	Member	Cell Research
2.	Mukesh Doble	Editorial Board of	Chemical Engineering, McGraw Hill, USA
3.	S.N. Gummadi	Editorial member	Research Journal of Microbiology

4.3.4 Research and Consultancy:**Sponsored Research Projects:**

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	A Study on the Activators and Targets of NF- κ B in Human Cancer Cells	2006-2009	DBT	43.35	D. Karunakaran
2.	A study on the transforming growth factor- β signaling intermediate, Smad3, in human	2005-2008	DST	22.65	D. Karunakaran
3.	Marine organism mediated biodegradation of poly ethylene	Sept 2005- Apr 2007	NRB, N. Delhi	11.45	Mukesh Doble
4.	Synthesis and characterization of curdian	2006-2008	DBT, N. Delhi	9.2	Mukesh Doble/ S.N.Gummadi
5.	Parkinson's disease: Development of computational model	2007 - 2009	DST	11.06	VS Chakravarthy & Nandini Singh (National brain research center)
6.	Development of online handwriting recognition system	2006 to 2008	DIT	40	VS Chakravarthy & C. Chandrasekhar (Dept CSE, IITM)
7.	Chromium removal from tannery effluent through microbial bioremediation	2004 - 2007	DBT	13.71	K. Chandraraj, Ligy Philip, Dept. Civil Engg., T. Swaminathan, Dept. Chem. Engg.
8.	Exploring the basis of drug resistance of HIV-1 protease mutants: Useful insights for rational drug design	3 years	DST	19.97	Sanjib Senapati
9.	Cloning and characterization of Novel Osteoblast Derived Factors that Support Hematopoietic stem cell proliferation		(2005) Department of Biotechnology- Govt of India	42.58	Rama S Verma
10.	Molecular characterization and Cloning of Folate binding Protein in yeast		Ministry of Human Resource, New Delhi India.	22.00	Rama S. Verma
11.	To study the effect of small interfering RNA (siRNA) on the EpCAM expression of Y79 retinoblastoma cell line and its correlation with invasion and migration properties of cell line.		Department of Sciences and Technology, Govt of India	29.00 (IITM budget 11 laks)	Rama S. Verma In collaboration with Sankar Netralaya,

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
12.	Efficacy of EpCAM-conjugated drug loaded biodegradable nanoparticles for drug therapy in Retinoblastoma		DBT (GOI)	90.00 (IITM budget 25 lakhs)	Rama S. Verma In collaboration with Sankar Netralaya and ILS Bhubaneswar
13.	Biochemical and Structural studies on Alr1529, a putative lipase	2006-2009	DST, GOI	15.22	N.Manoj S. N.Gummadi
14.	Creation of Bioinformatics Infrastructure Facility	2006-2007	DBT, GOI	20.00	N.Manoj
15.	Ocular Albinism 1: Overexpression, Characterization & Mechanism of Activation of a Novel G-protein Coupled Receptor (GPCR).	2006-2009	CSIR, GOI, New Delhi	15.00	A. Gopala Krishna
16.	Mechanism of Signal transduction by Ocular Albinism type 1 protein (OA1).	2006-2009	DST, GOI, New Delhi.	20.00	A. Gopala Krishna
17.	OA 1 protein: a novel and orphan G protein coupled receptor. Structure-function relationship and mechanism of signal transduction	2006-2009	DBT, GOI, New Delhi	47.30	A. Gopala Krishna
18.	Rapid Monitoring Of Transest.by Glycerol sensor	2004-2007	DST	20.55	Anju Chadha
19.	Biocat. Deracemisation of alpha-Hydroxy carbonyl compounds	2004-2007	DST	20.34	Anju Chadha
20.	Biocatalytic Production of a precursor of L-Carnitine: Process Development Optimisation Studies	2006-2009	DBT	25.70	Anju Chadha [PI]& G. N. Sathyanarayana
21.	Applications of Silicon based Biosensor made in-house	2006-2009	DBT	36.18	Anju Chadha [PI] & Enakshi Bhattacharya
22	"Bioremediation of industry wastes and microbiological community structure analyses by traditional and modern molecular approaches" International Project Awarded May 2006	2006-2007	Swedish Research Links	75.00 SEK(375500 to IIT Madras	Dr. T. S. Chandra and Prof. Gunnel Dalhammar, The Royal Sch. of Technol.,Sweden

Footnote: Projects sponsored by IITM (ICSR, IDRG and RUTAG) have not been included.

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Guhan Jayaraman	Clean Energy from Biomass	Nagarjuna Fertilizers and Chemicals	15.00
2.	Guhan Jayaraman	Process Development for Recombinant Streptokinase Production	Technology Transfer Funds (Shantha Biotechnics, Hyderabad)	3.40 (total 22 lakhs for Technology Transfer) [with K.J. Mukherjee (JNU)]

RBIC projects:

SI. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Mukesh Doble	Modeling studies on fatty acid based alkyls	Asian Paints Ltd, Mumbai	1.50
2.	Mukesh Doble	Biodegradation of poly propylene	RIL , Mumbai	10.00
3.	Mukesh Doble	Butanol from glucose	Nitrex Chemicals Ltd	10.00
4.	VS Chakravarthy and Krishnan Balasubramanian (Dept of ME)	Development of Automatic Defect Recognition (ADR) System for Real Time Radioscopy (RTR) of Hancock Valve Welds	Bharat Heavy Electricals Ltd (BHEL)	
5.	Venkatesh Balasubramanian	Ergonomic Study of LP Shop Floor	M/s Wheels India Limited, Chennai.	4.72
6.	Venkatesh Balasubramanian	Productivity Improvement and Resource Planning	M/s General Motors R&D	4.34
7.	Venkatesh Balasubramanian	Ergonomic Study of EM Shop Floor	M/s Wheels India Limited, Chennai.	4.79
8.	Venkatesh Balasubramanian	Productivity Improvement Studies	M/s AVT Leather Leather & Allied Products India, Ltd	2.50
9.	Venkatesh Balasubramanian	Plant Layout Optimization and Ergonomic Workplace Design	M/s Borg-Warner Cooling Systems Limited, Chennai.	6.56
10.	Anju Chadha	Biocatalytic Production. of Biodiesel	Tata Chemicals Ltd.	20.00

Retainer Consultancy:

SI.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	K.B. Ramachandran	Biotransformation/bioprocessing technologies for the manufacture of Cephalosporin derivatives.	Orchid Chemicals and Pharmaceuticals Ltd	Rs. 2.70 per Year

Faculty members participation with other institution under MoU:

SI. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
1	Mukesh Doble	Member of Board of Studies in Biotechnology	University of Madras
2	Guhan Jayaraman	DAAD Sandwich Programme	Max Planck Institute for Complex Technical Systems, Magdeburg, Germany
3	Guhan Jayaraman	DAAD Sandwich Programme	Institute for Infectious Diseases, Braunschweig, Germany

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	...	Nil
Total No. of papers published in Refereed International Journals	...	42
Total No. of papers presented in National Conferences	...	12
Total No. of papers presented in International conferences	...	33

In Refereed International Journals (SCI journals):

1. Aparna B. Ganesh, P. T. Manoharan and Suraishkumar GK - Responses of the Photosynthetic Machinery of *Spirulina maxima* to Induced Reactive Oxygen Species *Biotechnology and Bioengineering* (2007) 96, 1191-1198.
2. Susmita Sahoo, K. Krishnamurthy Rao and Suraishkumar GK - Reactive Oxygen Species Induced by Shear Stress Mediate Cell Death in *Bacillus subtilis* *Biotechnology and Bioengineering* (2006) 94, 118-127.
3. Mausumi Mukhopadhyay, SB Noronha and Suraishkumar GK - Kinetic Modeling for the Biosorption of Copper by Pretreated *Aspergillus niger* Biomass *Bioresource Technology* (2007) 98, 1781-1787.
4. S. Anup, SM Sivakumar and Suraishkumar GK - Natural Optima in Human Skull: A Low-velocity Impact Study *International Journal of Crashworthiness* (2007) 12, 17-20.
5. P M Sivakumar, Geetha Babu and Mukesh Doble - QSAR studies on Chalcones and Flavonoids as Anti-Tuberculosis Agents using genetic function approximation (GFA) method. *Chem. Pharm. Bull.* (2007) 55(1) 44-49.
6. P. M. Sivakumar, Mukesh Doble, S. Prabu Seenivasan and Vanaja Kumar - Synthesis, Antimycobacterial activity evaluation and QSAR studies of chalcone derivatives, *Bioorganic & Medicinal Chemistry Letters* (2007) 17 (6), 1695-1700.
7. Puratchikody, M Sivakumar and Mukesh Doble - Antinociceptive and antiinflammatory activities and QSAR studies on 2-substituted-4, 5-diphenyl-1H- imidazoles *Bioorganic and Medicinal Chemistry*, (2007) 15(2):1083-90.
8. Shilpa N. Sawant, Mukesh Doble, J. V. Yakhmi, S. K. Kulshreshtha, Akira Miyazaki, and Toshiaki Enoki - Polymer-Surfactant Layered Heterostructures by Electropolymerization of Phenosafranine in Langmuir-Blodgett Films *J of Physical Chemistry, B (Condens Matter Mater Surf Interfaces Biophys.)* (2006) 10(48):24530-24540.
9. P M Sivakumar and Mukesh Doble - COX-2 Enzyme and its Inhibitors *Current Bioactive Compounds* (2006) 2 (2), 161-179.
10. Sumithra Mohanraj, Mukesh Doble - 3-D QSAR Studies of Microtubule Stabilizing Antimitotic Agents Towards Six Cancer Cell Lines *QSAR and Combi Chemistry Sci.*, (2006) 25(10) 952.
11. Mukesh Doble - Biological Treatment of VOCs *Chemical Engineering*, (2006) 35-41.
12. Mukesh Doble, K. Anil Kumar - Experimental and modelling studies on antifungal compounds *Central European Journal of Chemistry* (2006) 4(3) 428-439.
13. Susmit Basu, Maitri Mapa, Chinnakonda S. Gopinath, Mukesh Doble, Sumit Bhaduri, Goutam Kumar Lahiri - MCM-41-supported platinum carbonyl cluster-derived catalysts for asymmetric and nonasymmetric hydrogenation reactions *Journal of Catalysis* (2006) 239, 154-161.
14. Doble Mukesh - Scale-up of biochemical process *Chemical Engineering Progress* (2006) 102, 34.
15. S. Hema Iswarya and Mukesh Doble - Potential synergism of natural products in the treatment of cancer *Phytotherapy Research* (2006) 20(4).
16. V.S. Chakravarthy, J.Krishnan, S. Radhakrishnan, Chaitanya Sai,- Activity-dependent plasticity in Gap Junctions as a Mechanism for Cardiac Memory, *NeuroQuantology* (2006) 4(4), 307-320.
17. S. Devarajan, P.S. Prashanth, V.S. Chakravarthy - On the Exploratory Role of complex oscillations in a model of Basal Ganglia based on Reinforcement Learning. *International Journal of Neural Systems* (2006) 16(2), 111-124.
18. Dilli Rani, Gobinath AKR, Chandraraj K - Purification and characterization of a maltooligosaccharide-forming -amylase from a new *Bacillus subtilis* KCC103. *Appl. Microbiol. Biotechnol.* (2006) 73, 591-97.
19. S. Gokulakrishnan, K. Chandraraj and Sathyanarayana N. Gummadi - A preliminary study of caffeine degradation by *Pseudomonas* sp. GSC 1182. *Int J Food Microbiol.* (2007) 113, 346-50.

20. Azwar, Hussain, M.A. and Ramachandran, K.B. - The study of Neural Network-based controller for controlling dissolved oxygen concentration in sequencing batch reactor. *Bioprocess and Biosystems Engineering* (2006) 28(4), 251-265.
21. Yasotha, K., Aroua, M.K., Ramachandran, K.B., Tan, I.K.P. - Recovery of medium-chain-length polyhydroxyalkanoates (PHAs) through enzymatic digestion treatments and ultrafiltration. *Biochemical Engineering Journal* (2006), 30,260-268.
22. Annuar, S, Tan, I.K.P, Ibrahim, S, Ramachandran, K.B. - Ammonium uptake and growth kinetics of *Pseudomonas putida* PGA1, *Asia Pacific Journal of Molecular Biology and Biotechnology* (2006) 14(1), 1-10.
23. Ramachandran, K.B., Sulaiman Al-Zuhair, Fong, C.S., Gak, C.W. - Kinetic study on hydrolysis of oils by lipase with ultrasonic emulsification *Biochemical Engineering Journal* (2006) 32 , 19-24.
24. Y.Y.J. Tan, M.A. Hashim, and K.B. Ramachandran - Biomass acclimatization to sequentially varying substrates in an upflow anaerobic sludge blanket reactor. *Water Quality Research Journal of Canada*, (2006) 41(4), 437-448.
25. M. Shamel, K.B. Ramachandran, Masitah Hasan and Sulaiman Al-Zuhair - Hydrolysis of palm and olive oils by immobilised lipase using hollow fibre reactor. *Biochemical Engineering Journal*, (2007) 34: 228-235.
26. Sanjib S. - In-situ synthesis of a tacrine - triazole-based inhibitor of acetylcholinesterase: Configurational election imposed by steric interactions. *J. Med. Chem.* (2006) 49, 6222-6230.
27. Venkatesh Balasubramanian and G. Swami Prasad - Ergonomic assessment of bar cutting process in construction *International Journal of Industrial and Systems Engineering*, 1(3), 321-332, 2006
28. S. Guhathakurta, S. Varghese, V. Balasubramanian, R. Agarwal, B. S. Murthy, S. Veerappan, P. Padmaja and K. M. Cherian - Technique to process xenogenic tissues for cardiovascular implantation – A preliminary report *Current science*, 91(8), 1068-1073, 2006
29. Venkatesh Balasubramanian and G. Swami Prasad - An EMG-based ergonomic evaluation of manual bar ending *International Journal of Industrial and Systems Engineering*, 2(3), 299-310, 2007.
30. S. N. Gummadi, C. Lionel, S. S. Dash, S. Gokulakrishnan. The effect of glucose on growth and caffeine degradation by *Pseudomonas* sp. NCIM 5235. *Research Journal of Microbiology*, (2007) 2: 327-336.
31. S.N. Gummadi S. Devarai - How induced cells of *Pseudomonas* sp. increase the degradation of caffeine *Central European Journal of Biology*, (2006) 4: 561-571.
32. S.S. Dash, S.N. Gummadi - Catabolic pathways and biotechnological applications of microbial caffeine degradation, *Biotechnology Letters*, (2006) 28: 1993-2002.
33. S.S. Dash, S.N. Gummadi - Optimization of physical parameters for biodegradation of caffeine by *Pseudomonas* sp.: a statistical approach *American Journal of Food Technology*, (2007) 2: 21-29.
34. R. Rahul, P.N. Malav, S.N. Gummadi - Production of thermostable α -amylases by solid state fermentation: a review, *American Journal of Food Technology*, (2007) 2: 1-11.
35. S.N. Gummadi, D.S. Kumar - The effect of microbiological parameters on production of pectin lyase and pectate lyase by *Debaryomyces nepalensis*; a statistical approach *Research Journal of Microbiology*, (2006) 1: 220-227.
36. S.N. Gummadi, D.S. Kumar - Optimization of chemical and physical parameters affecting the activity of pectin lyase and pectate lyase from *Debaryomyces nepalensis*: a statistical approach *Biochemical Engineering Journal*, (2006) 30: 130-137.
37. S. Ramalingam, P. Gautam, K.J. Mukherjee and Guhan Jayaraman - Effects of post-induction feed strategies on secretory production of recombinant streptokinase in *Escherichia coli* *Biochemical Engineering Journal*, (2007) 33, 34–41.
38. Biswarup Sen and T.S. Chandra - Chemolytic and solid-state spectroscopic evaluation of organic matter transformation during vermicomposting of sugar industry wastes *Bioresource Technology* (2007) 98(8), 1680-1683.

39. G. Akila and T.S. Chandra - Performance of an UASB reactor treating synthetic wastewater at low-temperature using cold-adapted seed slurry *Process Biochemistry* (2007) 42(3),466-471.
40. Vaijayanthi Thangavel and Anju Chadha - Preparation of optically pure (3*E*,5*E*)-alkyl-2-hydroxy-6-arylhexa-3,5-dienoates by *Candida parapsilosis* ATCC 7330 mediated deracemisation of the racemates *Tetrahedron*, 2007, 63, 4126-4133.
41. Sanjib Kumar Karmee, D. Chandna, R. Ravi, Anju Chadha - Study of the Kinetics of Base Catalyzed Transesterification of Triglycerides from *Pongamia* oil. *JAOCS*, 2006, 83, 873-877.
42. Santosh Kumar Padhi, N. Ganesh Pandian, D. Titu and Anju Chadha - Deracemisation of β -Hydroxy Esters Using Immobilised Whole Cells of *Candida parapsilosis* ATCC 7330: Substrate Specificity and Mechanistic Investigation *Tetrahedron*, 2006, 62, 5133-5140.

In Proceedings of National Conferences:

1. Sudhakar M., Mukesh Doble, K. Suresh kumar, Syed jahan, Inbakandan, R.R. Viduthalai, Uma Devi, P. Sriyutha murthy and R. Venkatesan - Potential Biodegradation of Low density polyethylene (LDPE) by marine microorganisms. International conference on environmental biotechnology, SIET, Chennai. (Jul. 20, 2006)
2. Arul Chelvi, Ambika D, S Bhaduri, Parasu Veera, Mukesh Doble - Biodegradation of polyethylene, Indian Association of Applied Microbiology conference, at Kanchi, Tamilnadu, (Jan 11-12, 2007)
3. S Gowri, Sathya Narayana Gummadi, Mukesh Doble - Screening of novel strains for production of curdian, 47th Annual conf of Association of Microbiologists of India, Bhopal. (6 Dec, 2006)
4. Denny Joseph, G. Gangadhar, V.S.Chakravarthy - ACE (Actor-Critic-Explorer) model of the Basal Ganglia highlighting its role in handwriting generation, *Third National Brain Research Center International Conference*, National Brain Research Center, Manesar, India (Dec.13-15, 2006).
5. Pooja K.P. and T.s.chandra - Isolation and characterization of aerobic and xylanolytic nitrogen fixing bacteria from termites Poster BB-18, 7th Annual Conf.of Assoc.Microbiologists of India. Barkatullah Univ, Bhopal. (Dec 6-8th, 2006).
6. K.K.Kiran and T.S.Chandra - Production of alpha amylase by newly isolated moderately halophilic *Bacillus* species strain TSCVKK Poster BB-19, 47th Annual Conf. Assoc. Microbiologists of India. Barkatullah Univ. Bhopal, Dec 6-8th, 2006
7. P.Giridhar and T.S.Chandra - Psychrotolerant and mesophilic xylanases from Clostridial strains Poster BB-29, 47th Annual Conf. Assoc. Microbiologists of India. Barkatullah Univ. Bhopal, (Dec 6- 8th, 2006)
8. K. Mahapatra and T.S. Chandra - Comparison of Microbial Populations in a Stable Low Temperature-Adapted Cattle manure Biogas Digester with a Mesophilic Digester through Molecular Techniques (Abstract Only).. 54
9. Symposium on Biological methods of Waste treatment and Management in South India Organized by Fulbright USEFI and New College on Feb 15th, 2007, at The New College Chennai
10. Tushar Sharma, T. S. Chandra - Microbial fuel cells: novel biotechnology product for energy generation Poster presented at 'National Conference on Advances in Energy Research' held at IIT Bombay by the Energy Systems Department. 4th-5th Dec, 2006.
11. Tushar Sharma, A. Leela Mohana Reddy, S. Ramaprabhu, T. S. Chandra - Microbial fuel cells: increased power output using Pt coated graphite electrodes
12. Poster presented in International Symposium for Research Scholars on Metallurgy Material Science & Engineering. held at IIT Madras by the Metallurgy and Material Sciences Engineering Department. (18th-20th Dec. 2006)

In Proceedings of International Conferences:

1. P.Dakshinamoorthy, P. M. Sivakumar, Mukesh Doble, Chalcones derivatives as effective anti bacterial agents for polypropylene surface, Oral presentation at the 5th International conf on Material processing for properties and performance, Singapore. 11-15 Dec, 2006.
2. P.Dakshinamoorthy, Mukesh Doble, Robert Coelho and Prashant Shah, Analysis of Explanted ePTFE Cardio Vascular Grafts BT shunt, International conf on Design of Biomaterials, IIT Kanpur, 8-11 Dec, 2006.

3. Sudhakar M., A. Trishul, Mukesh Doble, K. Suresh kumar, Syed jahan, Inbakandan, R.R. Viduthalai, Uma Devi, P. Sriyutha murthy and R. Venkatesan - Degradation of Polypropylene in ocean water. International conference on Recent advances in marine antifouling technology, NIOT, Chennai. 6 Nov, 2006.
4. Sudhakar M., A. Trishul, Mukesh Doble, K. Suresh kumar, Syed jahan, Inbakandan, R.R. Viduthalai, Uma Devi, P. Sriyutha murthy and R. Venkatesan- Biodegradability of Polyethylene in sea water. International conference on Recent advances in marine antifouling technology, NIOT, Chennai. 6 Nov, 2006.
5. Trishul A., M. Sudhakar, Mukesh Doble, K. Suresh kumar, Syed jahan, Inbakandan, R.R. Viduthalai, Uma Devi, P. Sriyutha murthy and R. Venkatesan - Biodegradation of Polycarbonate in tropical sea water. International conference on Recent advances in marine antifouling technology, NIOT, Chennai. 6 Nov, 2006.
6. Sudhakar M., Mukesh Doble, K. Suresh kumar, Syed jahan, Inbakandan, R.R. Viduthalai, Uma Devi, P. Sriyutha murthy and R. Venkatesan - Studies on biodegradation of high density polyethylene (HDPE) by marine microorganisms. 7th Asia pacific marine biotechnology conference, NIO, Kochi. 2 Nov, 2006.
7. P.V. PadmaPriya and Mukesh Doble - Docking studies to elucidate the cardiotoxic effects of constituents of *Terminalia arjuna*, International conf on Bioinformatics, N. Delhi, 18-20 Dec 2006
8. Arul Chelvi, Ambika D, S Bhaduri, Parasu Veera, Mukesh Doble - Biodegradation of polyethylene and Biosurfactants, International Conference on Biotechnology Engineering (ICBioE '07), Malaysia, 7, May 2007
9. Denny Joseph, G. Gangadhar, V.S.Chakravarthy - The indirect pathway as an Explorer in a Reinforcement learning model of the Basal Ganglia, Second International Conference on Cognitive Science, University of Allahabad, Dec. 10-12, 2006.
10. Denny Joseph, G. Gangadhar, V.S.Chakravarthy - Towards an Integral model of Basal Ganglia: Exploring the multi-faceted role of Basal Ganglia in Motor function, 10th Tamagawa-Riken Dynamic Brain Forum, Hakuba, Japan, Mar. 5-9, 2007.
11. G. Sachdeva, K. Kalyanasundaram, J.Krishnan, V.S.Chakravarthy - A pair of interacting Sinoatrial Nodal (SAN) Cell models exhibit bistable behavior: Relevance to Cardiac Memory International conference on Biomedical and Pharmaceutical Engineering (ICBPE2006), Singapore, December 11-14, 2006.
12. H. Swethalakshmi, A. Jayaraman, V. S. Chakravarthy, C. Chandra Sekhar - Online Handwritten Character Recognition of Devanagari and Telugu Characters using Support Vector Machines", 10th International Workshop on Frontiers in Handwriting Recognition, La Baule, France, October 23-26, 2006.
13. Waste water strength and total COD removal in an upflow anaerobic sludge blanket reactor, Asian Pacific Confederation of Chemical Engineering Congress, Kuala Lumpur. (with Jennifer Tan Yee Ying and M.A. Hashim). 27th – 30th August 2006.
14. Optimization of recovery of Polyhydroxyalkanoates (PHAs) through enzymatic digestion, Asian Pacific Confederation of Chemical Engineering Congress, Kuala Lumpur. (with K. Yasotha, M.K. Aroua and I.K.P.Tan), 27th – 30th August 2006.
15. Venkatesh Balasubramanian - Fatigue differences of leg muscles due to change in chair height Fatigue 2006, 9th International fatigue congress, Atlanta, GA, USA May 14-19, 2006
16. Venkatesh Balasubramanian - Muscle fatigue in professional race car drivers – Wavelet analysis of sEMG signal 16th World Congress on Ergonomics, Maastricht, Netherlands. July 10-14, 2006
17. Venkatesh Balasubramanian Analysis of muscle fatigue during supported and unsupported sitting using sEMG Advances in medical signal and information processing (MEDSIP 2006), Glasgow, UK July 17-19, 2006.
18. Venkatesh Balasubramanian - Classification of sEMG using radial basis function networks 2nd International symposium on Biomedical Engineering (ISBME 2006), Bangkok, Thailand Nov 8-10, 2006.
19. Venkatesh Balasubramanian - Effect of LBP on Muscle Activity of Lower back and Upper Extremity while Aerobic Cycling – An sEMG Based Study International Conference on Biomedical and Pharmaceutical Engineering (ICBPE 2006), Singapore Dec 11-14, 2006.
20. Venkatesh Balasubramanian - CT Based Three Dimensional Finite Element Model of Cervical Spine International Conference on Biomedical and Pharmaceutical Engineering (ICBPE 2006), Singapore Dec 11-14, 2006.

21. Venkatesh Balasubramanian - Antimicrobial Processing of Xenografts for their Clinical Use Indo-Australian Conference on Biomaterials, Implants, Tissue Engineering and Regenerative Medicine, Thiruvananthapuram Jan 10-12, 2007
22. Venkatesh Balasubramanian - Finite element modeling cervical spine – Necessities, advantages and limitations International Symposium on Engineering Analysis and Simulation: Frontiers in FEM and CFD Practices, Jan 11-12, 2007
23. Venkatesh Balasubramanian - Indigenously Processed Porcine Xenograft for Clinical Cardiovascular applications Indo-US conference on cardiovascular prosthetic devices, Trivandrum Feb 1-3, 2007.
24. Venkatesh Balasubramanian - Tissue engineered small vascular grafts from Human Cadaver Veins Indo-US conference on cardiovascular prosthetic devices, Trivandrum Feb 1-3, 2007.
25. S.Kavitha and T.S.Chandra - Riboflavin production and stress response in filamentous hemiascomycete fungus *Ashbya gossypii* Poster 45, page 87.
26. Intern.Conf on the Biology of Yeasts and filamentous Fungi ,Organized by Natl.chemical Laboratory and Agharkar Research Institute,Pune , Feb 15-17 , 2007
27. S.Sengupta and T.S.Chandra - Expression of the red fluorescent protein DsRed –express in filamentous hemiascomycete fungi , *Ashbya gossypii* and *Eremothecium ashbyii* Poster 50, page 96
28. Biswarup Sen, Jérôme Hamelin, Jean-Jacques Godon, T.S Chandra - Intern. Conf. Biology of Yeasts and filamentous Fungi ,Organized by Natl. Chemical Laboratory and Agharkar Research Institute,Pune , Feb 15-17 , 2007
29. Dynamics of Bacterial Community Succession during Vermicomposting of Sugar-Industry Biowastes as revealed by PCR-Single stranded conformational polymorphism profiling (PCR-SSCP). Intern Symp on Microbial Ecology (ISME-11), August 20-25, 2006 Vienna, Austria
30. Kamala Kritihivasan, Anshu Bhatia, T. S. Chandra - Simulation of a Turing Machine using EndoII Splicing Rules. 125-129, BibTeX. State of the Art Approach for Computer Design. CDES 2006. Paper ID Number :FC'06109 FC'06, Las Vegas, Nevada USA. June 26-29, 2006,
31. Tushar Sharma, A. Leela Mohana Reddy, S. Ramaprabhu, T. S. Chandra - High Power density from a Nanomaterials based Microbial Fuel Cell Poster presented at 'Advanced Nano Materials,' an International conference held at IIT Bombay by the Physics Department. 8th-10th Jan, 2007.
32. Venkatesh Balasubramanian and Varadhan, S. K - Analysis of leg muscle fatigue using electromyography - Insights into chair ergonomics 5th World Congress on Biomechanics, Munich, August 2006
33. Swapna, B. and Venkatesh Balasubramanian - Development and validation of three dimensional finite element model of whole cervical spine 5th World Congress on Biomechanics, Munich, August 2006

Visits by Distinguished People:

Hartmut Michel, (Distinguished Professor, IIT Madras)
Nobel laureate, Max Planck Institute, Dortmund, Germany, 2007

Ajit Varki, (Distinguished Professor, IIT Madras)
Univ. of California, San Diego, U.S.A., 2007

P. K. R. Kumar (Adjunct faculty member, IIT Madras)
National Institute of Science, Japan, 2006.

4.3.5 Other Activities of the Department/Centre:

1. Inter disciplinary group achievements of the Departments.

The DBT sponsored workshop on Industrial Biotechnology was conducted jointly with the Dept of Management Studies IIT Madras For first time two departments of IIT Madras jointly held a DBT sponsored Workshop in Interdisciplinary area

2. Socially relevant activities carried out by the Department

Carrying out a project on Standardization of Ayurvedic herbal medicines for Gandhigram under the Rural Technology Action Group at IIT Madras

3. International collaboration achievements by the Department

Activities initiated

- a) The visit of Dr M.K.Jain of Kentucky State Science and Technology USA was hosted under the Indo-US ASM Visiting Professorship during Dec 2007
- b) The visits of Dr Gunnel Dalhammar and Dr Gunaratna of the Royal Inst of Technology ,Dept of Applied Microbiology took place under the Swedish Research Links Project in Dec 2007
Department of Applied Environmental Microbiology, School of Biotechnology; Royal Institute of Technology, Stockholm, Sweden

4. Major infrastructure development made in the Department

We have moved into our new building, the Bhupat and Jyoti Mehta School of Biosciences building, and set-up the laboratories.

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 facilities. The Transfer operations laboratory, Chemical Reaction Engineering Laboratory, Process Dynamics and Control Laboratory, Mechanical Operations Laboratory, High Polymer Engineering Laboratory, Biochemical Engineering Laboratory and Environmental Engineering Laboratory

4.4.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1	CH5XX *	Applied Time Series Analysis
2.	CH5XX *	Environmental Chemodynamics
3.	CH531	Molecular Science and Engineering

* Subject to approval of Senate

Students on roll as of September 2006 + M.S. & Ph.D admission in Jan. 2007:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	42	49	49	38	03	181
Dual Degree	11	10	11	11	12	55
M.Tech.	22	19	-	-	-	41
M.S.	09	06	03	02	-	20
Ph.D.	10	10	16	03	13	52
Total	94	94	79	54	28	349

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	Moganty Surya Sekar(MS)	International Conference	Material Research Society Spring Meeting 2006	17th -21st April 2006 California , USA
2.	K.R.Gopi (PhD)	International .Conference	2006 Gordon Research Conference	23rd-28th July 2006
3.	VasudevaKumar (Ph.D)	Research Programme	Max Plank Institute, Magdeburg,Germany	1st July 2006 to 30th June 2007
4.	K.R.Gopi (ph.D)	International .Conference	Eights International conference on Nano structural materials	20th-25th August 2006 IISc Bangalaore.
5.	A.Seshagiri Rao (Ph.D)	International Conference	Asian Pacific confederation Of Chemical Engineering (APCChe) 2006.	27th 30th August 2006 Kuala Lumpur Malaysia
6.	Cherio Sivakumar (Ph.D)	Research Programme	Max Planck Institute Magdeburg, Germany Prof.Andreas Sedral Morgenstern.	15th-Setember to 15th December 2006 Germany
7.	K.Jayashree(M.Tech)	DAAD Sandwich System	RW Technische Hochschule,Aachen, Germany. (Prof.W.Marquardt)	1st September 2006 to 31st May 2007 Germany

Sl. No.	Name of the Student	Programme	Name of the Conference/ Seminar / Symposia	Date and Venue
8.	Sivakumar Kota(M.Tech)	- do-	Technische Universitaet Berlin, Germany (Prof.Felix Ziegler)	1 st September 2006 to 31 st May 2007 Germany.
9.	Vinoj Kurian (M.S)	National Conference	Aligarh Muslim University Aligarh.	15 th to 19 th September 2006,Aligarh.
10.	TK.Jaganathan (Ph.D)	Research Programme	SERC School on Cavitationaly Induced physical and Chemical Transformation: Fundamentals and Applications	7 th -13 th October 2006 Institute of Chemical Technology. University of Mumbai.
11	Ankit Jain (D.D)	Conference	Chemcon 2006	25 th December2006- 1 st Jan 2007.Bharuch
12	D.Krishna Sandilya(Ph.D)	Conference	Chemcon 2006	- do-
13	M.Subramanian(Ph.D)	Conference	Chemcon 2006	- do -
14	K.Ganesh Palappan (Ph.D)	Conference	Chemcon 2006	- do-
15	Vasu Gollangi (Ph.D)	Conference	Chemcon 2006	-do-
	M.Harini (M.S)	Conference	Fifth ISAMPE National Conference on composites (INCCOM-5)	23 rd -26 th November 2006,Hydrabad.
1 6	K.Jaganathan (Ph.D)	Conference	An International Perspective On Environmental and water Resources.	18 th to 20h December 2006 New Delhi.
1 7	Rahul Ashok Damodar (Ph.D)	Conference	-do-	- do-
1 8	N.Kapil (M.S)	Conference	- do -	- do-
1 9	M.Harini (M.S)	Conference	Macro – 2006	15 th -22 nd Dec.2006,Pune
20	Sivaji Seepana (Ph.D)	Conference	National Conference on advances in energy Research	2 nd to 7 th December 2006 iit Bombay
21	Vanama Mahesh (M.Tech)	Conference	AOPCS-07	22 nd -23 rd February 2007 IIT M
22	M.Harini (M.S)	Conference	-do-	22 nd -24 th February IITM
23	D.Kareemullah (M.S)	Conference	Petrotech-2007	15 th -19 th Jan 2007 New Delhi.
24	RamachanderCh (M.Tech)	Conference	ICRACM-2007	20-23 rd Feb 2007 New Delhi
25	K.R.Gopi (Ph.D)	Conference	ICRACM-2007	New Delhi
26	M.Subramanian (Ph.D)	Conference	International conference on clear technologies& Environmental Management	4 th to 6 th Jan 2007 Pondicherry
27	Vinoj Kurian (M.S)	Conference	Computational ,Mathematical& Statistical methods 2007	6 th to 8 th Jan 2007 Stella Mari's College Chennai.
28	K.Neeharika (M.Tech)	Conference	- do-	- do-
29	P.Ramesh Babu (Ph.D)	Conference	Computational, Mathematical & Statistical Methods 2007	7 th January 2007 IIT Madras
30	Kanodia Jitendra Shrawan (D.D)	Conference	- do-	-do-

Sl. No.	Name of the Student	Programme	Name of the Conference/ Seminar / Symposia	Date and Venue
Seminar:				
1.	D.Krishna Sandilya (Ph.D)	National Seminar	National Seminar on Recent Advances in Chemical Engineering.	17th-18th November 2006 SVU College of Engineering, Tirupati.
Symposia:				
1	Vidyasagar Shilupuram (Ph.D)	Symposium	International Symposium on Catalysis in Multiphase Reactor (CAMURE-6) & International Symposium on Catalysis in Multifunctional Reactors (ISMR-5)	14th-17th Jan 2007 Pune.

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

Sl.No	Name of the Student/Scholar	Roll Number	Name of Prize	Name of Donor
1.	Venkata Sravanth Poruri	Ch04b043	Institute Merit Prize-2007	litm.
2.	Patrick Arokiaraj Charles F	Ch05m013	Institute Merit Prize-2007	litm.

4.4.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor

Dr.M.S. Ananth

Thermodynamics and Mathematical Modeling

DR. A.R.Balakrishnan

Transport Processes, Energy Conservation

Dr.K.Krishnaiah

Chemical reactor analysis and design, Multiphase and Fluidization Systems

Dr.DVS Murthy

Environmental Engineering, particle technology

Dr. R.Nagarajan

Particle Science & Technology

Ultrasonic Processing

Statistical Quality Control

Dr.T.Panda

Bioprocess Optimization, bioprocess technology and enzyme design

Dr.S.Pushpavanam

Modelling and simulation, non linear dynamics, flow visualization

Dr.V.S.Ramachandra Rao

Advanced Control strategies, neuro fuzzy control

Dr.Shankar Narasimhan(Head)

Process design, data mining, fault diagnosis

Dr.T.Swaminathan

Environmental Management, Biotechnology, Membrane technology, Environmental risk assessment

Dr.PST Sai

Chemical reactor analysis and design

Particle Technology, Material recycling Biomass Fuel preparation systems

Dr.R.Ravi

Applied statistical mechanics, foundations of thermodynamics and mechanics, process dynamics and control

Dr.Sreenivas Jayanti

Computational fluid dynamics

Associate Professor:

Dr.Abhijit Deshpande

Rheology of complex fluids, polymers and polymeric composites
Processing flow visualization

Dr.A.Kannan

Rate enhancement of mass transfer processes

Assistant Professor:

Dr.Susy Varughese

Physics & mechanics of polymeric materials, polymeric nano composites

Dr.S.Ramanathan

Semiconductor processing, Electrochemistry, Chemical Reaction Engineering

Dr.Tanmay Basak

Microware application, mathematical modeling and simulation

Dr.Arun K Tangirala

System identification and parameter estimation

Name and Qualifications**Major area of specialization (only 3 areas)**

Dr.R.Ramnarayanan

Electrochemistry, Integrated Chemical System,
Photoelectrochemistry

Dr.R.Ravikrishna

Contaminated Sediment remediation, contaminant fate and
Transport, Air Pollution process and control.**Visiting Faculty**

Dr.Upendra Natarajan

Polymer Science & Engineering, Molecular and materials simulation,
statistical thermodynamics of complex fluids, nanostructured hybrid
composite materials.**Scientific Officers:**

Dr. K. Krishnamurthy

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Shankar Narasimhan	Session on "Application of Statistics in Chemistry & Chemical Engineering as part Of CMAJM '07	6th Jan 2007
Workshop:			
1.	Dr.Nagarajan	Application of Taguchi Quality Loss function In Industrial Process	25th July .2006
Short term Course:			
1.	Shankar Narasimhan Arun K.Tangirala	Control loop Performance Assessment	Dec.8-9th 2006
2.	Arun K.Tangirala	PEM Fuel cells Principles & System level Integration	March 16-17th 2007

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
Seminar:				
1.	Dr.T.Swaminathan	National Seminar on Solid waste Management in Chemical and allied Industries	RV&JC College Of Engineering Guntur	18-19 August 2006
2.	Dr.T.Swaminathan	International conference on Cleaner technologies and environmental management	Pondichery Engineering College.	4-6,January 2007.
3.	Dr.R.Ramnarayanan	Sneak peak of Rational and combinational approaches to microbial and inorganic electro catalysts in fuel cells.	Anna University College of Engineering CLEANTECH 2006 – National seminar on Electrochemical Techniques for a Cleaner Environment	03.11.2006

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Dr.A.R.Balakrishnan	National Building code and Energy Conservation in Building"	21st-22nd July 2006 Chennai.
2.	Dr.Sreenivas Jayanti	Lecture for a staff development programme	19th July 2006 Velammal Engg. College, Chennai.

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
3.	Dr.DVS Murthy	Instrumental Methods on Pollutant Analysis.	27th October 2006 Aarupadai Veedu Institute of Technology, Paiyanoor.
4	Dr.Shankar Narasimhan	Analysis and design of water distribution network	5th November 2006 NIT,Trichy.
5	Dr.K.Krishnaiah	What is your scale in Chemical Engineering?	17th November 2006 SVU College of Engineering, Tirupati.
6	Dr.P.S.T.Sai	Kinetics of coal Gasification	20th 23rd November 2006 BHEL,Trichy.
7	Dr.T.Panda	Did recent developments in Biotechnology consider issues of Ecology and biodiversity.	25th November 2006 SIT,Tumkur
8	Dr.DVS.Murthy	Hazardous waste Management	8th December 2006 IICHe Chennai.
9	Dr.R.Ravi	An integrated Approach to knowledge and information	22nd December 2006 National Institute of Advanced Studies,Bangalore.
10	Dr.R.Nagarajan	Sono-fragmentation and Sono-blending application in nano particulate technology	18th& 19 th January 2007 RRL, Bhubaneshwar
11	Dr.Shankar Narasimhan & Dr.Arun K Tangirala	Process Control & Analysis	23rd – 25th January 2007 IGCAR, Kalpakkam
12	Dr.R.Ramnarayanan	Problems common to Biology and Energy	26th March 2007 National Centre for Biological Sciences, Bangalore.
13	Dr.R.Nagarajan	Invention of High Frequency Ultrasound for De-Stratification Of cryogenic Liquid stores in Insulated containers.	23rd February ISRO-Thiruvananthapuram
14	Dr.Arun K.Tangirala	Fuel Cells	26th February 2007 Andhra University, Visakhapatnam
15.	Dr.Arun K.Tangirala	Fuel Cell Technology	30th -31st March 2007 IIT Kanpur
16.	Dr.DVS.Murthy	Technology options for a Greater environment	8th-9th March 2007 Mount Zion College of Engineering & Technology, Pudukkottai.

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Dr..R.Nagarajan	Orlando, Florida, USA	23rd-27th April 2007	To present a paper in the Fifth World congress on particle, Technology-"Particle Science &Technology Education & Research at IIT Madras: A Synergistic Approach.
2.	Dr.Sreenivas Jayanti	Germany	8th May-2nd July 2006	Study visit under DAAD Programme.
3.	Dr.R.Nagarajan	Boston,M/a USA	22nd- 24th May 2006	To present a paper in the 17 th Annual IEEE/SEMI Advanced semiconductor Manufacturing conference- "Optimization of ultrasonic cleaning for Erosion-Sensitive Microelectronic components"

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
4	Dr.R.Nagarajan	USA	5th-9th June 2006	To Present a Paper in the 151st Meeting of the Acoustical Society of America-“ Cavitations and /acoustic /streaming in Ultrasonic fields: Applications in Bio Leather- and Chemical Processing”
5	Dr.A.R.Balakrishnan	Sydney, Australia	12th 18th August 2006	13th International Heat Transfer Conference & Editorial Board Meeting of IJHMT & ICHMT (Elevier)
6	Dr.Sreenivas Jayanti	Sydney, Australia	12th-15th August 2006	Editorial Board Meeting of IJHMT & ICHMT(Elevier)
Visits abroad by staff.				
1.	Dr.K.Krishnamurthy	Orlando, Florida USA	23rd-27th April 2006	To present a paper in the Fifth World Congress on Particle Technology.

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
1	Dr.R.Nagarajan Professor	Maurice Simpson Best Paper Award	FEST	Journal Publication	Feb 2007
2.	D.Kareemullah M.S. Scholar	Young Speaker's award	PETROTECH- 2007	Modelling of cross	15-19th Jan 2007

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr.R.Nagarajan	Contamination, ESD Control in High-Technology Manufacturing	J.Wiley	Co-author

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Name of the Academy/ Professional Society	Level	Year of admission
INAE:	A.R.Balakrishnan		Fellow	2003

Journal Editorial Boards

Sl.No	Name of faculty	Position(Editor/Member)	Journal Name.
1.	A.R.Balakrishnan	Editor	International journal of Heat and Mass Transfer
	A.R.Balakrishnan		Internet Communications in Heat And Mass Transfer.
	A.R.Balakrishnan		Journal of Energy, Heat and Mass Transfer
2.	Shankar Narasimhan	Editorial Board Member	IICChE

New facilities added or major equipment procured through project funds:

Sl. No.	Name of Equipment	Value (Rs. in lacs)
1	Filmetric F-20.Thin film thickness analyzer	Rs.8 lakhs by Dr.S.Ramanathan
2	Class 100,10000 clean rooms	Rs.20 Lakhs By Dr.R.Nagarajan
3	Surface particle counter	Rs.24 Lakhs - do-
4	Laser Particle counter	Rs. 10 Lakhs - do -
5	20 Phz Ultrasonic Probe	Rs. 4 Lakhs - do -

Patents filed:

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

4.4.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lacs)	Co-ordinators
1	Monitoring of fine Particulates, Ozone in ambient air and Development of flue Gas control technology for Clean atmosphere in Chennai city	2004-2007	SIDA		Ligy Philip(Civil Engg.) and T.Swaminathan
2	Cr.(VI) removal from Tannery effluents Through microbial remediation	2004-2007	DBT		Ligy Philip K.Chanderraj and T.Swaminathan
3	Monitoring Pesticide residues In environment and Evaluation of health Effects of pesticide exposure	2004-2007	IDRP IIT Madras		V.R.Muraleedharan D.Veeraraghavan and.T.Swaminathan
4	Ultrasonic Dectratification	2004-2006	ISRO	15.00	R.Nagarajan
5	Surface particle Detection	2006-2007	DST	21.00	R.Nagarajan
6	Membrane Development for fuel cells	2006-2008	Naval Research Board	23.00	Abhijit Deshpande Susy Varughese
7	Recycling of printed Circuit board wastes	2006-2008	MHRD	22.00	Abhijit Deshpande Susy Varughese Prathap Haridoss MME) K.C.Harikumar (MME) S.K.Seshadri (MME)
8	Preliminary experimental Evaluation of Photo – catalytic Degradation of Organic chemicals in contaminated sediments.	2007-2010	IIT Madras Start up Grant	5.00	R.Ravikrishna
9	Scaled out solutions to energy	2006-2009	IIT Madras Start up Grant	5.00	R.Ramnarayanan
10	PEM fuel cells Diagnosis	2007-2009	DST	6.49	Shankar Narasimhan

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1	Dr.T.Swaminathan	Odor abatement Strategy	Synthite Industries Coimbatore	0.20

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1.	Dr.R.Nagarajan	Ash Particle frosion	BHEL	8 Lakhs
2.	Dr.R.Nagarajan	Ultrasonic cool wash	BHEL	8 Lakhs

Faculty visit to other Institutions:

Sl.No.	Name of faculty	Name of Institution/orgn	Purpose of Visit	Date & Place
1.	Dr.DVS Murthy	Sathyabama Institute of Science and Technology	To attend a Doctoral /committee Meeting	25th April 2006 Chennai.
2.	Dr. Sreenivas Jayanti	National Chemical Laboratory,Pune	To Present a Project Proposal	20th – 21st April 2006
3.	Dr.PST.Sai	National Institute of Technology, Durgapur	Accrediation Visit	20th – 24th April 2006
4.	Dr.A.Kannan	AC College of technology Chennai	M.Tech Project work Viva-voce Exam.	20th May 2006
5.	Dr.S.Ramanathan	AC College of technology Chennai	- do-	31st May 2006
6.	Dr.T.Panda	Andra University Visakhapatnam	Ph.D Viva Voce Exam.	19th June 2006
7.	Dr.R.Nagarajan	BHEL, Trichy	Research Discussion	11th-12th July 2006
8.	Dr.Kannan	NIT Trichy	Ph.D Viva-Voce Exam	5th July 2006
9.	Dr.S.Ramanathan	AC College of Technology Chennai	Ph.D viva-voce Exam	6th July 2006
10.	Dr.Tanmay Basak	IISc Bangalore	Oral Examination M.Sc (Engg)	17th-18th July 2006
11.	Dr.R.Nagarajan	Aditya Cements Rajasthan	Research Discussion	9th-15th August 2006
12.	Dr.S.Ramanathan	TERI, Bangalore	Evaluating Equipment	10th -11th August 2006
13.	Dr.Tanmay Basak	National Chemical Lab Pune	Research Proposal for DST Meeting	31st Aug- 1st Sep 2006
14.	Dr.Shankar Narasimhan	Naval Materials Research Laboratory, Addl. Ambernath	Review Meeting of fuel Cells	27th & 28th September 2006
15	Dr.A.R.Balakrishnan	IISc.Bangalore	Visit the Dept of Chem.Engg.as UGC Visiting Fellow	28th & 29th September 2006
16	Dr.A.R.Balakrishnan	RRL Jorhat,Assam	To attend 34th Research council Meeting Of RRL	12th & 13th October 2006

Sl.No.	Name of faculty	Name of Institution/orgn	Purpose of Visit	Date & Place
17	Dr.T.Panda	Jawaharlal Nehru Technological University Hyderabad	To serve as an Expert member on the selection Committee for recruitment	24th October 2006
18	Dr.V.S.Ramachandra Rao	IIT Bombay	Ph.D Viva Voce Examiner & Visit Lab.	26th- 27th October 2006
19	Dr.Sreenivas Jayanti	DST-BHEL New Delhi	To attend workshop on Clean coal Technology	26th-27th October 2006
20	Dr.S.Ramanathan	Alagappa College of Technology, Chennai	M.S Viva voce Exam.	26th October 2006
21	Dr.V.S.Ramachandra Rao	IIT Mumbai	To serve as an expert member for the faculty selection committee meeting	6th & 7th November 2006
22	Dr.A.R.Balakrishnan	IIT Guwahati	To serve as an Expert member for the faculty Selection committee meeting	11th&12th Novemebr 2006
23	Dr.T.Panda	Anna University	Meeting of Board studies in Technology	13th November 2006
24	- do -	Thapar Institute of Engineering & Technology Patiala.	Ph.D Viva-voce Exam	13th & 14th November 2006
25	Dr.K.Krishnaiah	IIT Mumbai	To attend a meeting of Academic Deans of all IITs	15th November 2006
26	Dr.Sreenivas Jayanti	BHEL Hyderabad	National Conference on CFD applications in Power and Industry sectors	17th& 18th November 2006
27	Dr.K.Krishnaiah Dr.DVS Murthy	Sathyabama Deemed University	Meeting of Board of Studies	18th November 2006.
28	Dr.Arun K Tangirala	IIT Delhi	Paper Presentation on Modeling, control and Monitoring of pem fuel cells	1st and 2nd December 2006
29	Dr.Abhijit Deshpande	IIT Kanpur	Paper Presentation on Non liner rheology of asphalt	14th & 15th December 2006
30	Dr.A.Kannan	Sathyabama Deemed University	Doctoral Committee Meeting & Ph.D Comprehensive exam	19th to 22nd December 2006
31	Dr.A.Kannan	Anna University	Doctoral Committee meeting	27t December 2006
32	Dr.R..Ramnarayanan	DST/PAC Chemical Engineering	Paper Presentation on Electro generated Chemiluminescence and Particle Imaging Velocimetry of proteins in Microchannels.	14th & 15th December 2006

Sl.No.	Name of faculty	Name of Institution/orgn	Purpose of Visit	Date & Place
33	Dr.R.Ramnarayanan	Mumbai, Madgaon Bangalore	Industrial Visit with Ch04 Batch Students	26th-29th December 2006
34	Dr.S.Ramanathan	Anna University	M.Tech viva Voce Exam	21st December 2006
35	Dr.Arun K.Tangirala	NIT Trichy	Paper presentation on Diagnosis of Oscillations in IMC- based control loops Due to model plant mismatch	5th & 6th January 2007
36	Dr.T.Swaminathan	Pondichery Engg. College, Pondichery	To Chair a technical session and participate in the panel discussion International conference on clear Technologies & Environment Management	4th & 5th January 2007
37	Dr.DVS Murthy	Chennai	To chair a session Seminar on sustainable city Planning and Municipal service	31st January 2007
38	Dr.R.Ramnarayanan	New Enterprise Associates, Bangalore.	Discussion with Ben Mathias and Krishna Kolluri,	14th February 2007

Journal Editorial Boards:

Sl. No.	Name of faculty	Level	Journal
1.	Dr.A.R.Balakrishnan	Associate Editor	International Journal of Heat and Mass Transfer
2.	Dr.A.R.Balakrishnan	Associate Editor	International Communications in Heat and Mass Transfer
3.	Dr.A.R.Balakrishnan	Associate Editor	Journal of Energy, Heat and Mass Transfer
4.	Dr.T.Swaminathan	Member	International Journal of Environment and waste Management.
5.	Dr.R.Nagarajan	Editor	"Journeys" (e-magazine of IIT Madras Alumni Association)
6.	Dr.Srinivas Jayanthi	Sub-Editor	International Journal of Heat and Mass Transfer
7.	Dr.D.V.S.Murthy		

Research Publications:

Total No. of papers published in Refereed National Journals	--	02
Total No. of papers published in Refereed International Journals	--	22
Total No. of papers presented in National Conferences	--	13
Total No. of papers presented in International conferences	--	10

In Refereed National Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1.	P.Balasubramanian R.Nagarajan	Process Optimization based on Taguchi quality loss function Concept"	Journal for NIQR Vol 9, No 1, 2006 pp.29-41

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
2.	R.Nagarajan	"Emerging applications of nano-technology in Agriculture: Boon Or bane?"	Voice of Coromandel Fertilizers, Vol 4, No 1 May 2006 P.P.34-36

In Refereed International Journals:

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
1.	D.Murugan & T.Swaminathan Susy Varughese	Recycled Polyolefin-based Plastic wastes for sound absorption	Polymer-Polymer-Plastics Technology And Engineering 45,7,885-888(2006)
2.	K.Pakshirajan & T.Swaminathan	Continuous biosorption of pb, cu And cd by phanerochaete Chrysosporium in packed Column reactor.	Soils & Sediments Contamination 15(2),187-197 (2006)
3.	Bijan Chaudhury & T.Swaminathan	Lactic acid fermentation in cell Recycle membrane bioreactor	Appl. Biochem and Bio technol 128(2), 171-183(2006)
4.	A.Chitra,& V.R. Muralidharan T.Swaminathan And D.Veeraraghavan	Use of pesticides and its impact On health of farmers in south India	Environment, Health 12(3),228-233 (2006)
5.	H.Y Kim,K.M Yun,CH.Lee and T.Swaminathan	Biofilm structure and extra cellular Polymeric substances in low and high dissolved oxygen Membrane bioreactor	Separations Sci&Technol,41(7) 1213-1230 (2006)
6.	Rahul A.Damodar K.Jaganathan & T.Swaminathan	Effect of DO concentration on biofilm structure and membrane filterability in submerged Decolourization of reactive dyes by thin fil immobilized surface photoreactor using solar irradiation	Solar Energy,81,1-7 (2007)
7.	Rene,Eldon.R,Maliyenkkal, Shihabudeen ,Ligh Philip T.Swaminathan	Back- Propagation neural network for performance prediction in trickling bed air biofilter	International journal of Environment and Pollution 28(3-4) 0957-4352 (2006)
8.	Thilakavathy M Tanmay Basak T.Panda	Simplified approach for developing The rate expression for enzyme-Catalyzed- reaction	Biotechnology Letters 28 (23) 0141-5492 (2006)
9.	Bhattacharya Muduchchanda Tanmay Basak	On the analysis of microwave power and heating characteristics for food Processing : Asymptotes and resonances	Food Research International 39 (10) 0963-9969 (2006)
10.	Vachhani Pramod Raghunathan Shankar Narasimhan	Robust and reliable estimation via Unscented Recursive Nonlinear Dynamic Data Reconciliation	Journal for Process Control 16(10) 0959-1524 (2006)
11.	Y.Nagendra Prasad Ramanathan. S	Role of Amino-acid adsorption Of silica and silicon nitride Surfaces during STI CMP	Electro chemicals and solid state Letters 9(12) 1099-0062 (2006)
12.	S.Balakrishnan& Susy Varughese Abhijit Deshpande	Micellar characterization of saponin from sapindus mukorossi	tenside, surfactants And detergents 43,5,262-268 (2006)
13	B.R.Vijayarangan S.Jayanthi .A.R.Balakrishnan	Pressure Drop Studies on Two Phase Flow in a Uniformly Heated Vertical tube at pressure up to the Critical Point.	International Journal of Heat and Mass Transfer 50,1879-1891 (2007)

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
14	T.Basak S.Roy A.R. Balakrishnan	Effects of Thermal Boundary Conditions on Natural convection Flows within a square Cavity.	International Journal of Heat and Mass Transfer 49,4525-4535 (2006)
15.	T.Basak K.Aparna A.Meenakshi	Effect of Ceramic Support on Microwave processing of porous Food Samples	International Journal of Heat and Mass Transfer 49,4325-4339(2006)
16.	B.R.Vijayarangan S.Jayanti A.R.Balakrishnan	Studies on Critical Heat Flux in Flow Boiling at Near Critical Pressures	International Journal of Heat and Mass Transfer 49,259-268 (2006)
17	V.Ramachandran A.R.Balakrishnan	"Effect of Surface Properties on Boiling Heat Transfer of Ternary Mixtures in Nucleate Pool Boiling	International Heat Transfer Conference, August 14-02-2006,Sydney,
18	Y.Nagendra Prasad S.Ramanathan	"Role of amino –acid adsorption on silicon Nitride surfaces during STI CMP"	Electrochem Solid state Lett.,9(12),(2006) G337-G339
19.	R.Nagarajan	"Use of ultrasonic cavitation in surface cleaning: Mathematical model to relate cleaning efficiency and surface erosion rate",	R.J. institute of Environ.Sci.Technol.,Vol 49,No 2,PP 40-50, October 2006.
20	R.Nagarajan	Cavitation and acoustic streaming in ultrasonic fields: Applications in Bio-leather and chemical Processing	R.et.al.,J. Acoustical society of America ,Vol 119,No 5, May 2006,P3321
21.	Karmee Chandna Chada.A Ravi.R	Kinetics of base-catalyzed transesterification of trilycerides From Pongamia Oil	Journal of the American Oil Society 83(10) 0003-021x (2006)
22.	H.Dubey S.K.Das T.Panda	Numerical Simulation of a fully baffled biological reactor; The differential circumferential averaging Mixing plane approach	Biotechnology and Bioengineering 95(4) 0006-3592 (2006)

In Proceedings of National Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1.	Dr.A.Kannan &Subramnaian M	Light Intensity Distribution of Taylor Vortex Photocatalytic Reactor	JNTU College of Engineering Anantapur ,India	15-16th September 2006
2.	Dr.A.Kannan &Subramaniam,M	Phenol Degradation Batch Studies in a Photocatalytic Reactor	IICChE-Ankaleswar Regional Centre	27-30th September 2006
3.	Dr.A.Kannan &Subramaniam,M	Effect of Gas Addition on Photocalytic Degradation of Phenol	ICCTEM-2007 Environmental Management Pondicherry Engineering College, India	4-6th January 2007
4.	Dr.A.Kannan &Sadilya K.D	Ultrasound-assistated Intensification of solubility	SVU College of Engineering Tirupati, India	17-18th November
5.	Dr.A.Kannan &Sadilya K.D	Enhancement of Solubility using Ultrasound	Indian Chemical Engineering Congress 59th Annual Session, Chemcon 2006.	27-30th December 2006
6.	Dr.A.Kannan &Kurien ,V	CFD Studies on Hysteresis Associated with Natural Convective Heat Transfer in a Cylinder of Unity Aspect Ratio	Z.H .College of Engineering & Technology ,Aligarh Muslim, University U.P India	16-17 September 2006

Sl.No.	Name of faculty	Title	Institution	Period
7.	Dr.A.Kannan &Kurien ,V	Analyzing Natural Convection through Transient Simulation	College of Engineering Trivandrum, Kerala NCTT 2006	17-18th Novemebr 2006.
8.	Dr.A.Kannan &Kurien ,V	CFD Analysis of Multiple Modes of Natural convective Flow patterns inside Vertical Cylinders	Department of Mathematics IITM,	6-8th January 2007
9.	Dr.Kannan &Neeharika.K	CFD Modeling and simulation of Non _newtonian food medium	JNTU College of Engineering Anantapur, India	15-16th September 2006.
10.	Dr.A.Kannan &K.Neeharika	Estimation of Energy Consumption in canned Food Sterilization through CFD simulation	Department of Mathematics IIT Madras	6-8th January 2007
11.	Rejini V.O Dr.Susy Varughese	Thermal and mechanical properties of conducting polyaniline/ethylene Viny/acetate blends with single and mixed dopants.	Poster session of Macro 2006 pune	17-20 December 2006
12.	K.R.Gopi R.Nagarajan	Role of Nano-Ceramic particle additives in Enhancing water Resistance of Ceramic Matrix Composites- a Review	CONCERT 2006 AC College of Technology, Anna University,Chennai, India.	March 16-18 2006
13.	Dr.R.Ramnarayanan	Sneak peak of Rational and combinational approaches to microbial and inorganic Electro catalysts in fuel cells.	Anna University College of Engineering CLEANTECH 2006 – National seminar on Electrochemical Techniques for a Cleaner Environment	November 3-4, 2006

In Proceedings of International Conferences:

Sl.No	Name of faculty	Title	Institution	Period
1.	K.Jagnathan Rahul Ashok Damodar & Dr.T.Swaminathan	Photo catalytic Degradation of Volatile Organic Compounds using mixed Photocatalyst	In proceedings of An International perspective On Environmental and water Resources 2006 New Delhi	18-20 December 2006
2	Rahul Ashok Damodar K.Jaganathan and T.Swaminathan	Degration of Hazadous Pollutants in a Novel Immobilized solar Photoreactor	In Proceedings of An International Perspec- tive on Environmental and Water resources 2006	18-20 December 2006
3.	Vetrimurugan Vinay R.Nagarajan	Experimental studies on heat transfer augmentation Using high-intensity multi Frequency ultrasound	7th International symp. On Transport phenomena Toyama,Japan	4-8, September 2006
4.	R.C.Sivamurthy T.Manisekaran M.Kamaraj R.Nagarajan B.S.Mann	Slurry Erosion on surface Modified Martensitic Stainless Steel.	International Symp. On steels for Automotives, Jamsehdpur, India	Nov.13-16 2006.
5.	Vinay R.Vetrimurugan R.Nagarajan	Enhanced gas –liquid mass transfer in an ultrasonic aerated agitated vessel, Interpreted through Eddy cell and slip velocity Models	7th International Symp on Transport Phenomena Toyamma, Japan	4-8 September 2006

Sl.No	Name of faculty	Title	Institution	Period
6.	K.R.Gopi Khinchi R.Nagarajan	Fabrication of nano-ceramic particles by Using power ultrasound	International Conference on Nanostructured Materials Bangalore India	20-25 August 2006
7.	Dhanalakshmi N.P V.Sivakumar R.Nagarjan	Investigation of high-frequency ,high intensity Ultrasonics as process Intensifier for leather Dyeing process	International conference Advances in Fibrous Materials ,Nonwoven And Technical Textiles (AFINT 2006), Coibatore,India	7-9 August 2006
8.	K.R.Gopi R.Nagarajan S.Mandal	Application of orthogonal fractional Design of experiments to Develop data-based models for erosion of Ceramic liners due to flow and impaction of particle-Laden fluids in cement and coal processing Industry	Gordon Conference on Granular& Granual-Fluid Flow, /queen,s College Oxford, U.K.	23-28 July 2006
9	R.Nagarajan et.al	17th Annual IEEE/SEMI	Advanced Semi – conductor Manu- facturing Conference Boston, M.A	22-24 May 2006
10	R.Nagarjan S.Ramanathan	Particle Science and Technology education& Research at IIT Madras	5th world Congress on Particle Technology, Orlando,FL	23-27 April 2006

Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr.Upendra Natarajan NCL Pune	28th April 2006	To give a Seminar Talk
2.	Mr. Ganesh Guhados, Research Associate Axcelon Biopolymers Corporation London	15th May 2006	To give a Seminar talk
3.	Dr. Suresh Dhaniyala Assistant Professor Clarkson University Postdam,USA	2nd June 2006	- do -
4.	Dr. Chinta Sivadinarayana Senior Research Chemist SASOL	26th June 2006	- do -
5.	Dr.V.Sivakumar General Motors (R&D)	7th July 2006	- do -
6.	Dr. NS.Ramesh Director (R&D) Specialty Materials sealed Air Corporation USA	12th July 2006	- do -
7	Dr.Doraiswami Ramkrishna,Professor Purdue University ,West Lafayette.	14th July 2006	- do-
8.	Dr.Vijay T.John Professor Tulane University, New Orleans	17th July 2006	- do -
9.	Dr.V.Ravichandran Director-Tech Enviro Energy Systems, Chennai	18th October 2006	- do -
10.	Dr.S.Roy Choudhary Naval materials Research Lab Ambernath India	27th November 2006	- do -
11.	Dr. K.Raghunathan Lab Manager,GM India Science Lab	24th November 2006	- do -
13.	Dr. J.Tharakan ,Professor Howard University, Washington DC	1st December 2006	- do -

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
14.	Dr.Sirish Shah, Visiting Faculty	27th December 2006	- do -
15.	Dr.Joseph Antony University of Leeds England	5th January 2007	- do -
16.	Dr.Prabhakar Ranganathan Australian National University Australia	5th January 2007	- do -
17.	Dr.Sridharkumar Narasimhan Norwegian University of Science & Tech (NTNU,Norway)	5th January 2007	- do -
18.	Dr.Ravikanth Pathak Carnegie Mellon University USA	19th January 2007	- do -
19.	Dr.M.Asokkumar University of Melbourne	31st January 2007	- do -
20.	Dr.Narayan Variankaval Merck Research Labs Rahway,NJ USA	15th February 2007	- do -
21.	Prof.Ing. Andreas Seidal-Morgenstern Managing Director, Max.Planck Institute for Dynamics of Complex	21st February 2007	- do -
22.	Dr. Panagiotis (Peter)	14th March 2007	-do-

4.4.5 Other Activities:

- Dr.R.Nagarajan : Nominated as Chairman, R&D by India Affiliate chapter of the Institute Of Environmental Sciences & Technology –Nov.2004
- Dr.DVS Murthy : Expert Committee Member-Tamilnadu Pollution Control Board
- Dr. R. Ramnarayanan : Elected by peer-review to the National Centre for Catalysis Research in February 2007

Inter disciplinary group achievements of the Department

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

Socially relevant activities carried out by the department

- *Development of disposable white clay cups. (Dr.Susy Varughese)

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 level offered in the institute. The major areas of teaching at postgraduate level are:

Transition Metal Inorganic Chemistry	Elect Electrochemistry
Main Group Inorganic Chemistry	Catalysis and Surface Science
Bioinorganic Chemistry	Ph PhPhotochemistry
Solid State Chemistry	Polymer Chemistry
Organometallic Chemistry	Spectroscopy
Analytical Chemistry	Quantum Chemistry
Carbohydrate Chemistry	Co c Comutational Chemistry
Synthetic & Mechanistic	Bioorganic Chemistry
Organic Chemistry	

4.5.2. Academic Programmes:

New courses introduced:

Sl.No.	Course No.	Title	Structure	Faculty
1	CY305	Molecular Architecture and Evolution of Functions	3-0-0-3	T. Pradeep, P. B. Sunilkumar (Physics) M. S. Sivakumar (Appl. Mechanics)
2	CY306	Structure and energetics of biomolecules	3-0-0-3	T. S. Chandra (Biotech) T. Pradeep K. Mangala Sunder

Students on roll :

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Sc.	29	31	-	-	-	60
Ph.D.	24	30	23	26	44	147
Total	53	61	23	26	44	207

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad					
1	Ram Prasad Bora	CY01D008	61 st International Symposium on Molecular Spectroscopy	19. - 23.06.2006 Ohio, USA	IITM
India					
1	P. Koteswaraiah	CY02D020	Indo-Swedish Symposium on Genomics and Proteomics of diabetes	1-2.04.2006 Madras Diabetes Res. Foundation	IITM
2	A. Saieswari	CY03D021	Discussion meeting on Spectroscopy and Dynamics of Molecules & Clusters	30.03 – 01.04.2006 The International Centre, Dona Paula, Goa	IITM

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
3	S. Navaladian	CY02D006	VIII International Conference on Nanostructural Materials	20 – 25.08.06 IISc Bangalore	IITM
4	C M Janet	CY03D020			IITM
5	Biji P	CY04D002			IITM
6	Ch. Siva Kesava Raju	CY02D012	DAE-BRNC Biannual Symposium on emerging Trends in Separation Science & Technology	BARC, Mumbai 29.09. – 01.10.06	IITM
7	M. Gomathi Sankar	CY04D009	Second NOST Symposium for Research Scholars	11– 14.10.07 Intl. College for Girls, Jaipur	IITM
8	Mahalingam S M	CY03D011			IITM
9	M. Sankaran	CY01D012	International Workshop on Hydrogen Energy Production, Storage and Application	3 – 12.11.06 Jaipur	IITM
10	K. Jashuva Victor Paul	CY03D015	XXI Carbohydrate Conference	26 – 29.11.07 Univ. of Delhi	IITM
11	M Mathiselvam	CY05D019			IITM
12	Christy George	CY06D018	National Workshop on Principles & Practice of Advanced NMR Spectroscopy	11 -15.12.07 CECRI, Karaikudi	IITM
13	Samanwita Pal	CY04D035			IITM
14	Nithya N	CY03D002			IITM
15	Saieswari A	CY03D021	Theoretical Chemistry Symposium	11 – 13.12.07 Bharathidasan Univ., Trichy	IITM
16	Manoj Kumar Pandey	CY05D008			IITM
17	Atul Kumar	CY04D032			IITM
18	George F Densingh	CY04D020			IITM
19	Babu K	CY04D044	MACRO 2006 Polymers for Advance Technologies	17 – 20.12.07 NCL, Pune	IITM
20	Vivek A V	CY04D011			IITM
21	Rajendra Kumar K	CY04D047			IITM
22	Kannan M	CY05D012			IITM
23	Everta Keran	CY D003			IITM
24	Dakshinamoorthy D	CY05D040			IITM
25	Kiran Sagar	CY06D002			IITM

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
26	Tanuja	CY06D012			IITM
27	Bharatwaj R	CY03D024			IITM
28	Usharani Subuddhi	CY00P11	Progress on Tunable Lasers for Ultra fast Processes and Applications-2006	21 - 22.12. 06 IITM Chennai	IITM
29	M Pardha Saradhi	CY04D027	Winter School on the Chemistry of Materials	11- 19.12.06 JNCASR, B lore	IITM
30	Anitha C Kumar	CY03D032	National Symposium on Radiation & Photochemistry - 2007	29 -31.01.07 NCUFP, Chennai	IITM
31	Divya O	CY04D007			IITM
			PHOTORADCHEM-2007	8 - 11.02.07 M. G University, Kottayam	IITM
32	Susithra S	CY04D029	National Symposium on Radiation & Photochemistry - 2007	29-31.01.2007 NCUFP, Chennai	IITM
			PHOTORADCHEM-2007	8-11.02.2007 , M. G University, Kottayam	IITM
33	Prasanna Kumar V	CY04D001	National Science Conference	1 – 4.2.07 Univ. of Delhi	IITM
34	Akshaya Kumar Samal	CY05D039			IITM
35	B. Sivaraman	CY05D017			IITM
36	Manoj Kumar Pandey	CY05D008	Current Trends in Solid State NMR Methodology and Practice & 13 th NMRS Meeting	5 – 8.2.2007 NCL, Pune	IITM
37	V. Ramesh	CY01D009	International Conference on Nanomaterials and its Applications	03 – 06.02.2007 NIT Trichy	IITM
38	Kishore P S	CY03D007			IITM
39	Magesh G	CY04D012			IITM
40	J Rajeswari	CY03D018			IITM
41	Krishnendu Biswas	CY03D008	18 th Annual General Body Meeting of Materials Science Research Society of India	12 - 14.2.2007 NPL, New Delhi	IITM
42	Venkateswara Rao Ch	CY02D016			IITM
43	Asiri Naidu	CY04D023			IITM
44	Sreeprasad T S	CY06D009	National Review and Coordination meeting on "Nanoscience and Nanotechnology"	21-24.02.2007 Hyderabad	IITM
45	Habeeb Muhammed	CY05D021	Asia Academic Seminar on "Molecular and Supramolecular molecules with designed function"	NCL, Pune 23 – 28.2.2007	IITM

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1	Ch Siva Kesava Raju	CY02D012	Best Oral Presentation Award	DAE-BRNS Symposium
2	Senthil Kumar K	CY04D050	Best Paper Award (2 nd Prize)	International Symposium on Materials Chemistry held at BARC, Mumbai

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1.	Sayanı Chattopadhyay	CY 04 C028	Academic Distinction	Institute
2.	Kumaravel M	CY 04C010	For the student with the lowest parental Income	R Padmanabhan Memorial Award

4.5.3 Faculty and their activities:

Faculty:

Sl. No.	Name and Qualifications	Major area of specialization (only 3 areas)
Professors:		
1	Archita Patnaik Ph.D (Varanasi)	Physical Chemistry, Chemical Physics Colloid and Interface Science
2	S. Baskaran Ph.D (IITKanpur)	Asymmetric synthesis, Natural product and organometallic chemistry
3	N. Chandrakumar Ph.D (IITK)	Magnetic resonance imaging & spectroscopy; Chem. Physics; Instrumentation
4	R. Dhamodharan Head Ph.D, (Mass,USA)	Chemistry of Macromolecules, Polymers at Surfaces and Interfaces
5	Indrapal Singh Aidhen. Ph.D (Pune)	Synthetic organic chemistry. Synthetic Carbohydrate chemistry
6	D. Loganathan Ph.D (IITB)	Synthetic & Structural Organic Chemistry, Carbohydrate Chemistry and Bio-organic Chemistry
7	K. Mangala Sunder Ph.D (McGill)	Theoretical Solid State Nuclear Magnetic Resonance Theoretical Molecular Spectroscopy
8	A. K. Mishra Ph.D (IITK)	Fluorescence spectroscopy, Physical photochemistry
9	T. Pradeep Ph.D, (IISc, B'lore) Joint with SAIF	Nanomaterials, Spectroscopy, Ion Chemistry, Clusters
10	M. V. Sangaranarayanan Ph.D (IISc, B'lore)	Electrochemistry, Statistical Mechanics
11	S. Sankararaman Ph.D (Canada)	Synthetic and mechanistic organic chemistry
12	P. Selvam Ph.D (IITM)	Solid State and Catalysis
13	M. S. Subramanian Ph.D (IITM)	Analytical and Radio Analytical Chemistry

Sl. No.	Name and Qualifications	Major area of specialization (only 3 areas)
14	M. N. Sudheendra Rao Ph.D (IISc,B'lore)	Main Group Inorganic Chemistry, Hypervalent Silicon systems, Inorganic Heterocycles
15	G. Sundararajan (Late) Ph.D (USA)	Organic Chemistry, Organometallic Chemistry, Polymer Chemistry, Asymmetric Catalysis
16	U. V. Varadaraju Ph.D (IISc,B'lore) Joint with MSRC	Electrode materials for lithium batteries, Luminescence materials Thermoelectric materials
17	T. K. Varadarajan Ph.D (IITM)	Catalysis, Chemical Kinetics, Nanomaterials
18	K. Vidyasagar Ph.D (IISc,B'lore)	Solid-state chemistry
Associate Professors:		
19	P. Bhyrappa Ph.D, (IISc.B'lore)	Bioinorganic Chemistry, Supramolecular Chemistry of porphyrins, and Fullerenes and fullerides
20	N.Narasimha Murthy Ph.D (IISc.B'lore)	Bioinorganic chemistry, Inorganic chemistry Spectroscopy - Inorganic
21	G. Ranga Rao Ph.D (IISc.B'lore)	Heterogeneous catalysis and surface science
22	Sanjay Kumar Ph.D (IIT Kanpur)	Theoretical Chemistry, Quantum Chemistry and Molecular Reaction Dynamics
Assistant Professors:		
23	Amrendra Vijay Ph.D (IISc., B lore)	Theoretical Physical Chemistry and Quantum Mechanics
24	Arti Dua Ph.D (IISc., B lore)	Electrochemistry, Statistical Mechanics
25	Debashis Chakraborty Ph.D (Gottingen, Germany)	Synthetic Organometallic Chemistry
26	Dillip Kumar Chand Ph.D (IIT Kanpur)	Supramolecular Chemistry, Inorganic Chemistry, Metal driven self assembly
27	Muraleedharan K M Ph.D (RRL, Trivandrum)	Medicinal Chemistry, Bioorganic chemistry, Synthetic Organic chemistry
28	Prasad Edamana Ph.D (RRL, Trivandrum)	Kinetics of divalent lanthanides, material chemistry based on dendrimers, and photophysics
29	Rajakumar B Ph.D (IISc., B lore)	Gas phase kinetics and spectroscopy of atmospheric and combustion processes
30	Santosh J. Gharpure Ph.D (IISc Bangalore)	Organic Synthesis, New Synthetic Methods, Asymmetric Synthesis,
31	G. Sekar Ph.D (IIT Kanpur)	Enantioselective organic reactions enzymatic and non-enzymatic kinetic resolutions, total synthesis of biologically active molecules
32	Sundaragopal Ghosh Ph.D (IIT Bombay)	Metallaboranes and Metallacarboranes, Functionalization of Hydrocarbons
Emeritus Professor:		
33	B. Viswanathan Ph.D (IIT Madras)	Surface Science, Materials Science, Catalysis, Physical Chemistry
Scientific Officer:		
34	R. Balachandran Pillai Ph.D (IIT Madras)	Alkylation, Hydrogenation molecular transformation, reactions aof heterocyclic compounds
Pool Officer (CSIR):		
35	Dr. S. Mahalakshmi (Univ. of Madras)	Theoretical Chemistry

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

Sl. No.	Coordinator(s)	Title	Period
Symposia:			
1	G. Sundararajan	Annual IIT Madras Chemistry Symposium & The First Mid-Year Meeting of the Chemical Research Society of India	12 – 13 July 2006
Workshop:			
1	Viswanathan B	Technology Appreciation Program	21.12.2006
Short term Course:			
1	Mangala Sunder K	Computational Chemistry Tools for Chemistry and Materials Science Research	11-24.03.2007
2	B Viswanathan	DST sponsored Orientation Programme on Catalysis for Research Scholars	17.11 – 07.12.2006

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	S. Baskaran	Fundamental of Laboratory Health and Safety and Laboratory Design	Indian Institute of Chemical Technology, Hyderabad	6 – 8.06.2006
2	Chandrakumar N	National Workshop on “One and Two Dimensional NMR Spectroscopy – Theory and Applications”	MKU Univ., Madurai	22 – 23.02.2007
3	K. Mangala Sunder	E-learning for Arts & Science	Bharathiyar University, Coimbatore	26.09.2006
4	K Mangalasunder	Workshop on Teachers Manual in Chemistry (NCERT)	Mysore	31.10.2006
5.	Pradeep T	Nanotechnology for water	MS Swaminathan Research Foundation, Chennai	10-12.10.2006
6	Debashis Chakraborty	Fundamental of Laboratory Health and Safety and Laboratory Design	Indian Institute of Chemical Technology, Hyderabad	6 – 8.06.2006
Seminar:				
1	R. Dhamodharan	Recent Advances in Marine Antifouling Tech	NIOT, Chennai	6 – 8.11.2007
2	R. Dhamodharan	MACRO 2006	NCL Pune	17 – 20.12.2006
3	A. K. Mishra	94 th Session of Indian Science Congress Association	Annamalai University	5 – 7.10.2006
4	Sangaranarayana n M V	Current Trends in Chemistry	Lady Doak College, Madurai	06.02.2007
5	Sundararajan G	MACRO 2006	NCL, Pune	17 - 20.12.2006
6	P. Bhyrappa	National Seminar on Current Developments in Chemistry	Bharathidasan University	18 - 19.01.2007
7	N. N. Murthy	National Seminar on Bioinorganic Chemistry	Providence Women's College, Calicut	18 – 19.08.2006
8	Dillip Kumar Chand	National Seminar on Bioinorganic Chemistry	Providence Women's College, Calicut	18 – 19.08.2006

Sl. No.	Name of faculty	Title	Institution	Period
Symposia:				
1	R. Dhamodharan	Frontiers in Polymer Chemistry	IISc Bangalore	5 – 7.07.2006
2	K. Mangala Sunder	Implications and Implementation Strategies for the NKC Recommendations on Distributed Educational Opportunity	New Delhi	18 – 19.8.2006
		Solid State NMR Symposium, Nuclear Magnetic Resonance Spectroscopy – 2007	NCL, Pune	05.02.2007
		Spectroscopy and Dynamics of Molecules and Clusters	Corbett National Park, Uttaranchal	23 -25.2.2007
3	Pradeep T	National symposium on nanoscience and nanotechnology	Stella Maris College, Chennai	24.01.2007
		1 st UK-Indo symposium on chemical sciences	University of Delhi	01.02.2007
		9 th National Symposium in Chemistry	Univ. of Delhi	01– 04.02.2007
		Nanoscience & Nanotechnology 2007	Hyderabad	21.02.2007
		JST-JSPS Asia Academic Seminar	NCL, Pune	24.02.2007
4	M V Sangaranarayana n	9 th National Symposium in Chemistry	Univ. of Delhi	01– 04.02.2007
		VIII International Symposium on Advances in Electrochemical Science and Technology	National Institute of Oceanography, Goa	27 – 30.11.2006
5	G. Sundararajan	Frontiers in Polymer Chemistry	IISc Bangalore	5 – 7.07.2006
		9 th National Symposium in Chemistry	Univ. of Delhi	01– 04.02.2007
7	Bhyrappa P	XXI IUPAC Symposium on Photochemistry	Kyoto University, Kyoto Japan	2 - 7.042006
		Chemical research society of India, CRSI-meeting	IIT-Madras	4 - 6.06.2006
		EUROPT(R)ODE VIII conferenc	Tubingen, Germany.	02 – 05.04.2006
8	Sanjay Kumar	Meeting on spectroscopy and dynamics of molecules and clusters	TIFR, Mumbai	29.03 – 02.04.2006
		Theoretical Chemistry Symposium	Bharathidasan Univ.	11 – 13.12.2006
		National Symposium on Computational Chemistry	IIITM, Trivandrum	14 – 15.12.2006
9	Edamana Prasad	National Symposium on Radiation and Photochemistry	SERC, Taramani	29 – 31.01.2007
Conference:				
1	Archita Patnaik	International Conference on "Frontiers in Nanoscience Technology & Education	CUSAT Cochin	16 – 18.08.2006
2	Indrapal Singh	Recent Developments in Carbohydrate Chemistry	Univ. of Delhi	26 – 29.11.2006
3	Loganathan D	Recent Developments in Carbohydrate Chemistry	Univ. of Delhi	26 – 29.11.2006
4	Mangala Sunder K	First Asian Spectroscopy International Conference	IISc Bangalore	29.01 – 02.02.2007

Sl. No.	Name of faculty	Title	Institution	Period
5	Mishra A K	20 th Annual Conference of Orissa Chemical Society	Berhampur Univ., Orissa	16 -17.12.2006
6	Pradeep T	International Conference on Nanoscience and Nanotechnology	Chennai	28.08.2007
		2 nd JNC Conference on Chemistry of Materials	Kollam	28 - 31.10.2006
7	K Vidyasagar	JNC Research Conference on the Chemistry of Materials	JNC Research Centre, Bangalore	29 - 31.10.2006
		National Conference in Chemistry 2006	Bangalore University	27-29.09.2006
8	P Selvam	International Conference on Nanomaterials for Electronics	Pune	17 – 19.11.2006
9	Sanjay Kumar	XVI National Conference on Atomic and Molecular Physics	TIFR, Mumbai	8 – 11.01.2007

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Baskaran S	Stereoselective synthesis of biologically active molecules	Bi-Decennial celebrations Pondicherry Univ.,	12.10.2006
		Stereoselective synthesis of biologically active molecules	Pondicherry University	12.12.2006
2	Dhamodharan R	Frontiers in Polymer Chemistry 1. Principles of CRP 2. Material Synthesis by CRP 3. Application of ATRP Towards the Modification of Flat and Particulate Surfaces	IISc, Bangalore	05.07.2006 to 08.07.2006
		"Possible Origin of Biofouling" In Recent Advances in Marine Antifouling Technology	NIOT, Pallikaranai	06.07.2006
		Post-Synthesis Surface Modification of Nanoparticles via Polymer Brushes" In Macro 2006	NCL, Pune	17-20.12.2006
		Copper Catalyzed Ambient Temperature ATRP of Acrylates and Styrene	I.I.T. Bombay	21.12.2006
		Recent Developments in Controlled Radical Polymerizations	Anna University, Chennai	01.02.2007
		Nanoparticles and Stabilization of Nanoparticles – Current Trends	KCT, Coimbatore	02.03.2007
		3	Indrapal Singh	Acylanion based New Strategy for the Synthesis of 2-Deoxy-C-aryl Nucleosides and Surprises
4	Loganathan D	Chemoenzymatic Transformation of Carbohydrates using Glycosidases and Inorganic Solid Acids as Green Catalysts	CNRS, Grenoble France	06.06.2006

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
5	Mangala Sunder K	Technology Enhanced Teaching and Learning.	Education Technology Cell, Bharatidasan University Tiruchy	20.06.2006
		Technical Education using Multimedia and the Internet through WWW.	Visweswaraiiah National Institute of Technology (VNIT), Nagpur	29.06.2006
		National Programme on Technology Enhanced Learning.		
		Ab Initio and Computational Chemistry	Lady Doak College, Madurai	19.01.2007
6	Mishra A K	Current Trends in Chemistry	Lady Doak College, Madurai	6.02.2007
7	Sangaranarayanan M V	Cyclic Voltammetry-Some new insights	Madurai Kamaraj Univ.	08.11.2006
		Underpotential Deposition of metals		
		Electrochemical supercapacitors		
		Analysis of charge transfer processes at electrochemical interfaces	Lady Doak College Madurai	05.02.2007
		Thermodynamic Analysis of electron transfer processes	Avinashilingam University for women Coimbatore	26.03.2007
8	Sankararaman S	Shape persistent Acetylenic Macrocycles and Dendrimers	IGCAR, Kalpakkam	04.05.2006
		Application of organic molecules in molecular electronics and photonics	D. G. Vaishnav College for Women, Chrompet	25.09.2006
		Application of organic molecules in molecular electronics and photonics	Vivekananda College, Mylapore	27.09.2006
9	Selvam P	Nano-materials in Ordered Porous Solids International Conference on Nano-materials for Electronics	NCL Pune	27-29.11.2006
		Nano in Nano	IIT- GUWAHATI	18.12. 2006
		Nano and Nano	Anna University	22.01.2007
		Structure of Solid State Materials		23.01.2007
		Nanomaterials in Nanoporous Solids	Anna University, Chennai	30.03.2007
10	Sundararajan G	Olefin Metathesis reaction	UGC refresher course Madurai Kamaraj Univ.	18.11.2006
11	Varadaraju U V	Electrode materials for Secondary Lithium Batteries	Meenakshi, College, Chennai	Sept, 2006
		Thermoelectric Materials	DMS College, Goa	March, 2007
		Technology Trends & Industry Applications of LEDs	Crompton Greaves Ltd., Mumbai	08.02.2007
12	Vidyasagar K	Metal Phosphonates: A Class of Organic –Inorganic hybrid materials	Central College, Bangalore	29.09.2006

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
13	Viswanathan B	Valedictory address of the symposium on Green Chemistry	SRM Deemed University	07.04.2006
		Catalysts for Diesel Emission exhaust Control National meeting on Current Opportunities and New Directions in Catalysis	BIT Bngalore	08 - 10.2.2007
		Development in concepts and practice of catalysis		
		Carbon dioxide reduction catalysis for Fuels and chemicals National meeting on Current Opportunities and New Directions in Catalysis		
		Options for hydrogen storage the current statu	CGCRI	29 - 31.01.2007
		Architecturing of carbon nanotubes based electrodes	RRL Bhubaneswar	18 - 19.01.2007
		Development of electro-catalysts for fuel celll applications	IIT Delhi	01- 02.12.2006
		Strategies for the design and fabrication of membranes for fuel cells		
14	Bhyrappa P	Sterically hindered Zn(II)-porphyrin mesogens: Syntheses and their shape-selective ligation properties	BharathiarUniversity, Coimbatore	18,19-1-2007
15	Ranga Rao G	Surface Chemistry of Sm films on Ru(001) crystal	Department of Chemical Physics, Fritz-Haber-Institut der Max-Planck-Gesellschaft, Faradayweg, Berlin, Germany	30.06.2006
		Rare earth oxides and PILC materials for catalysis	Institut für Chemie, Humboldt-Universität zu Berlin, Germany	04.07.2006
		Water adsorption on Si(100)-H surfaces studied by IRRAS method	Lehrstuhl für Physikalische Chemie II, Universitaet Erlangen-Nürnberg, Germany	10.07.2006
		Solid state and catalytic studies on CeZrO and PILC materials	Department of Physics and Advanced Materials, University of Augsburg, Germany	20.07.2006
		Characterization and catalytic studies on CeZrO solid solution and PILC materials	Institut für Technische Chemie, Technische Universität München, Gernmay	27.07.2006
		Nanochemistry : A perspective	M.A.M.O College, Mokkalam, Calicut	23.02.2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
16	Sundaragopal Ghosh	Role of transition metals in Metallaborane Chemistry	IIT Bombay	07.07.2006
		Role of transition metals in Metallaborane Chemistry	CSMCRI, Bhavnagar	10.07.2006
		Hypo electronic Metallaboranes of the Earlier Transition Metals: Metallaboranes beyond 12-vertex?	IIT Kanpur	08.08.2006
		Hypoelectronic Metallaboranes of the Earlier Transition Metals: Role of transition metals in Metallaborane Chemistry	I.I.Sc Bangalore	14.08.2006
		Hypoelectronic Metallaboranes of the Earlier Transition Metals. Metallaboranes beyond 12-vertex?	IIT Kanpur	07.09.2006
		Hypoelectronic Metallaboranes of the Earlier Transition Metals. Role of transition metals in Metallaborane chemistry	IISc Bangalore	14.09.2006
		Hypoelectronic Metallaboranes of the Earlier Transition Metals. Metallaboranes beyond 12-vertex?	Presidency College Kolkatta	18.12.2006
		Hypoelectronic Metallaboranes of the Earlier Transition Metals. Role of transition metals in Metallaborane chemistry	IACS, Kolkotta	19.12.2006

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	Baskaran S	Taiwan	8 – 11.01.2007	Member of the Indian delegation and participated in Joint Workshop on "Frontiers of Organic Chemistry"	DST
2	Indrapal Singh	Whistler, Canada	23 – 28.07.2006	XXIII International Carbohydrate Symposium	IIT M
3	Loganathan D	France	15.05 – 13.06 2006	To carry out collaborative research	IFCPAR, New Delhi
4	Mangala Sunder K	Carnegie Mellon Univ., Pittsburgh USA	06 – 17.09.2006	Adaptive implementation of OLI Project	Project Fund
5	Pradeep T	Houston, USA	25 – 27.02.2007	Nanotechnologies for water, meeting in Rice Univ.	NSF, Rites Univ., Houston
6	Sangaranarayanan M V	Germany	8.06.2006- 8.08.2006	Research	Alexander von Humboldt Foundation

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
7	Sankararaman S	Germany	06.06.2006 to 26.07.2006	Collaborative research work at University of Braunschweig under Alexander von Humboldt Fellowship	Alexander von Humboldt Foundation
		Germany	22 - 31.01.2007	To deliver lecture at Max-Planck Institute for Polymer Research, Mainz & visit to Universities of Braunschweig and Gottingen	MPIP-Mainz
8	Selvam P	Tao Yuan Country, Taiwan	11 - 12.12.2006	Invited Talk in the Taiwan-India Conference on "Nanomaterials "	Lunghwa University of Science and Technology, Taoyuan, Taiwan
9	Sundararajan G	France	20.09 - 04.10.2006	Symposium to honour Chemistry Nobel Laureates - 2005, Lyon - France. Visit to Universities at Rennes, Bordeanux, France & Manchester, England	IITM
		Dhaka, Bangladesh	07.12. - 11.12.2006	Ro deliver lecture at Bangladesh Chemical Congress 2006	PCF
10	U V Varadaraju	France	20.10. - 10.01.2007	Visiting Professor in CRISMAT Lab at Caen	IFCP
11	Viswanathan B	Tao Yuan Country, Taiwan	11 - 12.12.2006	Invited Talk in the Taiwan-India Conference on "Nanomaterials "	Lunghwa University of Science and Technology, Taoyuan, Taiwan
12	Ranga Rao G	Germany	01.06.2006 to 31.07.2007	DAAD Research visit	DAAD-IITM
13	Bhyrappa P	Kyoto Univ., Japan	2- 7.04.2006	XXI IUPAC Symposium on Photochemistry	JSPS, Japan
		Tubingen, Germany.	2- 5.04,2006	EUROPT(R)ODE VIII conference	
		Japan	01.07.05- 30.04.06	JSPS Invitation Fellowship	

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Honours:					
1		Member, Board of Studies	Goa University, Goa	Member, Board of Studies,	Jan. 2006 - Dec. 2008.

	Selvam P	Chairman	4 th National Symposium of Solid State Chemistry and Allied Sciences, Goa,	Poster session,	December 1-3, 2005.
		Biography in the Marquis Who'sWho in the World	Marquis Who's Who, U.S..A.	Biography	22 nd & 23 rd editions, 2005-2007
2	U.V. Varadaraju	Fellow of IUPAC	IUPAC	Contribution to Materials Science Education	October, 2006
ii. Awards:					
1	Sangaranarayanan M V	CRSI Bronze medal	Chemical Research Society of India	Contributions to Chemistry	1.02.2007
2	Sundararajan G	CRSI Bronze medal	Chemical Research Society of India	Contributions to Chemistry	1.02.2007

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Sankararaman S	Pericyclic Reactions: A Textbook. Reactions, Applications and Theory	Wiley-VCH, Weinheim	with a Foreword written by Nobel Laureate Prof. Roald Hoffmann
2	T. Pradeep	Nano The Essentials: Understanding Nanoscience and Nanotechnology	McGraw-Hill Education	Author
3.	Viswanathan B	Fuel Cells Principles and Applications	The University Press	M. Aulice Scibioh
4.	Viswanathan B	Structure and Properties of Solid State Materials	Narosa Publishing House	
5	Viswanathan B	Electrochemistry – Second Edition	S Viswanathan Publishers	Raghavan P S
6	Viswanathan B	Photo/Electrochemistry & Photo Biology in the Environment, Energy an Fuel	Research Sign Post	Kaneco S Funasaka K
7	Muraleedharan K. M.	Parasitic diseases: Advances in the discovery of new anti-malarials:	Elsevier	Muraleedharan K. M and Mitchell A. Avery
		Invited Book chapter for Comprehensive Medicinal Chemistry-II, Vol. 7, November 2006;		

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	P. Selvam	Member	Bull. Catal. Soc. India
2	U.V. Varadaraju	Member	Bulletin of Material Science
3	Muraleedharan K. M.	Editorial advisory board member	Recent patents on anti-infective drug discovery
4	T. Pradeep	Member of Editorial Board	Asian J. of Spectroscopy
		Member of Editorial Board	Oriental Journal of Chemistry

4.5.4 Design and Development Activities:

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

Prof. Sankararaman:

- Based on the process developed in our laboratory for the synthesis of a metal-free phosphate-binding agent we have been able to transfer the technology to an industry. The product is now commercialized in the name FOSEAL[®].
- We have developed a lab scale process for the conversion of water based natural dye extracts into free flowing powder. The powder form of these natural dyes has long shelf life and is easy to handle and transport. Natural dyes are commercially important and have a huge export market.

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1	Sorptometer	20.00
2.	Chemisorption/TPx unit	10.00
3	QTrap Tandem Linear Ion Trap Mass Spectrometer	

Patents:

Patents filed:

Sl. No.	Name of faculty	Topic of patent
1	Chandrakumar N (and V. Ramesh)	Method of 2D-NMR correlation spectroscopy with double quantum filtration followed by evolution of single quantum transitions
2	Pradeep T	An optical material exhibiting the highest known laser damage threshold, an optical limiting device using the same and a method of preparation thereof, Application No: : 1273/CHE/2005,
3	T. Pradeep (and C. Subramaniam)	Manufacture of single walled carbon nanotubes providing visible emission for imaging of nanostructure, No. 421CHE/2006, 09.03.2006.
	Pradeep T (PCT Patent)	Extraction of malatheon and chlorpiryphos from drinking water by nanoparticles adsorbent composition, a device and a method for decontaminating water containing pesticides, PCT application, PCT/IN05/0002.
4	Viswanathan B, Indraneel P and Varadarajan T K	Speciality Carbon from Botanical Sources
5	Viswanathan B, Arun Tangarila, Vasu G and Dhathatreyan K S	External humidifier system for PEMFC
6	Y. Inoue, V. V. Borovkov, P. Bhyrappa	A Method for Determining the Absolute Configuration of Chiral acids

Patents awarded:

Sl. No.	Name of faculty	Topic of patent
1	Indrapal Singh Aidhen	A process for the efficient synthesis of (2S, 3R) – 2 – O – Benzyl-3, 4-O- Isopropylidene-D-Erythritol, Indian Patent Application No.543/MAS/2002 (Granted, Jan. 2007)
2	Mishra A K	A Fluorometric device for in situ Estimation of Adulterants in Liquid Petroleum Products
3	Pradeep T	A method of preparing purified water from water containing pesticides (chlorpyrifos and malatheon) and purified water prepared by the said method, Indian patent D-CHE/0561, June 2, 2006.

4.5.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinator(s)
1	Novel asymmetric synthesis of Glycosidase inhibitors	3 years	CSIR	9.46	Baskaran S
2	Synthetic efforts towards a new class of Lipophilic Spacers in the field of Heparinoid Mimetics	3 years	CSIR	09.96	Indrapal Singh
3	Synthesis & Structural Studies of N-glycoprotein Analogs	3 years	Indo-French Centre for the Promotion of Advanced Research (IFCPR), New Delhi	54.32	D. Loganathan (IIT M) and A. Imberty & S. Perez (CNRS, Grenoble)
4	Development of a portable fluorescence based fibre-optic sensor for polycyclic aromatic compounds in liquid media	3 years	MHRD	15.00	Mishra A K
5	Molecular and ionic chemistry at ice surfaces	3 years	DST	108.5	Pradeep T
	Fundamental studies on thermal conductivity of nanofluids	3 years	DRDO	19.0	
	Thermal and electrical conductivity of nanofluids	3 years	DST	9.00	
	DST Unit on Nanoscience	3 years	DST	900.00	
6	Analysis of Underpotential Deposition of metals.	3 years	CSIR	10.53	Sangaranarayanan M V
	Analysis of charge transfer processes across liquid/liquid interfaces	3 years	DST	11.04	
7	Synthesis, structure and reactivity studies on shape persistent macrocyclic silacyclines.	3 years	DRDO	23.00	Sankararaman S
	Synthesis of Acetylenic Macrocycles: Model Systems for Graphyne Substructures.	3 years	CSIR	12.00	
8	Research on New Materials used for Energy Storage	1 year	IFCPAR	16.73	Varadaraju U V
	Development of colorants	3 years	CSIR	52.2	
9	Centre for Catalysis Research	5 years	DST	1655.00	Viswanathan B
10	Development of Membranes for Fuel Cell Applications	2 years	MNES	23.40	Varadarajan T K Viswanathan B
11	Porphyrins with mixed substituted porphyrins: synthesis and their properties	3 years	CSIR	10.98	Bhyrappa P
	Synhtesis and properties of novel fullerene-porphyrin donor-acceptor complexes	2 years	DRDO	14.38	

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinator(s)
12	Dialkylphosphonates and pyroosphonic acid: New precursors to metallophosphonate derivatives	3 years	CSIR	09.46	Debashis Chakraborty
	Metallo-phosphonoamides and phosphonates: Synthesis, structural characterization and some exploratory investigations	3 years	DST	19.00	
13	Enantio and diastereoselective addition of allylorganometallics onto carbonyl compounds: Application to the total synthesis of balanol	3 years	CSIR	10.46	Santosh J Gharpure
	New Methods for the synthesis of cyclic ethers based on the vinylogous carbonates	3 years	DST	23.99	
14	Metallacarboranes via alkenyl fischer carbene complexes	3 years	CSIR	12.96	Sundaragopal Ghosh

RBIC projects: (on going & new)

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Santosh J Gharpure	Synthesis of Grilbond G1701	SRF Limited	5.00
2	U.V. Varadaraju	Investigation of New type of Ionic Liquid Electrolytes	Motorola	9.40
3	Pradeep T	Nanoparticles for cosmetic applications	M/s International Exclusives	0.25

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	R. Dhamodharan	Treatment of Tannery Wastewater	KKSK Leather Processors, Erode	1.0

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

Post Doctoral Fellow under Indo German CEP 2005- 06 Programme:

Sl. No.	Name of the visitor	Institution	Period	Purpose
1.	Dr. Thomas Utsching	Institute of Molecular Science, National Institute of Natural Science, Japan	18 – 22.10.2006	Collaborative work

Faculty members participation with other institution under MoU:

Sl. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
1	Dr. Loganathan D	For initiating a program on "Medicinal Chemistry" through an endowment of Rs.2.10 Crores	Astra Zeneca Research Foundation, Bangalore

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	...	15
Total No. of papers published in Refereed International Journals	...	109
Total No. of papers presented in National Conferences	...	37
Total No. of papers presented in International conferences	...	09

Details:

In Refereed National Journals:

1. P. Bhyrappa, M. Sankar, B. Varghese and P. Bhavana^o meso-Tetrathienyl- porphyrins: Steady state emission and structural properties' Journal of Chemical Sciences 2006, 118, 393-397.
2. S Deepa and Ashok K Mishra⁺ Synchronous Fluorescence Spectroscopy and its Applications ISRAPS Bulletin, 18 (1 & 2), 4 – 8 (2006)
3. Maiyalagan T, Viswanathan B, Template synthesis and characterization of well-aligned carbon nanotubes by carbonization of polyparaphenylene Indian Journal of Chemistry, Section A - Inorganic bio-inorganic physical theoretical & analytical chemistry 45 (4): 839-844 apr 2006.
4. M.Sankaran and B.Viswanathan, A DFT study of the electronic property of gold nanoclusters (Aux , x =1-12 atoms, Bulletin of the Catalysis Society of India, 5 (2006)26-32.
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9. T.Maiyalagan, B.Viswanathan and U.V.Varadaraju, Fabrication and Characterization of uniform TiO₂ nanotube arrays by sol gel template method, Bulletin of Material Science 29(006)705
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In Refereed International Journals:

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- 2 Digambara Patra, Ashok Kumar Mishra* *Chemical and Biochemical Fluorescence Sensors Encyclopedia of Sensors*, Vol 2, Eds. C. A. Grimes, E. C. Dickey and M. V. Pishko, American Scientific Publishers, California, USA, 139-156 (2006)
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- 109 V. R. Rajeev Kumar and T. Pradeep, Polymerization of benzyl thiocyanate on silver nanoparticles and the formation of polymer coated nanoparticles, J. Mat. Chem., 16 (2006) 837-841.

In Proceedings of National Conferences:

1. Search for Alternate Materials for Fuel Cells by B. Viswanathan, IIT Madras, One Day Seminar on "New Directions in Materials Research" at SRI Guest House Auditorium, on September 09, 2006 (Saturday), Jointly organized by IIM Kalpakkam and IIM Chennai Chapters.
2. Petrotech federation of India, The prospects of fuel cells - scientific dream or a reality? B.Viswanathan special lecture for petrotech federation on 18th September 2006.
3. Changing faces of Chemistry, B.Viswanathan, key note lecture at the seminar on Recent Trends in Chemistry, at Jayaraj Anna packiam College for women Periyakulam on 27-28th September 2006.
4. Scientific Glass blowing today and tomorrow, B.Viswanathan special lecture at the 15th National Glass blowing seminar held at IIT Madras on 6th July 2006.
5. V.Gollangi, A.K.Tangirala, B.Viswanath and K S Dhathathreyan, Effect of residence time and humidifier temperature on relative humidity of hydrogen in a bubble humidifier – an experimental study to be presented in chemcom 2006.
6. P. Satyananda Kishore, B.Viswanathan and T.K. Varadarajan, generation of Pt/C and Pt-Ru/C electrocatalysts in presence of polyoxometalates, paper presented in the Indo Taiwan conference December 11-12 (2006)
7. L. Hima Kumar, B. Viswanathan and S. Srinivasa Murthy, dehydrating behaviour of $LiAlH_4$ – the catalytic role of carbon nanofibers, International workshop on hydrogen energy, Jaipur Nov 2006.
8. Ch Venkateswara Rao, B.Viswanathan and U.Varadaraju, the ORR activity of polyol reduced platinum on carbon electrodes – role of crystal planes on activity, Taiwan-India conference on Nano-materials Dec 2006.
9. M.Sankaran, B.Viswanathan and S.Srinivasa murthy, Hydrogen storage in boron substituted carbon nanotubes, International workshop on hydrogen energy, Jaipur Nov 2006.
10. M.Sankaran, B.Viswanathan and S.Srinivasa murthy, Hydrogen storage in boron substituted carbon nanotubes, International workshop on hydrogen energy, Jaipur Nov 2006.
11. B.Viswanathan and Ch.Venkateswara Rao, Development of electrocatalysts for fuel cell applications, Presented in National Seminar on Challenges in Fuel Cell Technology: India's Perspective., IIT Delhi, December 1-2 (2006).
12. B.Viswanathan, Nano scale decoration of noble metals on carbon supports, Indo Japan workshop held at Hyderabad, December 4-5 (2006)
13. S.Navaladian, B.Viswanathan, R.P.Viswanath and T.K.Varadarajan, Synthesis of single crystalline Ag nano particles by thermal decomposition method, (ICNSNT2006) University of Madras, Chennai Aug 26-27 (2006).
14. S.Navaladian and B.Viswanathan, Synthetic strategies of metal and metal oxid anomaterials (NSMCA-2006) Alagappa University Karaikudi, December 14-15 (2006)
15. G. Magesh, B. Viswanathan, R.P. Viswanath, T.K. Varadarajan, 'Visible light photocatalytic activity of Ce modified TiO_2 nanoparticles for methylene blue decomposition', International Conference on Nanomaterials and its Applications (ICNA-2007) (Poster presentation), February 4th - 6th, 2007, NIT Trichy India.
16. B.Viswanathan, Synthetic strategies for nano materials in Spectroscopy in Nano materials conference, at Kongunadu College of arts and Science, Coimbatore on 4th January 2007.
17. J. Rajeswari, B. Viswanathan and T. K. Varadarajan, Tungsten trioxide nanorod - carbon nanotube composites as supports for platinum electrocatalyst in methanol oxidation, NIIT Tiruchi conference

- 18 P. Satyananda Kishore, B. Viswanathan and T. K. Varadarajan, „One-Pot Synthesis of Polypyrrole-Silver nanoparticle Composite by using Polyoxometalates as Redox switch, NIIT conference in Tiruchi.
- 19 B. Viswanathan & M. Helen, “Strategies for the design and fabrication of membranes for fuel cells,” in National seminar on challenges in fuel cell technology: India’s perspective, at IIT Delhi on 1st & 2nd Dec.2006.
- 20 S. Chandravathanam, B. Viswanathan, T.K.Varadarajan, 'Application of Nanomaterials in Safety, Security and Defense', in a National Seminar on 'Recent Trends in Chemistry' on 27 - 28th September, at Jeyaraj Annapackiam College for Women, Affiliated to Mother Teresa University, Periakulam.
- 21 Bhyrappa, P., C. Arunkumar and B. Varghese, “Sterically hindered Zn(II)-porphyrin mesogens: Syntheses and their shape-selective ligation properties” An invited lecture for the National Seminar on Current Developments in Chemistry (NSCDC-07) at the Bharathiar University, Coimbatore during January 18,19, 2007.
- 22 Jena, K. C., Sankar, M., Bisht, P. B., Bhyrappa, P. “Effect of substituents on optical nonlinearity in meso-tetraphenylporphyrin derivatives” An oral presentation at the first mid-year CRSI-meeting held on June 2006, IIT-Madras
- 23 Bharathwaj, R; Dhamodharan, R , Synthesis of Polymer–Clay Nanocomposites Using Ambient Temperature ATRP of Methacrylates From Magnesium Phyllosilicate Surface. . MACRO-2006, Society for Polymer Science, India, Dec. 17th-20th, 2006, NCL, Pune, India.
- 24 Vivek A. V.; Dhamodharan R.Vivek , Experimental Investigation Of Swelling Behaviour Of Amphiphilic Polystyrene-g-Poly(N,N-Dimethylamino-2-Ethyl Methacrylate) Synthesized Via Room Temperature ATRP. MACRO-2006, Society for Polymer Science, India, Dec. 17th-20th, 2006, NCL, Pune, India.
- 25 Vivek A. V.; Dhamodharan R. , Investigation of Metal Catalyzed “Living” Radical Polymerization of Styrene At Moderate Temperature Using Functional Initiators. MACRO-2006, Society for Polymer Science, India, Dec. 17th-20th, 2006, NCL, Pune, India.
- 26 Babu, K.; Raghuraman, G. K.; Dhamodharan, R. .Surface Modification of Stober’s Silica by Ambient Temperature ATRP of Benzyl Methacrylate. MACRO-2006, Society for Polymer Science, India, NCL, Pune, India.
- 27 Mukundamurthy, Kannan; Dhamodharan, R. , Multi Arm Star-Polymer Synthesis via Radical Reversible Addition-Fragmentation Chain Transfer Polymerization. MACRO-2006, Society for Polymer Science, India, NCL, Pune, India.
- 28 Rajendrakumar, K.; Dhamodharan, R. ,ATRP of Benzyl Methacrylate and Substituted Benzyl Methacrylates. MACRO-2006, Society for Polymer Science, India, NCL, Pune, India.
- 29 Dhamodharan, R , Strategic Management of Environmental Pollution – Few Examples from the Hostels of IIT Madras. . in “Strategic Management of Environmental Pollution” a National Conference held on 03.03.2006 at Mahalingam College of Engg. and Technology, Pollachi, India.
- 30 Dhamodharan, R , ATRP and RAFT As Tools for the Synthesis of Polymers With Well Defined Architecture – Our Attempts. . Polymer 2006, Society for Polymer Science in India and IACS, Calcutta, 2006.
- 31 Kannapiran Rajendrakumar and R. Dhamodharan , Atom Transfer Radical Polymerization of p-(Me,Cl) Benzylmethacrylates. . Polymer 2006, Society for Polymer Science in India and IACS, Calcutta, 2006, Pp 89-90.
- 32 Mukundamurthy Kannan and R. Dhamodharan., Synthesis of Polystyrene Three arm Star-via Radical Reversible Addition-Fragmentation Chain Transfer (RAFT) Polymerization. Polymer 2006, Society for Polymer Science in India and IACS, Calcutta, 2006, Pp 77-78.
- 33 Manjunath, B N.; Aidhen I.S, Unusual product from the reaction of 1,2:3,4:5,6-Tri-O-isopropylidene-D-Gluconolactone with Benzothiazol-2-ylmethylsulfone under Julia conditions.. Annual IIT Madras Chemistry Symposium & First mid year meeting of Chemical Research Society of India, Chennai, India, July 12-13, 2006.
34. Mahalingam, S.M; Aidhen, I.S. , Expedient, simple and general synthesis of Aryl-1, 2-Azoles: α Aroylacetones as precursors. Annual IIT Madras Chemistry Symposium & First mid year meeting of Chemical Research Society of India, Chennai, India, July 12-13, 2006.
35. Sivaraman Balasubramaniam; Aidhen, I.S , Synthesis of Mono-Protected α -Aidhen, I.S, Diketones using synthetic equivalent based on Weinreb amide functionality.. 9th Chemical Research Society of India, Delhi, India, February 1-4, 2007
36. Aidhen, I.S, Novel and Unusual Reactivity of α -aminonitriles en-route synthesis of 2-Deoxy-C-aryl-nucleosides., Nov. 26-29, 2006 at CARBO XXI, Department of Chemistry, University of Delhi.

37. "Intramolecular of Vinylogous carbonates for stereoselective construction of cyclic ethers", U Vijayasree, M K Shyukla and S J Gharpure, Annual IIT Madras Chemistry Symposium & The first Mid Year Meeting of the Chemical Research Society of India, 12-13 July, 2006, IIT Madras, India

In Proceedings of International Conferences:

- 1 Bhyrappa, P., Borovkov, V. V., Inoue, Y. "Supramolecular Chirality Induction in Ethane-Bridged Bis-Octaethylporphyrin by Chiral Acids" an oral presentation at the XXI IUPAC Symposium on Photochemistry held on April 2-7, 2006 in Kyoto, Japan.
- 2 Dhamodharan, R. , Borovkov, V. V., Bhyrappa, P., Ponomarev, G. V., Inoue, Y. A lecture on "Versatile Chirality Sensor Based on Bisporphyrin Structures" presented at the EUROPT(R)ODE VIII conference held on April 2-5, 2006 in Tübingen, Germany.
- 3 Dhamodharan, R, Possible Primary Chemical Process Associated With Biofouling – Protein Adsorption?. Recent Advances in Marine Antifouling Technology (RAMAT) an International Conference held at NIOT, Chennai between 06th to 08th November, 2006.
- 4 Nasrullah, Mohammed J.; Dhamodharan, R. , Poly(4-(1-hydroxyalkyl)styrene Based Photoresist Materials: Design, Synthesis, and their Lithographic Performance. Proceedings of SPIE-The International Society for Optical Engineering 2006, 6153 (Pt. 1, Advances in Resist Technology and Processing XXIII), 61532F. Publisher: SPIE-The International Society for Optical Engineering, CODEN: PSISDG ISSN: 0277-786X. AN 2006:435442 CAPLUS.
- 5 Nasrullah, Mohammed J.; Dhamodharan, R. , Metal oxide catalyzed oxidation of polymeric aromatic ketone with molecular oxygen towards the synthesis of poly(4-vinylphenol). PMSE Preprints 2006, 94 523-524. 231st ACS National Meeting, Atlanta, GA, United States, March 26-30, 2006. Publisher: American Chemical Society, CODEN: PPMRA9 ISSN: 1550-6703. AN 2006:241579 CAPLUS.
- 6 Aidhen, I.S , A new strategy for the synthesis of 2-deoxy-C-Aryl-Nucleosides, , XXIII International Carbohydrate Symposium, Whistler, Canada, 23– 28 July 2006.
- 7 Selvam P, Taiwan-India Conf. on Nanomaterials, Taoyuan, December 11-12, 2006, pp.20., Nanomaterials in Confined Environment.
- 8 Selvam P, Int. Conf. on Nanomaterials on Electronics, Pune, November 27-29, 2006; pp.31-32. Nanomaterials in Nanoporous Solids.
- 9 B. Rajakumar, T. Gierczak, J. Flad, A. R. Ravishankara, J. B. Burkholder., Characterization of the visible absorption spectrum of acetyl radical, CH₃CHO, using Cavity Ring Down Spectroscopy". Presented in 19th International Symposium on Gas Kinetics, Orleans, France, July 22-27, 2006.

Distinguished Visitors to the Department:

Sl.No	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Dr. A. Jayakrishnan Head of Polymer Chemistry Division Sree Chitra Tirunal Institute for Medical Sciences & Technology, Thiruvananthapuram	17.04.2006	Distinguished Alumnus Award 2005
2.	Dr. Ram Mohan Associate Professor of Chemistry Illinois Wesleyan University Bloomington Illinois, USA	05.05.2006	Seminar Presentation
3	Prof.P. Raghunathan Director Magnetic Resonance Imaging Facility, AIIMS, New Delhi	23.05.2006	
4.	Prof. A. Q. Contractor Head, Dept. of Chemistry IIT Bombay	29.05.2006	Ph.D Viva and Seminar Presentation

Sl.No	Name of the visitor and Designation	Date of visit	Purpose of visit
5.	Prof. B. R. Jagirdar Dept. of Inorganic & Physical Chemistry Indian Institute of Science Bangalore	26.06.06	
6.	Dr. J. N. Moorthy Dept. of Chemistry IIT Kanpur	20.07.2006	
7.	Dr. Prasenjit Ghosh Dept. of Chemistry IIT Bombay	24.07.2006	
8.	Prof. A. K. Shukla Director CECRI, Karaikudi	21.08.2006	
9.	Prof. D. Venkatraman Department of Chemistry University of Massachusetts Amherst, USA	21.08.2006	Seminar Presentation
10.	Prof. Takuji Ogawa Director Research Centre for Molecular-Scale Nanoscience Institute for Molecular Science Okazaki, Japan	29.08.2006	
11.	Dr. K. P. Kaliappan I.I.T. Bombay	06.09.2006	
12.	Dr. R. Swaminathan I.I.T. Guwahati	08.09.2006	Ph.D Viva & Seminar
13.	Dr. A. Ajayaghosh, RRL, Trivandrum	15.09.2006	
14.	Dr. Sai G Ramesh, University of Wisconsin, Madison, USA	09.10.2006	Seminar Presentation
15.	Prof. Vicki Colvin Director, Center for Biological and Environmental, Nanotechnology, Rice University Houston, TX, USA	12.10.2006	
16.	Prof. Paulo Morais Institute of Physics – Applied Physics, University of Brasilia, Brazil	12.10.2006	
17.	Prof. Hiroshi Yao University of Hyogo Hyogo, Japan	23.10.2006	
18	Dr. Frederic Lamaty Laboratoires des Aminoacides, Peptides et Proteines (LAPP) Universite Montpellier, 34095 Montpellier Cedex 05, France	18.10 – 27.10.06 24.10.2006	To initiate a collaborative project under Indo-French Scheme (IFCPAR) Seminar Presentation
19	Prof. P. R. Sundararajan Ottawa Carleton Chemistry Institute, Carleton Univ., Canada	27.10 – 17.11.2006	Visiting Faculty
20	Prof. Laszlo Szilagy Dept. of Organic Chemistry University of Debrecen, Hungary	07.11.2006	Seminar Presentation
21	Dr. R. Mukhopadhyay Solid State Physics Division Bhabha Atomic Research Centre Trombay, Mumbai	17.11.2006	Ph.D viva and Seminar Presentation

SI.No	Name of the visitor and Designation	Date of visit	Purpose of visit
22	Prof. Biman Bagchi SSCU, Indian Institute of Science	21.11.2006	Seminar Presentation
23.	Dr. Chandrasekar Rajadurai Institute for Nanotechnology Karsruhe, Germany	21.11.2006	
24.	Dr. Nageswara Rao Univ. of Southern California, USA	30.11.2006	
25.	Dr. Frank van Veggel Univ. of Victoria, Canada	01.12.2006	Establishing Collaboration work with IIT M
26.	Prof.Dr. Dr. h.c. Lutz F. Tietze Director, Institute of Org. and Biomolecular Chemistry George August University , Gottingn, Germany		
27	Dr. Paul Winkler Research Services Division George August University , Gottingn, Germany		
28	Ms.Susanne Romanowski Office of Students Affairs George August, University , Gottingn, Germany		
29	Dr. Arumugam Manthiram BF Goodrich Endowed Professor in Materials Engineering Materials Science and Engg. The Univ. of Texas at Austin, USA	06.12.2006	
30	Prof. Keisaku Kimura University of Hyogo, Japan		
31	Prof. Yehuda Haas, Department of Physical Chemistry and the Farkas Centre for Light Induced Processes, The Hebrew University of Jerusalem, Jerusalem, Israel	07.12.2006	Seminar Presentation
32	Dr. Ramakrishnan Ayothi Cornell University	11.12.2006	Seminar Presentation
33	Prof. Pierre Dixneuf University of Rennes, France		
34	Prof. Nikos Hadjichristidas University of Athens, Greece		
35	Prof. Der-Jang Liaw Dept. of Chemical Engineering National Taiwan Univ. of Science & Technology, Taipei, Taiwan		
36	Dr. Sripriya Seetharaman Dept. of Chemistry Lawrence Univ., Wisconsin, USA		
37	Dr. Victor J Hruby Regents Professor Dept. of Chemistry Univ. of Arizona, USA	02.01.2007	Seminar Presentation
38	Prof. Ajit Varki Depts. of Medicine and Cellular & Molecular Medicine Univ. of California	05.01.2007	

Sl.No	Name of the visitor and Designation	Date of visit	Purpose of visit	
39	Prof. Hartmut Michel, Germany	11 – 12.01 2007		
40	Dr. Shobana Babu Schering Plough, New Jersey, USA	18.01.2007		
41	Prof. Suresh Bhargava Chair – Industrial Chemistry School of Applied Sciences RMIT Univ., Melbourne, Australia	20.01.2007		
42	Dr. M. Thirumal Dept. of Materials Science & Engg., Univ. of Pennsylvania, USA	24.01.2007		
43	Prof.Uday Maitra Dept. of Organic Chemistry Indian Institute of Science	25.01.2007		
44	Prof. R. Murugavel Dept. of Chemistry, IIT Bombay	29.01.2007		
45	Dr. Shashidhar Rao Senior Application Scientist Schrodinger, New York, USA	29.01.2007		
46	Dr. Serge Perez Director, Centre for Research in Natural Macromolecules, France	29.01.2007		
47	Dr. Anne Imberty Research Director Molecular Glycobiology Group Centre for Research in Natural Macromolecules, Grenoble. France	31.01.2007		
48	Dr. Franziska Groehn Dept. of Physical Chemistry Univ. of Mainz and the Max-Planck Institute for Polymer Research, Germany	08.2.2007		
49	Prof. S. Subramanian NIH, Maryland, USA	15.02.2007		Seminar Presentation
50	Dr. Amitabha Chattopadhyay Deputy Director Centre for Cellular & Molecular Biology, Hyderabad	21.02.2007		
51	Dr. Amitabha Chattopadhyay Deputy Director Centre for Cellular & Molecular Biology, Hyderabad	21.02.2007		
52.	Prof. Yves Gnanou Director – CNRS Laboratory for Polymer Research, Bordeaux, France	22.02.2007		
53	Prof.Pascal Dumy Director, LEDSS Dept. of Molecular Chemistry Univ. of Grenoble 1 CNRS, Grenoble, France			
54	Prof. Dr. Wolfgang Bensch University of Kiel, Germany	13 – 16.02.2007	Guest Lecture and Discussion	
55	Dr. Panagiotis (Peter) Smirniotis Professor and Head Chemical & Materials Engg. Dept. University of Cincinnati Cincinnati OH 45221 – 0012, USA	14.03.2007	Seminar Presentation	

4.5.6 Other Activities of the Department/Centre:

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

Dr. Bhyrappa P

Ph.D thesis: one

Title of the Thesis : Mixed substituted porphyrins: Synthesis, structures and their properties

Two Line Highlight: Novel porphyrins with tunable optical absorption and electrochemical redox properties have been developed for possible applications in molecular sensors.

International collaboration achievements by the Department

Student visit

Name of the student	Guide(s) Name	Period of visit	Place/Purpose of visit
Sreekumaran Nair A	Pradeep T	01.05.06 to 30.06.06	Univ. of Hyogo, Japan
Everta Keren	Sundararajan G	01.06.2006 To 31.07.2006	Research programme at University of Rennes, France
Anji Reddy	Varadaraju U V	01 – 30.6.2006	Research work at CRIMSTAT Lab., France
Jibin	Varadaraju U V	15.01.2007 – 14.01.2008	Solid State Ionics Laboratory

4.6 DEPARTMENT OF CIVIL ENGINEERING

4.6.1 Introduction:

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

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

4.6.2 Academic Programmes:

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

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

New Courses Introduced:

S. No.	Course No.	Title
1	CE 635	Critical State Soil Mechanics
2	CE 712	Advanced Topics in Structural Concrete
3	CE 543	Geotechnical Engineering Design Studio
4	CE 568	Soil Structure Interaction Analysis
5	CE 632	Engineering Seismology and Hazard Assessment

Students on roll :

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech.	43	46	41	42	01	173
Dual Degree	16	13	13	11	09	62
M.Tech.	83	77	-	-	-	160
M.S.	06	15	11	11	-	43
Ph.D.	15	27	27	17	30	116
Total	163	178	92	81	40	554

Endowment prize Instituted: Shree Gayathree Devi Award for the best female research Scholar in Civil Engg.

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

Sl. No.	Name of the Student/Scholar	Category	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad					
1	Maganti Janardhana	Ph.D.	100 th Anniversary Earthquake Conference and 8 th US National Conference on Earthquake Engineering	18-22, April 2006, San Francisco, USA	----
2	Rajasekar E Nithya Subramanian	Ph.D.	Graduate Seminar organized by Dept. of Mechanical Engineering, Samuel GINN College of Engineering, Auburn University	24 th April 2006 Alabama	----
3	Venkaiah Chowdary	Ph.D.	Presented a paper	30 th April to 3 rd May 2006, Georgia, USA	----

Sl. No.	Name of the Student/Scholar	Category	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
4	Murugesan S	Ph.D.	8 th International Conference on Geosynthetics, Yokohama, Japan	September 2006, Pacific Convention Centre, Yokohama	Institute/DST/CSIR
5	Gnanasekaran K	Ph.D.	5 th International Conference on Structural Analysis of Historical Constructions	6-8 Nov. 2006, New Delhi	Institute
6	Rajeevan B	Ph.D.	2 nd National Conference on Recent Advances in Civil Engineering	3-4 Dec., 2006, Cochin	Institute
7	Gunasekaran M	MS	Indian Geotechnical Conference	14-16 Dec.'06	IIT Madras
8	Badari Narayanan V T	Ph.D.	13 th Symposium on Earthquake Engineering	18-20 Dec.2006, Roorkee	Institute
9	Rajib Chowdhury	Ph.D.	Conference on Current trends in Engineering Analysis & Design	March 12 2007, J. F. Welch Technology Centre, Bangalore	GE, Bangalore
10	Rajib Chowdhury	Ph.D.	International Conference on Computational, Mathematical and Statistical Methods	6-8 January 2007, IIT Madras	Project
11	Rajib Chowdhury	Ph.D.	International Conference on Trends In Product Life Cycle-Modelling, Simulation And Synthesis – PLMSS2006	18-20, December 2006, Indian Institute of Science, Bangalore	Self
12	Rajib Chowdhury	Ph.D.	Second International Congress on Computational Mechanics and Simulation (ICCMS-06)	8-10 December 2006, Indian Institute of Technology Guwahati	Self
13	Arun C O	Ph.D.	Second International Congress on Computational Mechanics and Simulation (ICCMS-06)	8-10 December 2006, Indian Institute of Technology Guwahati	IIT Madras
14	Nandulal B	Ph.D.	International Conference & Exhibition on Pressure Vessels and Piping, OPE 2006-Chennai, India	Feb 7-9, 2006, Chennai	Project

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

Sl. No.	Name of the Student/Scholar	Category	Name of Prize	Prize awarded by
1	Cindrella Devi A	MS	Birla White Yuva Ratna Award	Grasim Industries Limited
2	Kalai Selvi R	MS		
3	Akhila Begum M	MS		
4	Manogya P	M.Tech.		

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1	Nirmal Jayaram	CE01B055	Institute Merit Prize – Dual Degree	Convocation
2.	Venkata Santosh Kumar	CE02B041	Larsen & Toubro ECC Endowment Prize	
3.	Remya N	CE04M018	Valli Anantharamakrishnan Merit Prize	

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
4.	Sushil Kumar Mishra	CE04M078	K. Devarajan Memorial Prize	
5.	Suganya R	CE04M104	L & T Endowment Prize (Civil Engg. – Construction Tech. Management Discipline)	
6.	Purva Bhandari	CE02B050	Best Academic Record (5 th & 6 th Sem.)	Institute Day
7.	Nirmal Jayaram	CE01B055	Best Performance in Seventh and Eighth Semester	

4.6.3 Faculty and their activities:

Faculty:

Name and Qualifications

Professors

Dr.A.Boominathan, Ph.D. (Moscow)
 Dr.Devdas Menon, Ph.D. (IITM)
 Dr.S.R.Gandhi, Ph.D. (IITM)
 Dr.V.Kalyanaraman, Ph.D. (Cornell)
 Dr.Koshy Varghese, Ph.D. (Texas, Austin)
 Dr.M.S.Mathews, Ph.D. (IITM)
 Dr.A.Meher Prasad, Ph.D. (RICE)
 Dr.S.Mohan, Ph.D. (IISc., Bangalore)
 Dr.B.S.Murty, Ph.D. (Washington St)
 Dr.K.Rajagopal, Ph.D. (Florida)
 Dr.A.Ramachandraiah, Ph.D. (IITM)
 Dr.K.Ramamurthy, Ph.D. (IITM)
 Dr.Ravindra Gettu, Ph.D.(Northwestern)
 Dr.K.N.Satyanarayana, Ph.D. (Clemson)
 Dr. R. Sivanandan, Ph.D. (Virginia Tech.)
 Dr.K.Srinivasan, Ph.D. (IITM)
 Dr.V.Thamizh Arasan Ph.D. (IITM)
 Dr. A. Veeraragavan Ph.D (Bangalore University)

Major Area of Specialization

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

Associate Professors

Dr.P.Alagusundaramoorthy Ph.D.(IITM)
 Dr.K.Ananthanarayanan, Ph.D. (IITM)
 Dr.Ligy Philip (Ms.) Ph.D. (IIT Kanpur)
 Dr.S.R.Satish Kumar, D.Engg. (Nagoya Univ.)

Composite Technology
 Building Technology and Construction Mgmt.
 Environmental Engineering
 Structural Engineering

Assistant Professors

Dr.Amlan Kumar Sengupta Ph.D. (Univ. of Missouri)
 Dr.G.Appa Rao Ph.D. (I.I.Sc. Bangalore)
 Dr. Ashwin Mahalingam (Stanford Univ)
 Dr G.R.Dodagoudar Ph.D. (IIT Bombay)
 Shri.K.Gopalakrishna, M.Tech. (IIT Kanpur)
 Dr. Indumathi M Nambi, Ph.D (Clarkson Univ.)
 Dr.Karthik K Srinivasan Ph.D. (Texas, Austin)
 Dr. Leliitha Devi, Ph.D. (Texas A&M)
 Dr.Manu Santhanam Ph.D. (Purdue Univ.)
 Dr. J. Murali Krishnan, Ph.D (IIT Madras)
 Dr. B. Nageswara Rao, Ph.D (Iowa Univ.)
 Dr.R.G.Robinson Ph.D. (IISc., Bangalore)
 Dr. U. Saravanan, Ph.D. (Texas A&M)
 Dr. S.M. Shiva Nagendra, Ph.D. (IIT Delhi)

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

Name and Qualifications

Dr.K.P.Sudheer, Ph.D. (IIT Delhi)

Major Area of Specialization

Environmental & Water Resources Engineering

Adjunct Faculty

Dr. C. Lakshmana Rao (MIT, USA)

Structural Engineering

Dr. M. S. Sivakumar (Louisiana)

Structural Engineering

Dr. A. Ramakrishna

Building Technology and Construction Mgmt.

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.	Coordinator(s)	Title	Period
Conferences:			
1	Sivanandan R	GIS, GPS and RS Applications in Transportation Planning and Management	Nov. 21, 2006
2	Devdas Menon, Kalyanaraman, V. and Mathews, M.S.	Creative Approaches in Teaching at College of Engineering, Trivandrum, Under TEQIP	Dec 6-9, 2006
3	Gandhi S R	Geotechnical Engineering – Indian Experience, Annual Indian Geotechnical Conference	Dec 14-16, 2006
Seminars:			
1	Mohan S Sivanandan R	Indo-Swedish Seminar on Sustainable City Planning and Municipal Services	Jan. 30-31, 2007
Symposia:			
1	Ravindra Gettu	Designing Concrete for Unconventional Properties at the International Symposium on Modeling of Concrete	July 3-7, 2006
Workshop:			
1	Boominathan A Dodagoudar G R	Indo-US workshop on Earthquake Hazard Mitigation Strategies and Behaviour of Piles under Seismic Loading	April 16, 2006
2	Meher Prasad A and Dodagoudar G R	Indo-Italian Workshop on "Seismic Vulnerability of Historic Centres in India"	Nov. 13, 2006
3	K. Rajagopal	National Workshop on "Retaining Structures with Geosynthetics"	December 13, 2006
4	Dodagoudar G R	Soft Computing Approaches in Engineering Applications	Jan 19 – 21, 2007
5	Thamizh Arasan, V.	Characterisation of Urban Road Traffic	March 9-10, 2007.
6	Appa Rao G	Seismic Safety of Structures, Risk Assessment and Disaster Mitigation	March 12-13, 2007
Short term Course:			
1	Rajagopal K and R.G. Robinson	Geosynthetics and Their Applications in Infrastructure Projects conducted under QIP and CEP of IIT Madras	July 17-21, 2006
2	Mohan S Gopalakrishna K	Theory and Practice of Wastewater Management System	Oct. 26 – Nov. 2, 2006
3	Ravindra Gettu Manu Santhanam	Special Concretes	Nov. 27 to Dec. 2, 2006
4	Dodagoudar G R and Rao B N	Computational Techniques for Seismic Analysis (CTSA 2006)	Dec. 18 – 22 2006

Sl. No.	Coordinator(s)	Title	Period
5	Dodagoudar G R and Rao B N	Random Vibration and Fuzzy Logic in Earthquake Engineering	Dec. 25–29, 2006
6	Mohan S Gopalakrishna K	Design of Waste Water Treatment Systems	Jan. 22-27, 2007
7	Rajagopal K	International Course on Computational Geomechanics	Feb. 21-23, 2007
8	Dodagoudar G R	Engineering Seismology and Seismic Hazard Assessment" (ESSHA 2007)	Feb. 12 – 16, 2007
9	Dodagoudar G R and Meher Prasad A	Soil Structure Interaction Analysis in Time Domain" (3SIATD 2007)	Mar. 26-30, 2007
10	Ravindra Gettu	Symposium of Special Concrete	March 9-10, 2007

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	Rajagopal K	Geosynthetics for Retaining Structures	National Academy of Construction, Hyderabad	April 28, 2006
2	Dodagoudar G R	Conservation and Monitoring of Basilica of Vicoforte, Vicoforte, Italy	University of Torino, Italy (at Vocoforte, Italy)	June 28, 2006
3	Robinson R G	Constitutive Modeling of Geo-materials	Charles University Prague	Sept. 25-27, 2006
4	Mohan S Satyanarayana K N Sivanandan R	Developing an Appropriate Urban Sector Strategy	Tamil Nadu Urban Infrastructure Financial Services Limited	Nov. 15, 2006
5	Sivanandan R	Developing an Appropriate Urban Sector Strategy for Tamil Nadu	TNUIFSL, Chennai	Nov. 15, 2006
6	Robinson R G	Second International workshop on Characterisation and Engg. Properties of Natural Soils	National University of Singapore	Nov. 29. – Dec. 1, 2006
7	Amlan K. Sengupta	Earthquake Engg. Education	IIT Delhi	Jan. 6, 2007
8	Meher Prasad A Satish Kumar S R Sengupta A K Doda Goudar G R Nageswara Rao B	Earthquake Engineering Education in India	NPEEE, New Delhi	Jan. 4-5, 2007
9	Shiva Nagendra S M	Workshop on 'ALCHEMY Lab'	British Council of India and The Creative Innovation Unit, London at Vedic Village, Kolkata	Jan. 21-24, 2007
10	Shiva Nagendra S M	A science and Creativity Workshop	British Council of India and the Creative Innovation Unit at the South Bank Centre, London, at Vedic Village, Kolkata	Jan. 21-24, 2007

Sl. No.	Name of faculty	Title	Institution	Period
11	Sivanandan R	Stakeholders Workshop	Organised by Highways Dept./Tamil Nadu Road Sector Project (TNRSP)	Feb. 26, 2007
12	Sivanandan R	Workshop on Vehicle Tracking Using GPS and GIS	Organised by The Institute of Road Transport, Chennai and Institute of Road and Transport Technology, Erode	March 6, 2007
13	Devdas Menon	KRS Memorial Lecture on "Inspired Living"	Meenakshi College for Women, Chennai	March 7, 2007
14	Devdas Menon Meher Prasad A	Seismic Safety of Structures	3 rd Indo German Workshop and Theme Meeting at BARC, Mumbai	March 12-13, 2007
15	Devdas Menon Meher Prasad A	Risk Assessment and Disaster Mitigation	3 rd Indo German Workshop and Theme Meeting at BARC, Mumbai	March 12-13, 2007
Seminar:				
1	Sivanandan R	International Expo Cum Seminar on Surface Transportation – Emerging Opportunity and Technology (INFRATECH 2006)	IIT Madras	Aug. 17-19, 2006
2	Kalyanaraman V Meher Prasad A Devdas Menon Amlan K. Sengupta	Structural Euro Codes	Indian Concrete Institute and British Standards Institute	Nov. 3, 2006
3	Rajagopal K	Testing of Geosynthetics	CBRI, New Delhi	Nov. 9, 2006
4	Kalyanaraman V Devdas Menon	Globalization	Dept. of HSS, IIT Madras	Nov. 23, 2006
5	Mohan S	Environmental Impact Assessment	Hyderabad, Urban Development Authority	Dec. 12-13, 2006
6	Boominathan A	Earthquake induced Ground Shaking	Anna University	Dec. 13, 2006
7	Kalyanaraman V	Steel Intensive Building Frames Using MRF, EBF, UBF and BRBF System	INSDAG, L&T-ECC, Chennai	Dec. 21, 2006
8	Sivanandan R	Everyday Management of Traffic in Metros	Organized by Chennai Metropolitan Police	Jan. 5, 2007
9	Kalyanaraman V	National Seminar and Exhibition REDECON 2007	ACCE (India) Bangalore	Jan. 20, 2007
Symposia:				
1	Kalyanaraman V	Sustainable High End Outsourcing	University of Pittsburgh	April 20, 2006
2	Thamizh Arasan V	Derivation of capacity standards for divided road carrying Heterogeneous Traffic Using Computer Simulation	5 th International Symposium on Highway capacity and Quality of Service	July 25-29, 2006
3	Boominathan A	Strong Ground Motion and Site Effects	13 th Symp. On Earthquake Engg., IIT Roorkee	Dec. 18-20, 2006
Conference:				
1	Kalyanaraman V	Pan IIT Alumni, Distinguished Alumni Conference for Transforming India	India Habitat Centre, New Delhi	Aug 19, 2006

Sl. No.	Name of faculty	Title	Institution	Period
2	Amlan K Sengupta	4 th International Conference on Earthquake Engineering	National Center for Research on Earthquake Engineering, Taiwan	Oct. 12-13, 2006
3	Meher Prasad A Devdas Menon	Structural Analysis of Historical Constructions	Central Building Research Institute, Roorkee	Nov. 8, 2006
4	Boominathan A	Evaluation of Amplification Hazard for Chennai City in the First India Disaster Management Congress	New Delhi	Nov. 29-30, 2006
5	Shiva Nagendra S M	Sixth International Conference on Ecocity	Ecocity Builders USA and Center for Sustainable Development, Bangalore at JN Tata Auditorium, IISc. Bangalore	Dec 4-6, 2006
6	Indumathi M Nambi	ASCE-EWRI	New Delhi	Dec. 18-20, 2006
7	Shiva Nagendra S M	Environmental System Analysis and Modeling, International Conference on Cleaner Technologies and Environmental Management	Pondicherry Engineering College, Pondicherry	Jan. 5, 2007
8	Mohan S	ICCTEM 2007	Pondicherry Engg. College	Jan. 5, 2007
9	Amlan K. Sengupta	Civil Engineering in the New Millennium: Opportunities and Challenges	Bengal Engineering and Science University	Jan. 12, 2007
10	Gandhi S R	FIB International Conference 2006	Institution of Engineers, Mumbai Chapter	Feb 9-10, 2007
11	Satish Kumar S R	Earthquake Assessment Risk and Management	St. Peter's Engg. College, Avadi	Feb. 27-28, 2007
Training:				
1	Kalyanaraman V	Faculty Development Programme	VNIT Nagpur	June 20, 2006
2	Mohan S	Indices of Treated Water Quality of Sewage Treatment Plant and its treatment process	Japan International Cooperation Agency for the Engineers of Hyderabad Urban Development Authority at Tirupati	June 28, 2006
3	Indumathi M Nambi	Collection of Wastewater	Japan International Cooperation Agency for the Engineers of Hyderabad Urban Development Authority at Tirupati	June 29, 2006
4	Shiva Nagendra S M	Flow in Sewage Treatment Plant	Japan International Cooperation Agency for the Engineers of Hyderabad Urban Development Authority at Tirupati	June 29, 2006
5	Dodagoudar G R	Probabilistic Seismic Hazard Assessment: Theory and Practice	University of Pavia, Italy	June – August 2006
6	Mohan S	Environmental Impact Assessment	TNPC Board, Chennai	Aug. 17-18, 2006

Sl. No.	Name of faculty	Title	Institution	Period
7	Shiva Nagendra S M	Creating a Learning Environment for Young Faculty Members	Dept. of Management studies, IIT Madras	Sept. 27, 2006
8	Kalyanaraman V	One Day Training Programme on Steel Structures	BHEL, Trichy	Jan. 25, 2007
Short term Course:				
1	Satish Kumar S R	Design of Steel structures	Biju Patnaik Technical University, Bhubaneswar, Orissa	June 10, 2006
2	Kalyanaraman V	Short Term Programme on "Creative Approaches in Teaching"	College of Engg Trivandrum	Dec. 6-9, 2006
3	Nageswara Rao B	Finite Element Modeling of Reinforced Concrete (b)Meshless methods ©Introduction to Finite Element Structural Method	Recent Advances and application of Finite Element Analysis in Engineering, College of Engineering, Trivandrum	March 5-6, 2007
4	Nageswara Rao B	Fracture Mechanics Fundamentals	STTP on Fatigue Design and Analysis of Ships and Offshore Structures at Dept. of Ocean Engineering, IITM	March 19-21, 2007
5	Nageswara Rao B	(a)2D and 3D Finite Element Structural Analysis (b)Seismic Analysis of RC. Buildings and Bridges ©Stochastic Finite Element Method	NPEEE Sponsored STTP on Seismic Soil Interaction Analysis in Time Domain, Dept. of Civil Engineering, IITM	March 26-30, 2007

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Kalyanaraman V	Design of Steel Structures for New IS:800	L & T, Chennai	Apr. 19, 2006
2	Shiva Nagendra S M	Flow in Sewage Treatment Plant, Short term training programme on Basics of Wastewater Management	Hyderabad Urban development authority Engineers, Tirupati	June 29, 2006
3	Kalyanaraman V	Industry Interaction	Visveswaraya National Institute of Technology, Nagpur	June 20, 2006
4	Gandhi S R	Requirements of land fill liners	JNTU, Kakinada	July 8, 2006
5	Meher Prasad A	Computational Methods in Structural and Fluid Mechanics	National Physical and Oceanography Lab, Kochi	July 17, 2006
6	Thamizh Arasan V	Economic Evaluation of Infrastructure Projects in India : A case study to the students and faculty members of the School of Economics and Management	Shanghai Maritime University, Shanghai, China	July 22, 2006
7	Gandhi S R	Case studies in pile foundation	IIT Roorkee	Aug.2, 2006
8	Gandhi S R	Case studies on Geotechnical failures	VJTI Mumbai	Aug.3, 2006
9	Mohan S	An Overview	Sustainable Water Resources Management	Aug. 8, 2006

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
10	Mohan S	Refresher Course on Execution of Sewerage Scheme	TWAD Board, Chennai	Aug.18, 2006
11	Nageswara Rao B	A Three-week refresher course on computational Methods of Mechanics	Hyderabad	Sept.7-27, 2006
12	Manu Santhanam	Use of Polymers as Chemical Admixtures in Concrete at the 5 th Asian Symposium on Polymers in Concrete ASPIC 2006,	SERC, Chennai	Sept.11-12, 2006
13	Ravindra Gettu	5 th Asian Symposium on Polymers in Concrete	SERC, Chennai	Sept. 11-12, 2006
14	Nageswara Rao B	Meshless Methods	JNTU, Hyderabad	Sept.16, 2006
15	Mohan S	Sustainable Water Resources	JNTU, Hyderabad	Sept.20, 2006
15	Mohan S	Intermittent Water supply System	Tamil Nadu Water Supply and Drainage Board, Chepauk	Oct.9, 2006
16	Gandhi S R	Case study of failure in Geotechnical Engineering	Shri G S Institute of Technology & Science, Indore	Oct.10, 2006
17	Mohan S	Environmental Impact Assessment Techniques	Tamil Nadu Pollution Board, Chennai	Oct.18, 2006
18	Shiva Nagendra S M	Introduction to Physico-chemical treatment systems has been delivered in short-term training programme on Theory and Practice on Wastewater Management	Hyderabad Urban development authority Engineers, IIT Madras	Oct. 26, 2006
19	Shiva Nagendra S M	Design concepts of Physico-Chemical techniques applicable to municipal wastewater treatment have been delivered in short-term training programme on Theory and Practice on Wastewater Management	Hyderabad Urban development authority Engineers, IIT Madras	Oct. 27, 2006
20	Indumathi M Nambi	Chemical Coagulation and Chemical Oxidation	TNPCB	Nov. 4, 2006
21	Gandhi S R	Construction difficulties in well foundation	Central Road Research Institute, New Delhi	Nov.30, 2006
22	Nageswara Rao B	Finite Element Method & Reliability Engineering	IGCAR, Kalpakkam	
23	Sivanandan R	Spectrum of Short Term Measures for Transportation Management	Seminar by Chennai Metropolitan Police	Jan. 5, 2007
24	Boominathan A	Seismic Site Characterization of Nuclear Facilities in India	Bengal Engineering and Science University, Calcutta	Jan. 10, 2007
25	Amlan K Sengupta	Buildings and Earthquakes – An Indian Scenario	Sathyabama University, Chennai	Jan. 19, 2007
26	Gandhi S R	Library Information Science Teacher and the Digital Future	Central Library, IIT Madras	Jan.19, 2007
27	Amlan K Sengupta	Retrofitting of Buildings for Seismic Resistance	Association of Consulting Civil Engineers, Bangalore	Jan. 20, 2007
28	Ravindra Gettu	Special Concretes	Bangalore	Jan. 20, 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
29	Shiva Nagendra S M	Artificial neural network applications in environmental engineering in the workshop on Soft Computing Approaches in Engineering Applications	IIT Madras	Jan 20, 2007
30	Dodagoudar G R	Engineering Seismology	Basaveshwar Engineering College, Bagalkot, Karnataka	Jan. 25, 2007
31	Dodagoudar G R	Strong Ground Motion: Characteristics and Predictive Relationships	Basaveshwar Engineering College, Bagalkot, Karnataka	Jan 25, 2007
32	Dodagoudar G R	Ground Response Analysis	Basaveshwar Engineering College, Bagalkot, Karnataka	Jan. 26, 2007
33	Dodagoudar G R	Local Site Effects and Liquefaction Analysis	Basaveshwar Engineering College, Bagalkot, Karnataka	Jan. 26, 2007
34	Shiva Nagendra S M	Design of nitrogen and phosphorus removal in tertiary treatment has been delivered in short-term training programme on Design of Wastewater Treatment Systems	Hyderabad Urban development authority Engineers, IIT Madras	Jan 27, 2007
35	Gandhi S R	Tsunami Damages in Andaman & Nicobar islands	AIT Bangkok	Jan 29, 2007
36	Boominathan A	Geotechnical Aspects of Earthquake Hazards	RVR & JC College of Engineering, Guntur	Feb. 3, 2007
37	Boominathan A	Geotechnical Aspects of Earthquake Hazards	Earthquake Resistant Structures, RVR & JC College of Engg. Guntur	Feb. 3, 2007
38	Amlan K. Sengupta	Seismic Design and Retrofit of Buildings	Reserve Bank Staff College, Chennai	Feb. 12, 2007
39	Devdas Menon	Life Skill Development in Teachers	STTP on Life Skill Education and Counseling, Govt. Engg. College, Thrissur	Feb. 14, 2007
40	Nageswara Rao B	Fracture Mechanics Fundamentals	STTP course at Dept. of Ocean Engg., IIT Madras	Feb. 19-21, 2007
41	Sivanandan R	Urban Transportation and Solutions	Highways Department, Tamil Nadu Road Sector Project, Chennai	Feb. 26, 2007
42	Sivanandan R	Urban Transportation – Challenges and Solutions	Stakeholder Workshop by Highways Dept./Tamil Nadu Road Sector Project (TNRSP)	Feb. 26, 2007
43	Sivanandan R	Use of GPS Data in Bus Travel Time Analysis - A Case Study	Workshop by The Institute of Road Transport, Chennai and Institute of Road and Transport Technology, Erode	March 6, 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	Kalyanaraman V	USA	20.04.2006	To attend Symposia	Organizers

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
2	Rajagopal K	Thailand	19.04.2006 21.04.2006	International Workshop	Consultancy projects
3	Koshy Varghese Satyanarayana K N	South Africa	11.06.2006 22.06.2006	Sponsored Project of Indo-South African Inter-Governmental Science and Technology Cooperation Programme	
4	Gandhi S R	USA	13.06.06 27.06.06	Attending ASCE International Conference of construction Industry at Chicago	Consultancy Projects
5	Sudheer K P	Guanghou, China	08.06.2006 10.06.2006	2 nd Global Water System Project Workshop	
6	Sudheer K P	University of Arkansas, Fayetteville, USA	12.06.2006 17.06.2006	collaborative research	
7	Thamizh Arasan V	Montreal, Canada	14.06.2006 16.06.2006	Joint International Conference	
8	Doda Goudar G R	Italy University of Pavia, Italy	10-06-2006 09-08-2006	Joint sponsored research project	Project
9	Karthik Srinivasan K	Washington	2006	International Conference	
10	Karthik Srinivasan K	Kyoto, Japan	June 2006	11 th International conference on travel behaviour research	
11	Sudheer K P	Portland, USA	19.07.2006 21.07.2006	ASABE Annual International Conference	
12	Rajagopal, K.	Yokohama, Japan	18-9-2006 25-9-2006	8 th International Conference on Geosynthetics	DST, CSIR and PCF support
13	Robinson R G	Czech Republic	25.09.2006 27.09.2006	Workshop	Organisers
14	Amlan Sengupta K.	Taiwan	11.10.2006 13.10.2006	To attend International Conference on Earthquake Engineering	Department of Science and Technology
15	Boominathan A	Singapore	08.11.2006 10.11.2006	4 th Asian Rock Mechanics Symposium	Project Fund
16	Mohan S.	France	29.11.2006 01.12.2006	Seminar on Wastewater Treatment Technologies at INSA	
17	Robinson R G	Singapore	29.11.2006 01.12.2006	4 th Session of the Second International Workshop	Project and PCF
18	Rajagopal, K.	Hong Kong, China	11-1-2007 to 14-1-07	International Workshop on Constitutive Modelling	Project & PCF
19	Gandhi S R	Thailand	26.01.07 30.01.07	Deliver invited talk and visit to AIT Bangkok	PCF A/c
20	Murty B S Sudheer K P	University of Adelaide, Australia	11.02.2007 15.02.2007	Workshop on Water Resources Engineering	

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
21	Ravindra Gettu	Switzerland and Spain	13.03.2007 21.03.2007	International Association of Laboratories of Construction Materials and Project Meetings for low cost housing in Switzerland and Spain	

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Honours:					
1	Nageswara Rao B	Alexander von Humboldt Research fellowship	Alexander von Humboldt Foundation	To do research at TU Bergakademie Freiberg, Institut fir Mechanik and Fluidodynamik, Freiberg, Germany	March 2006
ii. Awards:					
1	Sudheer KP	Best Discussion Paper award	American Society of Civil Engineers	Best Discussion Paper published in the journal of Hydrologic Engineering	June 2006
2	Alagusundaramoorthy P	Vijay Shree Award	India International Friendship Society	Latest Contribution in repairing using advanced composites	June 24, 2005
3	Mohan S	Best Paper Award	BITS, Pilani	Real Time Control of a Well Field with a Groundwater Model at the National Conference on Environmental Conservation (NCEC-2006)	Aug. 31–Sept. 3, 2006
4	Manu Santhanam	Prof. V. Ramakrishnan Award	Indian Concrete Institute	Outstanding Young Researcher in Concrete Technology, 2006	Sept. 12, 2006
5	Appa Rao G	Bharat Jyothi Award	India International Friendship Society		
6	Rajagopal K	Commemorative Award	Indian Chapter of International Society of Geosynthetic	Significant contribution for promotion of geosynthetic technology in India	Nov. 2006
7	Manu Santhanam	INAE Young Engineer Award 2007	INAE New Delhi		

Books, Monographs authored/co-authored:

S. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1	Mathews M.S.	Ta Prohm Conservation Strategy	ASI, New Delhi	M.S. Mathews

S. No.	Name of faculty	Title	Publisher	Author/ Co-author
2	Ravindra Gettu	Rheological characterization of self compacting concretes (In Spanish)	Universitat Politecnica de Catalunya, Barcelona, Spain	R. Zerbino, L. Agullo, B. Barragan, T. Garcia, R. Gettu
3	Satish Kumar S R	CPWD Handbook on Seismic Retrofitting	CPWD New Delhi	Devdas Menon Satish Kumar S R
4	Satish Kumar S.R.	Designers Handbook for Steel Design as per revised IS 800	INSDAG	Kalyanaraman V Satish Kumar S R
5	Shiva Nagendra S M	Artificial neural networks in vehicular pollution modeling	Springer-Verlag	Mukesh Khare Shiva Nagendra S M

Fellowships of Academies and Professional Societies:

	Name of faculty	Year of admission
Humboldt Fellowship:		
	Dr. B.N. Rao	2006
INAE:		
	Dr. S. Mohan	2005
ISTE/CSI:		
Indian Society for Technical Education, Member	Alagusundaramoorthy P	1997
Life Member	Appa Rao G	1996
Others:		
Acoustical Society of India	Ramachandraiah A	1992
International Association for Computer Methods and Advances in Geo mechanics (IACMAG)	Boominathan A	1996
Life Fellow, Indian Geotechnical Society	Gandhi S R	1997
International Society for Soil Mechanics and Foundation Engineering (ISSMFE)	Boominathan A	1999
Indian Society for Earthquake Technology (ISET)	Boominathan A	1999
Indian Geotechnical Society	Boominathan A	1999
American Society of Civil Engineers (ASCE)	Alagusundaramoorthy P	2000
Institute of Steel development and Growth, Kolkata	Satish Kumar S R	2000
Fellow, Institution of Engineers	Gandhi S R	2001
Indian Society of Rock Mechanics & Tunneling Technology (ISRMTT)	Boominathan A	2001
Life Member, ICI	Appa Rao G	2001
Life Member, IAFra MCOS	Appa Rao G	2001
Indian Society for Hydraulic Engineering	Murty B S	2003
Bureau of Indian Standards, New Delhi	Satish Kumar S R	2003
Institution of Environmental Engineers, New Delhi	Gopalakrishna K	2003
Acoustical Society of America	Ramachandraiah A	2005
Institution of Engineers, India	Alagusundaramoorthy P	2005
Institution of Structural Engineers, UK	Devdas Menon	2006
National Institute of Hydrology Society	Mohan S	2006
American Society of Civil Engineers	Lelitha Devi V	2006
Institution of Electrical and Electronics Engineers	Lelitha Devi V	2006
Indian Road Congress	Lelitha Devi V	2006
Member, ACI	Appa Rao G	2006

Journal Editorial Boards:

S. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	Doda Goudar G R	Co-Editor	Indian Geotechnical Journal
2	Gandhi S R	Editor	Indian Geotechnical Journal
3	Shiva Nagendra S M	Co-Guest Editor	International Journal of Environment and Waste Management
4	Rajagopal, K.	Editorial Member	Indian Geotechnical Journal

4.6.4 Design and Development Activities:

1. Dr. A. Ramachandraiah – A software package 'CLASSTALK' has been installed. Some aspects of class room acoustics have been studied,
2. Dr. A. Ramachandraiah, Developed a CD on "Auditorium Acoustics in collaboration with Auburn University, USA.
3. Dr. P. Alagusundaramoorthy, A pultrusion process has been set up for the manufacture of FRP rebars, channels, angle and I sections at COMPTEC, IIT Madras. Experimental studies are going on. It will be patented after successful completion.
4. Dr. Satish Kumar S R, Designed actuator fixtures costing Rs. 60,000/- funded by NPEEE.
5. Prof. A. Boominathan is a member of the committee formed by PWD of Tamilnadu for Study of Distress at Meenakshi Sundareswarar Temple.
6. Dr. Amlan K Sengupta, A reaction frame has been developed in the Structural Engineering Laboratory, for testing beam-column sub-assemblages or wall specimens under constant vertical load and cyclic lateral load. A data acquisition system was added to record the data from transducers, strain gages and load cells with real time display.

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1	Bender Element Device	5.0
2	Advanced Data logging Systems	6.0
3	Sensors: Accelerometers, pore pressure transducers, strain gauges etc.	
4	A new reaction frame was developed in the Structural Engineering Laboratory for testing specimens under constant vertical load and cyclic lateral load	8.0
5	A 32-channel data acquisition system was procured for the Structural Engineering Laboratory	9.0
6	Multichannel Analysis of Surface Wave (MASW) Test Apparatus	21.5
7	Linear motion guides and Laminar shear box	3.6
8	Upgradation of MGC carrier frequency amplifier with communication processor and amplifier modules	4.5
9	Environmental Dust Monitor	7.5

Patents:**Patents awarded:**

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

4.6.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in Lakhs)	Co-ordinators
1	Characterization of Structural Wall Concrete used in Fast Reactors for Structural/ Shielding Purposes	17/4/2006 16/10/2007	Indira Gandhi Centre for Atomic Research	16.74	Manu Santhanam
2	Investigations on field performance of bituminous mixes with modified binders	NULL	Ministry of Shipping	37.50	Veeraragavan A
3	Development and investigations on lightweight foam concrete interlocking block masonry	26/4/2006 25/4/2008	Building Materials & Technology Promotion Council	12.86	Ramamurthy K
4	Characterisation of creep response of woven geotextiles	22/6/2006 21/12/2007	Garware Wall Ropes Ltd., Pune	3.14	Rajagopal K
5	National competitiveness in the knowledge economy	7/5/2006 4/7/2007	Department of Information Technology	42.35	Mathews M S
6	Integrated system for sustainable housing: Reconstruction of settlements affected by the Tsunami in Tamil Nadu	21/8/2006 30/9/2007	Universidad Politecnica de Madrid	9.68	Ravindra Gettu
7	Wind Damage Model for East Coast of India: Pilot Study for Nellore District of Andhra Pradesh	16/11/2006 15/11/2007	Department of Science & Technology	6.43	Satyanarayana K N
8	Development of models for the cleanup of Cr(VI) contaminated aquifers using Bio-remediation	19/12/2006 18/12/2009	Ministry of Water Resources	22.12	Ligy Philip
9	Groundwater contamination by organic solvent spills-An experimental investigation of the dissolution phenomenon and development of an upscaled dissolution model	5/1/2007 4/1/2010	Department of Science & Technology	10.14	Indumathi M Nambi
10	Identification and estimation of source contributions to particulate matter concentration at an urban roadway	25/1/2007 24/1/2010	Department of Science & Technology	12.00	Shiva Nagendra S M
11	Development and implementation of advanced methods in spline finite strip analysis of layered fibre composite plates and shells	15/2/2007 14/2/2010	Aeronautics Research & Development Board	6.31	Kalyanaraman V
12	Pilot-scale demonstration, evaluation and enhancement of open source GIS tools for use by local people	NULL	Ministry of Rural Development	23.43	Koshy Varghese
13	Fast Track Scheme	2006	Department of Science & Technology	10.00	Indumathi M Nambi

Industrial consultancy Projects:

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs.)
1	Devdas Menon	Testing of 6-5S anchor block-12 Nos	VSL India Pvt Ltd	67344
2	Gandhi S R	Restoration of slope near MRPL Town City	Mangalore Refinery & Petrochemicals Ltd.,	200000
3	Devdas Menon	Testing of HTS strands & relaxation test for 100 hrs & 1000 hrs	Southern Railway - Tamil Nadu	50508
4	Meher Prasad A	Report on vertical bending fatigue test of axle housing	Axles India Limited	250000
5	Satish Kumar S R	Designers hand book for tata structures -steel hollow sections	Tata Steel Limited	421600
6	Meher Prasad A	Mono jack calibration	Utracon Structural System Pvt Ltd.,	15000
7	Indumathi M Nambi	Evaluation of field water testing kit	TWAD Board	5612
8	Devdas Menon	Testing of HTS strands and relaxation test for 1000 hs.	SMS Infrastructure Ltd.,	32500
9	Devdas Menon	Relaxation test for 1000 hrs.	Visakha Wire Ropes Ltd.,	33672
10	Devdas Menon	Testing of L&T formwork components at IIT	Larsen and Toubro Limited	242438
11	Gandhi S R	Remedial measure for reservoir damage	Larsen and Toubro Limited	20305
12	Murty B S	Reviewing surge analysis report for Gutpha Project	Saisanket Enterprises	44896
13	Ligy Philip	Testing of water for construction purpose as per IS 3025-2000	Concrete Products & Construction Company	5612
14	Gandhi S R	Remedial measure for storage tank	Sree Giri Consultants	50000
15	Boominathan A	Measurement of vibration and noise during driving of driven cast in situ concrete piles	VGN Enterprises	112240
16	Kalyanaraman V	Proof checking of Indira Gandhi Stadium	Consulting Engineering Services (India) Pvt Ltd.,	600000
17	Thamizh Arasan V	Quality checking of coarse and fine aggregates to used for railway track construction	Southern Railway - Chennai	51630
18	Gandhi S R	Enlargement works to ground level reservoir	Tamil Nadu Electricity Board - Tuticorin	22448
19	Devdas Menon	Proof checking of design of major bridges-gauge conversion of Villupuram - Mayiladuthurai section (Phase I & II)	Rail Vikas Nigam Limited	516200
20	Robinson R G	Investigation of cracks in guesthouse	Public Works Department - Andhra Pradesh	20000
21	Meher Prasad A	Report on load calibration test	Simplex Infrastructures Ltd.,	10000
22	Ananthanarayanan K	Checking the levels and alignment of the rails of the KILN	W S Industries (India) Limited	30000
23	Devdas Menon	Gauge conversion of ATU-SA section - Proof checking of design for superstructure of Bridge No.209	Rail Vikas Nigam Limited	56120
24	Devdas Menon	Testing of pre-stressing strand	Common Code	100000
25	Kalyanaraman V	NDT evaluation of the superstructure, substructure, experimental study of the structure and theoretical evaluation of strengthening requirements for BG loading for scherzer span of the Pamban Bridge	Southern Railway	1981036

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs.)
26	Meher Prasad A	Calibration of hydraulic jack	Utracon Structural System Pvt Ltd.,	15000
27	Devdas Menon	Recommendations for repair of Sri Venkateswara Medical College Building, Hospital and Research Foundation for M/s Ramachandra Educational Trust at Ariyur, Pondicherry	Technicaliya Consultants Pvt Ltd.,	25000
28	Thamizh Arasan V	Material characterisation and mix design for base, bearing and wearing courses of highway pavement	A Ramanathan & Co.,	89279
29	Murty B S	Calibration of water current meters	Common Code	100000
30	Veeraraghavan A	Safety audit for Coimbatore Bypass	L & T Ramboll Consulting Engineers Ltd.,	112240
31	Satish Kumar S R	Testing on AC Sheets	Indian Oil Corporation Limited	25426
32	Meher Prasad A	Design checking of roof top and ground based towers	Aster Teleservices Pvt. Ltd.,	120000
33	Meher Prasad A	Load calibration test	Progressive Industrial Components	20000
34	Thamizh Arasan V	Traffic impact study for commercial complex	ITC Limited	134688
35	Koshy Varghese	Advisory services to Accu-spatial LLC	Accuspatial – USA	700000
36	Devdas Menon	Proof checking at design & drawings of proposed construction of R&D block, research building and animal house at ILS campus, Bhubaneswar	Rites Limited	168360
37	Devdas Menon	Testing of 6.5 S anchor block-8 Nos	VSL India Pvt Ltd	50508
38	Devdas Menon	Relaxation test for 100 hrs & 1000 hrs	Usha Martin Limited	50508
39	Devdas Menon	Testing of HTS wires 7 ply (12.7 mm dia) reinforcement rod 16 mm, 25 mm, 32 mm and concrete tube	Southern Railway - TN	33672
40	Meher Prasad A	Testing of parameters on one number of bearing pad with TURCITE-B material	Pioneer Power Corporation Ltd.,	50000
41	Devdas Menon	Consultancy services for design proof check of road over bridge structure at Krishnagiri Thopurghat Road Project	Larsen and Toubro Limited	179584
42	Devdas Menon	Technical consultancy for CGEWHO housing project at Chennai Ph II	Central Government Employee Welfare Housing Organisation	1178520
43	Devdas Menon	Proof checking of post-tensional beams for building for SDE Developers, Hyderabad	Ultracon Structural Systems Pvt Ltd.,	25000
44	Gandhi S R	Inspection of ash dyke and preliminary recommendations	National Thermal Power Corporation Ltd.,	20000
45	Satish Kumar S R	Design of transit shed of size 30 m x 18 m	Garrison Engineer	13000
46	Satish Kumar S R	Structural design of parking shed for 'A' vehs	Garrison Engineer	7500
47	Veeraraghavan A	Traffic safety management consultancy services for Krishnagiri - Thopurghat National Highway Development programme project	Feedback Turnkey Engineers	168360
48	Devdas Menon	Proof checking of ancillary building for Lighthouse Department	Lighthouses & Lightships	646502

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs.)
49	Satish Kumar S R	Issue of stability certificate at Sastri Nagar	Rajappa Shobana Architects	6000
50	Satish Kumar S R	Proof checking of the hanger design	Airforce	60000
51	Devdas Menon	Relaxation test for 100hrs & 1000hrs physical testing	STUP Consultants Pvt. Ltd.,	50508
52	Satish Kumar S R	Testing of TMT steel	B L Hashyap & Sons Ltd.,	5000
53	Satish Kumar S R	Testing of fly ash bricks	Geetha Constructions	1500
54	Thamizh Arasan V	Design of sub base and wearing courses for air field pavement works	Airports Authority of India	85730
55	Meher Prasad A	Jack calibration for ultracon post tensioning system	Ultracon Structural Systems Pvt Ltd.,	5000
56	Devdas Menon	Testing of PSC sleepers	Chennai Port Trust	112240
57	Gandhi S R	Proof checking as ash dyke design for lb power plant	Orissa Power Generation Corporation Limited	440000
58	Devdas Menon	Construction of Manimandapam for Perunthalaivar Kamarajar at Karuvadikuppam Revenue Village, Pondicherry	Threshold Architects	263764
59	Devdas Menon	Testing of HTS strand and 1000 hrs relaxation test	Metropolitan Transport Corporation (Chennai) Ltd.,	49590
60	Boominathan A	Investigation for Kodungaiyur landfill site	Poabs Environtech Pvt Ltd.,	112240
61	Gandhi S R	Design of ash dyke for power plant at Yamunanagar	TPSC (India) Private Limited	60000
62	Devdas Menon	PWD-B&R Divn-KKL-NH-Construction of a new bridge across river Arasalar at 176/300 of NH 45-A Karaikal	Public Works Department Pondicherry	140300
63	Devdas Menon	Testing for pre-stressing strand	Common Code	100000
64	Satish Kumar S R	Conducting cold formed steel column tests to determine the failure load	Godrej	45000
65	Satish Kumar S R	Compressive strength and water observation of the bricks	R R Fal G Bricks Industries	1500
66	Meher Prasad A	Charges for vertical bending fatigue testing of axle housing	Axles India Limited	561200
67	Ligy Philip	Technical assessment of the DPR for zero liquid discharge	Veerapandi Common Effluent Treatment Plant (P) Ltd.,	280600
68	Kalyanaraman V	Proof checking of composite girder	Rites Limited	150000
69	Ligy Philip	Technical Assessment of the DPR for zero liquid discharge	Karaipudur Common Effluent Treatment Plant (P) Ltd	224480
70	Ligy Philip	Technical Assessment of the DPR for zero liquid discharge	Mannarai Common Effluent Treatment Plant (P) Ltd.,	224480
71	Ligy Philip	Technical Assessment of the DPR for zero liquid discharge	Andipalayam Common Effluent Treatment Plant (P) Ltd.,	224480
72	Veeraraghavan A	Forensic investigation on pre-mature cracks on Ahmedabad-Vadodara expressway	National Highways Authority of India	112240
73	Murty B S	Calibration of water current meters	Irrigation & CAD Department	41529
74	Thamizh Arasan V	Mix design for bituminous pavement works	P Janardhan	45471

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs.)
75	Thamizh Arasan V	Quality checking of bituminous pavement works	AARVEE Associates	65434
76	Devdas Menon	Testing of 12.7mm LRPC strand for relaxation testing for 1000hrs	Tata Steel	28060
77	Devdas Menon	Relaxation test for 1000hrs	Bureau of Indian Standards	27550
78	Meher Prasad A	Structural design proof check and pre-weight type wagon loading system	Merit Technologies India Limited	35000
79	Manu Santhanam	Performance evaluation of metacon	English India Clays Ltd.,	250000
80	Devdas Menon	Testing of concrete sleepers	Patil Group of Industries	112240
81	Satish Kumar S R	Testing of fly ash bricks	Geetha Constructions	1500
82	Satish Kumar S R	Physical test for TMT Fe-415	ARS Metals Private Limited	10000
83	Mohan S	Environmental impact study	Penar Speciality Products Pvt Ltd	112240
84	Indumathi M Nambi	Analysis of heavy metal composition in the tsunami affected agriculture fields	M S Swaminathan Research Foundation	4990
85	Meher Prasad A	For design checking of F.M.Towers of height 149 mtr., 141 mtr. and 111 meter.	Aster Tele Services Pvt. Ltd.,	240000
86	Meher Prasad A	Proof checking for microwave towers at RCI, Hyderabad	S. S. Consultants	80000
87	Murty B S	Calibration of water current meters	CommonCode	100000
88	Meher Prasad A	Calibration of 50 & 200 tonnes proving rings	Concrete Products & Construction Company	22448
89	Meher Prasad A	Blast resistant structures	SEMAC Pvt. Limited	150000
90	Appa Rao G	Cooling studies for Pulichinthala Concrete Dam Projects	SCL-CR 18G Joint Venture	330000
91	Devdas Menon	Relaxation test for 100 hrs.	Usha Martin Limited	50508
92	Devdas Menon	Testing of VSL Ea 5.12 anchorage system	VSL India Pvt Ltd	78568
93	Meher Prasad A	Charges for the load testing the CT Prop	ABC Engineers	5000
94	Ligy Philip	Checking the design of effluent treatment plant	P R Acoustical & Engg. Works Pvt. Ltd.,	22181
95	Meher Prasad A	Charges for the condition asesment and evolving retrofit strategies for the fire damage building	Cognizant Technology Solutions	125000
96	Mohan S	Evaluation of effluent streams to asses the treatment requirements	Tamil Nadu Water Supply and Drainage Board	38570
97	Satish Kumar S R	Testing of Tor steel	B L Hashyap & Sons Ltd.,	10000
98	Gandhi S R	Stability analysis of ash dyke for Bhilai Plant	The Indure Private Limited	429780
99	Devdas Menon	Design check of multistoreyed buildings at Kochi	Gherzi Eastern Limited	572424
100	Devdas Menon	Testing of elastomeric bearings	Pioneer Rubber Industries	44000
101	Boominathan A	Advice for geotechnical designing of Gangavaram break water	L & T Ramboll Consulting Engineers Ltd.,	360000
102	Devdas Menon	Rehabilitation of Railway Bridge No.155(26 Spans of 9.14M each) By CiNTEC technology - Proof checking of the rehabilitation design	Rail Vikas Nigam Limited	561200

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs.)
103	Devdas Menon	Testing of utracon post - tensioning anchorage system	Utracon Structural System Pvt Ltd.,	134688
104	Ligy Philip	Performance evaluation of water treatment	Hindustan Construction Co. Ltd.	81941
105	Veeraraghavan A	Testing of stone ballast	Southern Railway	10000
106	Dodagoudar G R	Liquefaction analysis and construction of design spectrum for Konaseema power plant site	Larsen and Toubro Limited	100000
107	Rajagopal K	Connection Strength between Facing Panels and Geo- Grids.	Z-TECH (India) Private Ltd	142434
108	Satish Kumar S R	Conducting cold formed Steel frame/Beam tests to determine the failure load.	Godrej & Boyce MFG.Co.LTD.	40000
109	Gandhi S R	Pile design for 1*500MW Khaperkheda Thermal Power Station project.	MSPG Maharashtra State Power Generation Co.Ltd.	168360
110	Meher Prasad A	Charges for Testing of two towers 1.8m*1.8m*6m.	DLF Laing O Rourke (India) Ltd	89792
111	Meher Prasad A	Design check for 3 Shelters.	ICOMM Tele Ltd	50508
112	Robinson R G	Evaluation of the performance of soil stabilizer on expansive soils.	Legend Innovative Technologies Pvt Ltd	56120
113	Devdas Menon	Proof checking of structural design of new international passenger terminal building at Trivandrum airport.	Ws Atkins (India) Pvt.Ltd	1800105
114	Gandhi S R	Investigation of proposed capacity addition programme of BTPS stage III.	National Thermal Power Corporation Ltd.,	22448
115	Meher Prasad A	Design checking and approval for three types of shelters for normal environmental condition and three types of shelters for harsh environment condition.	Satyavani Projects and consultants Pvt.Ltd	89792
116	Devdas Menon	Rehabilitation and upgrading of the existing 2 lane road to 4/6 lane divided carriage way configuration from Ongole to Chilakaluripet Km 291 to Km 358 of NH 5 in the State of Andhra Pradesh.	IJM- Gayatri Joint Venture	224480
117	Muralikrishnan J	Assessment of the performance grade properties of Bitumen.	OOMS Polymer Modified Bitumen Pvt Limited	44896
118	Rajagopal K	Pullout parameters for geogrid in sand	Gammon India Ltd.,	56793
119	Devdas Menon	Testing of high tensile steel strands	Nandi Engineering Ltd.,	44284
120	Dodagoudar G R	Determination of hardness of rock core samples : NH 7 Bypass - ch.163.00/165.00 section Kayathar to Tirunelveli - Tamilnadu	National Highways Authority of India - TN	30000
121	Thamizh Arasan V	Widening and strengthening of Port Roads	Tuticorin Port Trust	96487
122	Gandhi S R	Foundation of RGCA building complex	Rajiv Gandhi Centre for Aquaculture	22448
123	Gandhi S R	Remedial measures for damage to retaining wall at Neriya Station	Petronet MHB Ltd.,	123464
124	Rajagopal K	Connection strength of block-grid and panel-grid systems	Techfab India	170921
125	Devdas Menon	Independent testing of prestress steel class - 2 of row relaxation type super strands 15.2 mm dia. (7 ply) and HDPE sheathing	STUP Consultants Pvt. Ltd.,	33672
126	Indumathi M Nambi	Evaluation of the Performance of Marine Coastal Collector wells	LRAMP Project	250000

RBIC Projects:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs.)
1	Ligy Philip	Development of integrated treatment process for coke oven effluents	Steel Authority of India	9500000
2	Ravindra Gettu	Optimization of the nature and dosage of the fines in self compacting concrete in order to obtain a low cost material and simplify mix design	BASF Construction Chemicals	1350000

Retainer Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs.)
1	Gandhi S R	Kalpasar	Water Resources Department	177448

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

1. IIT Madras, Dept. of Civil Engineering and Government College of Engineering, Trivandrum – 16th February 2006.
2. IIT Madras and the Institut Universitate D'Etudes Du Development Geneva - 1st June 2006.
3. IIT Madras and NUS Singapore – 1st June 2006
4. IIT Madras and Auburn University, USA - 3rd Nov. 2006

Mr. David Harvey, President, Institute of Structural Engineers, UK visited and delivered lecture in a programme organized by Structures Research Forum, Dept. of Civil Engineering on 26th March 2007.

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	--	37
Total No. of papers published in Refereed International Journals	--	49
Total No. of papers presented in National Conferences	--	62
Total No. of papers presented in International conferences	--	91

Details:**In Refereed National Journals:**

1. Praveen Nagarajan and Devdas Menon, "Reliability of RC slab culverts", Indian Concrete Journal, Vol.80, No.5, pp 51-54, May 2006
2. Babu Kurian and Devdas Menon, "Simplified method for transverse bending analysis of concrete box-girder bridges", Journal of Structural Engineering, SERC, Vol.33, No.2, pp 121-127, June-July 2006.
3. Devdas Menon, "Trans-personal growth", Journal of the Krishnamurti Schools, Vol.10, pp 76-81, July 2006.
4. Srinivas Sriramula, Devdas Menon, and A Meher Prasad, "Axle load variations and vehicle growth projection models for safety assessment of transportation structures", Transport, Vol.22, No.1, pp 31-37, January 2007
5. Boominathan, A., Alagusundaramoorthy P., and Sundaravadelu, R (2006), "Rehabilitation and Retrofitting for Vibration of the supporting Structure of Dehydrating Centrifuge Machine," SERC Journal of Structural Engineering, Vol.33, No.1, pp 57-62.
6. Neethu Roy, Issac, K P and Veeraragavan A, "Sensitivity Analysis of Input Parameters for application of Highway Development and Management Tool (HDM-4) for Investment Decision," Indian Highways Journal, Vol.34, No.1, January 2006.
7. Chandrasekhar, B.P., Veeraragavan A, Rathnakara Reddy, K.B., and Balabhaskara Reddy, Asset Management of Rural Roads – Need for a policy framework in India", Indian Roads Congress Journal Vol. 67-3, October 2006.
8. Awanti, S.S., Amarnath M.S., and Veeraragavan A, "Influence of Modified Marshall Compaction Techniques on Engineering Properties of Polymer Modified and Neat Bituminous Concrete Mixes", Highways Research Bulletin Journal No.75, Indian Roads Congress, October 2006.

9. Sivanadan, R. and Venkatesh, G., "A Heuristic Model for Rerouting Origin-Destination (O-D) Flows for Network Travel Time Improvement," *Journal of The Institution of Engineers (India)*, Vol. 87, pp. 3-6, February 26, 2007.
10. Venkat Reddy, V., Sivanandan, R. and Anusha, S. P., "Evaluation of Signal Interruptions on Vehicular Emission," *Indian Journal of Environmental Protection*, Vol. 26, No. 4, pp. 363-368, April 2006.
11. Uma S R and Meher Prasad A (2006) *Seismic behaviour of beam-column joints in RC moment resisting frames: A review*, *The Indian Concrete Journal*, 80(1), January, pp. 33-43.
12. S. Mohan, "Groundwater Modelling: An Overview", a Chapter in the book titled "Groundwater Flow and Mass Transport Modelling" (Edited by T. Vinoda Rao, Andhra University) Allied Publishers Pvt. Ltd., pp. 1-21, January 2006.
13. S. Mohan and S.K. Pramada, "Regional Groundwater Modeling", a Chapter in the book titled "Groundwater Flow and Mass Transport Modeling" (Edited by T. Vinoda Rao, Andhra University) Allied Publishers Pvt. Ltd., pp. 178-185, January 2006.
14. V.Jothiprakash, M.G.Devamane, and S. Mohan, "Comparative Study on Multisite Stream flow Generation Models: HEC4 and ANN", *Journal of Institution of Engineers, Civil Engineering Section*, Vol. 87, pp. 9-14, May 2006.
15. S. Mohan, and S.T. Ramesh, "How Recirculation Ration Affects Biological Solids Retention Time and Process Stability in the Activated Sludge Process", *Journal of the Institution of Public Health Engineers*, Vol. 2006-07, No. 2., pp. 30-34.
16. S. Mohan, and K. Badrish, "Genetic Algorithm Based Control of Activated Sludge Process Systems", *Journal of Indian Water Works Association*, Jul-Sep. 2006, pp. 73-84., 2006.
17. S. Mohan, and H. Ramesh, "Pipe Network Optimization Using Genetic Algorithm", *Journal of Indian Water Works Association*, Oct-Dec. 2006, pp. 11-19., 2006.
18. Nitya Subramanian, A. Ramachandraiah, "Speech Intelligibility issues in classroom acoustics – A Review journal of the Institution of Engineers, Vol.87, pp.29-33, 2006.
19. Reddy, R.V.S., and Alagusundaramoorthy, P. " Static Behaviour of Contact Molding GFRP Composite Highway Bridge Deck Panels", *Journal of Institution of Engineers, India*, 86 (2006), 177-181.
20. 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, 35, No. 4 (2006), 17-28.
21. V. Thamizh Arasan, Manfred Boltze and Siva Subramanyam, "Determination of Intergreen Intervals in Signal-Time Settings for Heterogeneous Traffic" *Indian Highways, Indian Roads Congress*, Vol. 34, No. 8, pp 47-58, August 2006.
22. V. Thamizh Arasan and Suhas, B.K., "Methodology for Prolonging the Functional Efficiency of High-Volume Signalised Intersections", *Indian Highways, Indian Roads Congress*, Vol. 34, No. 9, pp 19-28, September 2006.
23. V. Thamizh Arasan and M. Selva Kumar, "Demand Forecasting for Long-Haul Intercity Rail Travel: A Case Study" *Journal of The Institution of engineers (India)*, Vol. 87, pp 26-32, November, 2006.
24. R.L. Zerbino, G. Giaccio and R.Gettu, "Pseudo-ductile Behaviour of Steel Fibre Reinforced High-Strength Concretes", *Indian Concrete J*, V.80, No.2, pp.37-43(2006).
25. Kumar Sathish (2006) 'Design of stainless steel tubular members', *Jnl of Struct. Engg, SERC*, ol. 33, No. 3, pp 231-235.
26. Gajalakshmi, P. and Sengupta, A. K., "Modelling of Low-rise Shear Walls for Push-over Analysis of Buildings", *Indian Concrete Journal*, The Associated Cement Companies Limited, Vol. 80, No. 6, June, pp. 41 – 46, 2006.
27. Kamat, D. R. and Sengupta, A. K., "Assessment of Seismic Vulnerability of Mid Rise Multi-Storeyed Reinforced Concrete Buildings in India", *ICI Journal*, Indian Concrete Institute, Vol. 7, No. 2, July-September, pp. 23 – 25, 2006.
28. Rao, B. N., "Shape Sensitivity Method for Computation of stress Intensity Factors Sensitivity in Functionally Graded Materials," *Journal of Structural Engineering, SERC*, Vol. 33, No. 4, pp. 319-332, 2006.
29. Ganeshwadi, U. and Dodagoudar, G. R. (2006) "Reliability Analysis of Piled Raft Foundation," *Indian Geotech. J.*, Vol. 36, pp. 69 - 85.
30. Shyamala, B. and Dodagoudar, G. R. (2006). "Reliability Analysis of Strip Loaded Region in the Interior of the Poroelastic Media," *Indian Geotech. J.*, Vol. 36, pp. 144 – 159.

31. Praveen Kumar, R., Dodagoudar, G. R. and Rao, B. N. (2006). "One Dimensional Contaminant Transport Modelling Using Element Free Galerkin Method," *Indian Geotech. J.*, Vol. 36, pp. 233-248.
32. Dodagoudar, G. R., Harikumar, A. and Praveen Kumar, R. (2006). "Analysis of Laterally Loaded Single Pile with Material Nonlinear Behaviour," *Indian Geotech. J.*, Vol. 36, pp. 299-320.
33. Dodagoudar, G. R. and Venkatachalam, G. (2006). "Reliability Analysis of Earth Slopes," *Indian Geotech. J.*, Vol. 36, pp. 348-372.
34. Singh, L.B., and Satyanarayana Kalidindi, (2006) "Traffic Revenue Risk Management through Annuity Model of PPP Road Projects in India", *International Journal of Project Management*, 24 (2006), 605-613.
35. Thomas A V., Satyanarayana Kalidindi, Ganesh L.S. (2006), "Modelling and Assessment of Critical Risks in BOT Road Projects", *Construction Management and Economics*, (April 2006) Vol.24, pp. 407-424.
36. Ramesh Babu, C., and Santhanam, M., "Optimization of High Early Strength Steam Cured Concrete Mixtures Using Central Composite Design," *Indian Concrete Journal* Vol. 80, No. 6, 2006, pp. 11 – 15.
37. Appa Rao G, and Injaganeri S.S., and Suresh P, (2007) "Investigations of Size Effect on Shear Strength of Reinforced Concrete Beams", *Jl. Of Structural Engineering, SERC*, March 2007.

In Refereed International Journals:

1. P. Revathi and D Menon. "Estimation of critical buckling moments in slender reinforced concrete beams", *ACI Structural Journal*, American concrete Institute, Vol. 103, No.2, pp 296-303, March / April 2006.
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Distinguished Visitors to the Department:

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1	Prof. Chris Bell, Oregaon state University	Sept. 29, 2006	Opportunities for students in Oregon State University
2	Prof. Tan Thiam Soon, Dean National University of Singapore	Sept. 29, 2006	Delivered a talk

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
3	Prof. G. Macchi	Nov. 13-17, 2006	Joint Project
4	Prof. G. Magenes	Nov. 13-16, 2006	Joint Project
5	Dr. Carlo G. Lai	Nov. 13-16, 2006	Joint Project
6	Prof. Kyle M. Rollins	Apr. 1, 2006 – May 1, 2007	-
7	Prof. Vicki Colvin, Director, Centre for biological and environmental nanotechnology, Rice University Houston Texas	Oct. 13, 2006	Visited the Laboratory and had discussions with the faculty
8	Prof. Nirmala Khandan Professor Civil Engg. Dept. Box 30001, MSC-3CE New Mexico State University	Jan. 3, 2007	Interaction with students
9	Prof. Prabhakar Clement Dept. of Civil Engg. Auburn University, Alabama	Oct. 30, 2006	Interaction with students
10	Dr. K.R. Shyam Sundar, ADGP, State Traffic Planning Cell	Aug. 24, 2006	Transportation Issues
11	Mr. Ram Cowsik, GM (Exports), Ashok Leyland	Nov. 10, 2006	The company on a potential urban transportation planning project for African cities.
12	Nkrumah University of Science and Technology (KNUST), the Dept. of Civil Engg. Of te KNUST Kumasi, Ghana	Dec. 14-22, 2006	World Bank initiated collaboration proposal between the road and transportation engineering programme (RTEP)
13	Prof. Pol D Spanos, Rice University	Jan. 22, 2007	Prof. C.S.Krishnamoorthy Memorial Lecture on Joint Time – Frequency Analysis in Structural Dynamics Applications
14	Prof. Guledenpfennig, RWTH, Aachen Mr. H.N. Chatterjee, RWTH, Aachen	Jan. 19, 2007	
15	Shri B Bhattacharjee, Hon'ble Member, National Disaster Management Authority, New Delhi	March 16, 2007	Ongoing studies on Earthquake and Cyclones
16	Dr. Theresa A Maldonado, Prof. Edward Seymour, and Prof. K. R. Rajagopal, Texas A&M	March 22, 2007	sign a MoU with IITM
17	Prof Pieter Vermeer, University of Stuttgart, Germany	February 17-23, 2007	Conduct an international course on Computational Geomechanics.

4.6.6 Other Activities of the Department/Centre:

Dr. R. Sivanandan, meeting with Chennai City Traffic Police Officials and IIT Administration Officials on traffic related issues of IITM's IN-OUT Gates, August 10, and September 27, 2006.

Prof. S.R. Gandhi and Prof K. Rajagopal were elected as Executive Committee Members of the Indian Geotechnical Society, New Delhi for two year term 2006-2008.

Inter disciplinary group achievements of the Departments.

An article on the *Call Bus* system being researched by the Interdisciplinary Research Group (IDRG) on Urban Infrastructure Systems appeared in "City Express" section of "The New Indian Express" dated March 14, 2007. A radio interview with an investigator of the project, Prof. R. Sivanandan was aired on Radiocity FM 91.1 on March 15, 2007. A brief story about this project was also telecast in CNBC TV channel on March 24, 2007. This project utilizes GPS and GIS technologies to track buses and predict their travel times in real time. Such information coupled with higher service levels (comfort and convenience) may be able to shift people from personal vehicles (cars and two-wheelers) to buses, thereby mitigating traffic congestion.

Socially relevant activities carried out by the Department

- Involved in the training of engineering college teachers and professional engineers in the area of Earthquake Engineering, under NPEEE programme.
- Assistance for the construction of housing under the Tsunami rehabilitation projects.
- Design of a portable bridge for carrying tractor load of produce across small canals

Student visit

- P. Sita Rama Raju, M.Tech "Alternative Technology for Housing" at All India Peoples Technology Congress, February 2007 at Kolkata
- Ms. Kathyayani, M.Tech. student went to University of Karlsruhe under the DAAD sandwich programme.
- M. Nithyadharan, Ph.d. "Cold Formed Steel Housing" International Conference on Civil Engineering in the New Millennium Opportunities and Challenges (CENeM 2007) at BEC, Shibpur, Howrah, January 2007.
- Exchange of faculty and students with University of Pavia, Italy, University of Catolynia, Spain under exchange programme.

4.7 DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

4.6.1 Introduction:

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

4.6.2 Academic Programmes:

New Courses Introduced:

Sl. No	Course No.	Title
1	CS677	Knowledge Representation and Reasoning

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech.	28	29	30	28	02	117
Dual Degree	12	12	12	11	07	054
M.Tech.	46	53	-	-	-	099
M.S.	18	30	43	23	-	114
Ph.D.	09	16	16	06	15	062
Total	113	140	91	68	24	446

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	Dhananjaya. N	Ph.D.	Workshop on Multimedia User Authentication	11-12 May 2006, Toulouse, France
2	Dhananjaya. N	Ph.D.	International Conference on Acoustics, Speech and Signal Processing (ICASSP2006)	14-19 May 2006, Toulouse, France
3	Sanasam Ranbir Singh	Ph.D.	National Workshop on Artificial Intelligence '06	3 rd – 4 th July '06, CDAC - Mumbai
4	Noor Mohammed Rajesh kumar Dasari S. K. Mallika A. Chandra kumar G. Pitchaiah D. Praveen kumar D. Sanjeev kumar Ashish Netham Poonam Gawde Vidhyavathi S. Naik Y. Chandrasekhar	Ph.D. M.S. M.S. M.Tech. M.Tech. M.Tech. M.Tech. M.Tech. M.Tech. M.Tech. M.Tech.	VLSI Design and Test Symposium (VDAT '06)	8 th – 13 th Aug '06, Goa
5	Madhu Gayathri Meena Singh Dileep Amjed Sherif Sharmila Devi Krishna Suri Narayanan	M.Tech. M.S. M.S. Ph.D. M.S.	National Workshop on Cryptography (CRYPTO '06)	8 th – 10 th Sep '06, Defense Institute of Advanced Technology, Pune
6	P. Deepthi Lalit Gupta	M.S. M.S.	IEE – VIE '06	Sept. 26-28, 2006, Bangalore
7	Masilamani V	Ph.D.	IEEE – International Conference on Signal & Image Processing	7 th – 9 th Dec '06, Hubli

8	Aakanksha Gagrani T.T Mirnalinee Abhilash R P. Deepti P. Vinod Raj Gupta Ramikrishan	M.S. Ph.D. M.S. M.S. Ph.D. M.S. B.Tech	ICVGIP '06	13 th – 16 th Dec '06, Madurai
9	M. Abdul Nizar B. V. N. Prashant	Ph.D. M.S.	COMAD '06	14 th – 16 th Dec '06, IIT Delhi
10	Surya Prakash P. Deepti Sunando Sengupta	M.S. M.S. M.S.	ICAPR '07	2 nd – 4 th Jan '07, Kolkata
11	Aashish Chowdry Arpita Patra Aakanksha Gagrani R. Deepak	Ph.D. Ph.D. M.S. M.S.	IRISS '07	3 rd Jan '07, Hyderabad
12	Bharat Ranjan C Radhika Selvamani Sanasam Ranbir Singh Vimal Mathew Shravan Mathur Aakanksha Gagrani Sravanthi M. R. Deepak Saurabh Kejriwal A. Gautam Reddy Muralikrishnan V. P.	Ph.D. Ph.D. Ph.D. M.S. M.S. M.S. M.S. M.S. M.S. M.Tech. M.Tech.	IJCAI '07	6 th – 12 th Jan '07, Hyderabad
13	Noor Mohamed Najeeb K Y. Chandrasekhar Shyam Shroff Siva Shatry Vishnu Vardhan Reddy	Ph.D. Ph.D. M.Tech. DD B.Tech B.Tech	20 th International Conference on VLSI Design	6 th – 10 th Jan '07, Bangalore
14	R. Kumaraswamy S. Guruprasad N. Dhanajaya	Ph.D. Ph.D. Ph.D.	Winter School on Speech & Audio Processing (WISSAP '07)	10 th – 13 th Jan '07, IISc Bangalore
15	V. Masillamani T. Mirnalini Sreyasee Bhattacharya	Ph.D. Ph.D. Ph.D.	International Conference on Advanced Computing & Communication	8 th – 10 th Feb '07, SIT, Madurai
16	R. Anitha A. D. Dileep	Ph.D. Ph.D.	Indo-US shared vision Workshop on Soft, Quantum and Nano Computing (SQUAN '07)	20 th – 27 th Feb '07, Dayalbagh Educational Institute, Agra
17	Shravan Mathur	M.S.	Seminar on Future Internet	24 th Feb '07, Google India Labs, Bangalore
18	Pradhan Prashant Kumar	B.Tech	31 st Annual ACM Intl. Collegiate Programming Contest – World Finals	12 th – 16 th Mar '07, Tokyo, Japan
19	R. Anitha, S. Chandrakala	Ph.D. Ph.D.	Spring School on Soft Computing Advances & Applications	12 th – 17 th Mar '07, ISI, Kolkatta
20	K. Jemimah	M.Tech.	Workshop on Ad hoc Networks	22 nd – 23 rd Mar '07, MIT, Chennai

4.6.3 Faculty and their activities:

Dr. Debdeep Mukhopadhyay joined the Department as Assistant Professor

Dr. P. Sreenivasa Kumar and Dr. Hema A Murthy are promoted as full professors effective 13th April '06.

Dr. V. Kamakoti was promoted as Associate Professor effective 13th April '06.

Prof. B. Yegnanarayana has retired effective 1st July '06

Prof. Kamala Krithivasan was elected as Fellow of INAE in October 2006 (effective from Jan 2007).

Faculty Name and Qualification

Name and Qualifications

Major Area of Specialization

PROFESSORS

Gonsalves T.A., Ph.D (Stanford)	Computer Networks, Distributed Systems, NMS, Operating Systems, Performance Evaluation, Telecom Software,
Kalyana Krishnan.R, Ph.D (Yale)	Computer Architecture, Computer System Design, Microprocessors, Digital Electronic Systems, Computer Graphics, Statistical Signal Processing.
Kamala Krithivasan, Ph.D (Madras)	Theoretical Computer Science, Computational Geometry, Languages and Automata Theory Formal Languages and Automata Algorithms, Molecular Computing.
Pandu Rangan C., Ph.D (IISc.)	Algorithms, Parallel and VLSI Algorithms, Graph Theory, Computational Geometry, Randomized 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)	Real-time Systems, Optical and Wireless Networks
Janakiram D, Ph.D (IIT Delhi)	Object Oriented Systems, Software Engineering, Parallel and Distributed Systems, Database Systems, Mobile Computing, Real-Time Systems, Computer Networks and Fault-Tolerant Computing Systems.
Hema A Murthy., Ph.D (IIT Madras)	Speech processing, Computer Graphics and Pattern Recognition.
Sreenivasa Kumar P, Ph.D (IISc)	Graph Theory, Algorithms, Parallel Computations, Data Mining and Data Bases.

ASSOCIATE PROFESSORS

Deepak Khemani, Ph.D (IIT Bombay)	Artificial Intelligence, Knowledge based systems, Natural Language Processing and Neural Networks.
Sukhendu Das, Ph.D (IIT Kharagpur)	Visual Perception - Computer Vision, Image processing and pattern recognition, Graphics, Neural Networks, Soft Computing.
Chandra Sekhar C., Ph.D (IIT Madras)	Speech Recognition, Artificial Neural Networks, Kernel Methods.
Kamakoti V., Ph.D (IIT Madras)	Software for VLSI Design, Computational Geometry, High Performance Computing.

ASSISTANT PROFESSORS

Narayanaswamy N.S., Ph.D (IISc)	Software for Information Management, Algorithms. and Complexity Theory.
Ravindran B., Ph.D (University of Massachusetts)	Machine Learning, Reinforcement Learning, Data Mining, Information Filtering, Knowledge Representation
Shankar Balachandran., Ph.D (UT, Dallas)	CAD for VLSI, Reconfigurable Computing, Computer Architecture
Anurag Mittal., Ph.D (U. of Maryland)	Computer Visualization, Computer Graphics
Debdeep Mukhopadhyay., Ph.D (IIT Kharagpur)	Reconfigurable Hardware, Hardware realizations of Cryptographic algorithms.

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

Sl. No	Name of Faculty	Title	Period
1	Prof. Kamala Krithivasan	Symposium on Formal Languages and Automata Theory, as part of CMASM 2007.	6-8 Jan.'07, IIT Madras

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.C.Chandra Sekhar	International Joint Conference on Neural Networks (IJCNN'06)	16-21 July '06 Vancouver, Canada
2	Dr. V. Kamakoti Dr. Shankar Balachandran	VLSI Design And Test Symposium (VDAT '06)	8 – 13 August '06, Goa
3	Dr. Sukhendu Das	ICPR-06	20 – 25 August '06, Hong Kong
4	Dr. Sukhendu Das	IEE – VIE '06	26 -28 September '06, Bangalore
5	Prof. T.A. Gonsalves	IEEE Conference on IP Operations and Modeling 2006	October '06, Dublin, Ireland
6	Dr.C.Chandra Sekhar	Workshop on New Advances in Multimedia Security, Biometrics Watermarking & Cultural Aspects	23-24 October 2006, Florence, Italy
7	Dr.C.Chandra Sekhar	International Workshop on Frontiers in Handwriting Recognition (IWFHR'06)	24 -26 October 2006, La Baule, France
8	Prof. C Siva Ram Murthy	IEEE Broadnets 2006	1-5 October 2006 San Jose, CA, USA
9	Dr. Deepak Khemani	COMAD '06	14 – 16 December '06, IIT Delhi
10	Dr. Sukhendu Das	ICVGIP '06	13 – 16 December '06, Madurai
11	Dr. Sukhendu Das	ICAPR '07	2 – 4 January '07, Kolkata
12	Prof. P. Sreenivasa Kumar, Dr. Deepak Khemani	IRISS '07	3 January '07, IIIT, Hyderabad
13	Prof. T. A. Gonsalves	CII Workshop on Industry Institute Interaction for Skill Enhancement (As Panelist)	5 January '07, Science City, Chennai

14	Dr. Deepak Khemani	ICON '07	4 - 6 January '07, Hyderabad
15	Dr. V. Kamakoti	International Conference on VLSI Design '07	6 – 10 January '07, Bangalore
16	Dr. Deepak Khemani, Dr. B. Ravindran	International Joint Conference on AI, IJCAI '07	6 – 12 January '07, Hyderabad
17	Prof. C. Pandu Rangan, Dr. B. Ravindran	Microsoft Tech Vista '07 (As Special Invitees)	7 – 10 January '07, Bangalore
18	Prof. Hema A. Murthy, Dr. C. Chandra Sekhar	Winter School on Speech and Audio Processing (WiSSAP'07)	10-13 January '07, IISc, Bangalore
19	Prof. S. V. Raghavan	QIP Workshop	13 February '07, NIT, Trichy
20	Prof. P. Sreenivasa Kumar	Seminar on Future Internet	24 February '07, Google India Labs, Bangalore
21	Dr. Sukhendu Das	ICCTA'07	5 – 7 March '07, Kolkata
22	Prof. Kamala Krithivasan	International Conference on Engineering Education	1– 2 March '07, IIT Madras
23	Prof. Kamala Krithivasan	National Workshop on Models for Embedded Computing	18 – 19 March '07, Banasthali Vidyapeet, Rajasthan
24	Prof. D. Janakiram	AAYAAM 2007, A Technical Symposium on Service Oriented Architecture	16 -18 March '07, IIT Bombay

Special lectures delivered by the faculty in other Institutions:

Sl. No	Name of Faculty	Topic of Lecture	Venue and Date
1	Prof. T. A. Gonsalves	Plenary Lecture	7 th July '06 2 nd NCICTT, PSG Tech, Coimbatore
2	Dr. C. Chandra Sekhar	Lectures for CEP course	26 th – 27 th July '06 DRDO, Pune
3	Prof. T. A. Gonsalves	Industry University Interaction	14 th Sep '06 EC-Indo INCITE Workshop, Chennai
4	Prof. Kamala Krithivasan	Key Note Address in Technical Festival on DNA Computing	18 th Sep '06 Muthukumaran Institute of Technology, Chennai
5	Prof. D. Janakiram	Mobile Cluster Computing	23 rd Sep '06 IEEE National Conference on Mobile Computing, Trivendrum
6	Prof. Kamala Krithivasan	DNA Computing	4 th Nov '06 Vellore Institute of Technology, Vellore
7	Dr. C. Chandra Sekhar	Principles of Pipelined and Superscalar Processors (in Continuing Education Program)	6 th – 10 th Nov '06 Naval Physical & Oceanographic Lab, Cochin

8	Prof. D. Janakiram	Programming Abstractions for Peer–Peer Distributed Systems	21 st Nov '06 IBM IRL Workshop on Next Generation PL & Environments, New Delhi
9	Prof. Kamala Krithivasan	Title Membrane Computing	22 nd Dec '06 Sri Krishna College of Engineering & Technology, Coimbatore
10	Prof. T. A. Gonsalves	1. TeNet & Innovation: The TeNet Group's Experience in Driving Dreams for India 2. Towards Internet for the Next Billion 3. Towards Internet for the Next Billion	4 th Dec '06 University of California, Irvine 8 th Dec '06 Google, Mountain View 8 th Dec '06 EECS Dept., MIT
11	Prof. Kamala Krithivasan	Membrane Computing	20 th Jan '07 DMI College of Engineering, Chennai
12	Prof. S. V. Raghavan	Keynote Address in The Indian Conference on Computational Intelligence and Information Security	25 th Jan '07 Thiyagarajar Engineering College, Madurai
13	Prof. S. V. Raghavan	Keynote Address at QIP workshop	13 th Feb '07 NIT, Trichy
14	Dr. Debdeep Mukhopadhyay	Elliptic Curve Cryptosystems & Side Channel in Cryptography	15 th – 16 th Feb '07 Texas Instruments
15	Prof. D. Janakiram	OO foundations for Service Oriented Computing	16 th -18 th Mar '07, IIT Bombay
16	Prof. P. Sreenivasa Kumar	PSMQ: Path based storage and metadata guided XPATH evaluation	16 th Mar '07 IDRBT, Hyderabad
16	Prof. Kamala Krithivasan	Membrane Computing	18 th Mar '07, Banasthali Vidyapeet, Rajasthan
17	Dr. B. Ravindran	Learning from Interaction	23 rd Mar '07, IIT Kanpur

Visits abroad by faculty:

Sl. No	Name of faculty	Country visited	Date	Purpose of visit
1	Prof. Kamala Krithivasan	U.S.A	15 th May – 2 nd July '06	To visit Universities in U.S.A
2	Prof. B.Yegnanarayana	Germany Toulouse, France	11 th – 13 th May '06 14 th – 19 th May '06	EU – India Project Meeting, MMUA Workshop & ICASSP 2006
3	Prof. P. Sreenivasa Kumar	Germany	29 th May – 7 th July '06	Study visit under DAAD – IIT Exchange Programme
4	Prof. C. Pandu Rangan	France Denmark	15 th – 26 th June '06 26 th – 30 th June '06	To visit Dept. of CSE at LIENS, Paris To attend Summer School on Game Theory at Aarhus University
5	Dr. Sukhendu Das	Australia	12 th June – 11 th Aug '06	Visiting Senior Fellow at the University of Western Australia
6	Dr. Deepak Khemani	Amble side, UK	6 th June – 1 st July '06	To attend and present a paper at ICAPS

7	Dr. Anurag Mittal	USA	13 th May – 17 th July '06	To visit Univ. of Maryland & attend IEEE conference
8	Prof. C. Pandu Rangan	Japan	7 th – 14 th July '06	To visit NIT Labs
		USA	16 th – 26 th July '06	To attend Faculty Summit at Microsoft To attend and present a paper in PODC '06
9	Dr. C. Chandra Sekhar	Vancouver, Canada	16 th – 21 st July '06	To attend and present papers in IJCNN '06
10	Prof. C. Pandu Rangan	Santa, Barbara California, USA	20 th – 24 th Aug '06	To attend CRYPTO '06
11	Dr. Sukhendu Das	Hong Kong	20 th – 25 th Aug '06	To attend and present a paper at 18 th ICPR
12	Prof. C. Pandu Rangan	USA	12 th – 15 th Sep '06	To attend the Tutorials organized by Inst. of Pure and Applied Mathematics
13	Prof. S. V. Raghavan	Hong Kong	20 th – 25 th Aug '06	To attend and present a paper at 18 th ICPR
14	Prof. Hema A Murthy	Italy	4 th – 8 th Sep '06	To attend and present a paper at 14 th ESPC
15	Prof. C. Siva Ram Murthy	Austria & UK	20 th – 29 th Sep '06	To visit Universities
16	Prof. T. A. Gonsalves	Dublin Ireland	23 rd – 26 th Sep '06	To present a paper at 6 th IEEE Intl. workshop on IP Operations & Management
17	Prof. C. Siva Ram Murthy	USA	1 st – 5 th Oct '06	To attend and present a paper in IEEE Broadnets 2006
			6 th – 16 th Oct '06	To visit Universities
18	Dr. C. Chandra Sekhar	Italy & France	23 rd – 26 th Oct '06	Workshop on New Advances in Multimedia Security, Biometrics Watermarking & Cultural Aspects To present a paper at IWFHR
19	Prof. C. Pandur Rangan	USA	13 th - 17 th Nov '06	To attend the Workshop on Foundations of Secure Multiparty Computations by IPAM
20	Prof. T. A. Gonsalves	USA	1 st – 11 th Dec '06	Planning meeting for HOIT, Meeting with Alumni, Google Visit & Seminar at MIT, Boston
21	Prof. C. Pandu Rangan	China Japan	4 th – 7 th Dec '06	To attend ASIACRAFT '06
			14 th – 28 th Dec '06	To visit Ibraki University
22	Prof. T. A. Gonsalves	BT Labs, UK	28 th Feb – 2 nd Mar '07	To attend Indo-UK ATC workshop on Next Gen. Networks
23	Dr. Shankar Balachandran	Tokyo, Japan	12 th – 16 th Mar '07	To participate in 31 st Annual ACM Intl. Collegiate Programming Contest – World Finals

Honours and Awards obtained:

1. **Best Paper Award** by 14th IEEE ICN in Singapore for the paper "Design and Performance Evaluation of Meghadoot: A Hybrid Wireless Network Architecture" by Venkata Ramana, Devash Agrawal and Prof. C.Siva Ram Murthy on 15th Sep '06
2. **2006 IBM Faculty Award (\$10,000) for Recognition of the achievement in the field** by IBM to Prof. Hema A. Murthy on 8th Nov '06
3. **Best Paper Award** by IEEE workshop on IP Operation and Management (Dublin) for the paper "Traffic Modeling and classifications Using Packet Train Length and Packet Train Size" by Dinil Divakaran, Dr. Hema A. Murthy and Dr. T. A. Gonsalves on 25th Oct '06
4. **Best Ph.D Thesis Award (\$2,500)** by IBM for the Ph.D. thesis by Kannan Srinathan.
5. **Best Paper Award** by IRISS '07 for the paper presented in IRISS '07 by Arpita Patra.
6. **Runner-up Award** by Microsoft Research India for the Paper presented in Techvista '07 by Arpita Patra.
7. **Distinguished Alumnus Award** by Sri Venketeswara College of Engineering, Madras to Dr. V. Kamakoti.
8. **Australian Endeavour research fellowship award** for conducting research at the University of Western Australia, Perth, for a period of 6 months to Sreyasee Das Bhattacharya
9. **2007 IBM Research Fellowship** awarded to Mr. Sanasam Ranbir Singh. This is a globally competitive award.

4.6.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (Rs. in lakhs)
1	CSE0607 078DSTX CSIV	Communication, Computation & Coverage in Wireless Sensor Networks	Prof. C.Siva Ram Murthy	3 years	DST	18.47
2	CSE0607 080DRDO SUKH	Combining Classifiers using Decision Fusion: An Approach to Probabilistic Landform Segmentation	Dr. Sukhendu Das Dr. B. Ravindran	2 ½ years	DRDO	9.95
3	CSE0607 082DRDO CCHA	Clustering Techniques for Key Space Reduction	Dr. C. Chandra Sekhar Dr. Hema A Murthy	1 year	DRDO	5.88
4	CSE0607 081DRDO VKAM	Packet Processing Algorithms for Hardware Implementation	Dr. V. Kamakoti	13 months	DRDO	9.60
5	CSE0607 083SIEIA NUA	Design and Development of Algorithm and C Program for Human Intrusion Detection	Dr. Anurag Mittal	2 years	Siemens Information Systems Ltd, Bangalore	5.00
6	CSE0607 084DSTX ANUA	Multiple Camera Vision for Dynamic Senses	Dr. Anurag Mittal	3 years	DST	7.80
7	CSE0607 088DRDO TAGO	Network Management System for Tactical Networks	Prof. T.A. Gonsalves	12 months	DRDO (CAIR)	9.00
8	CSE0607 086VORT TAGO	Technologies for Rural ATM	Prof. T.A. Gonsalves	12 months	Vortex Engineering Pvt Ltd	15.00

9	CSE0607 085NXPS VKAM	ATPG and Diagnosis of DSM Circuits	Dr. V. Kamakoti		NXP Semi- conductors, Netherlands	7.28
10	CSE0607 089NTRO SVRA	Analysis, Design and Development of Denial of Service Mitigation Module (DMM)	Prof. S. V. Raghavan Dr. V. Kamakoti Dr. B. Ravindran	18 months	NTRO	29.5
11	CSE0607 087IBMC HEMA	Speech Synthesis in Indian Languages	Dr. Hema A Murthy	1 year	IBM Corporation USA	4.47
12		Establishment of a Rural Technology Business Incubator	Dr. Ashok Jhunjunwala Prof. T.A. Gonsalves Dr. Hema A. Murthy	5 years	DST	447.00
13	CSE0405 064DITXD JAN	Minimalistic Object Oriented Linux (MOOL)	Prof. D. Janakiram	3 years	DIT	39.6
14	CSE0405 062DSTX DJAN	Computing Power Grid on Middleware	Prof. D. Janakiram	3 years	DST	12.4
15	CSE0607 090NTRO SVRA	Collaborative Directed Basic Research in Smart & Secure Environment	Prof. S.V.Raghavan	3 years	NTRO	100.0

Consultancy Research Projects:

Sl. No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (Rs. in lakhs)
1	RB0506C SE002SIE IDJAN	Refactoring C# code to Design Pattern based code	Prof. D. Janakiram	3 years	Siemens	6.0
2	RB0607C SE001INT IDJAN	A Mobile Data Grid Framework for Tele- medicine	Prof. D. Janakiram	3 years	Intel	\$1,20,0 00

Retainer Consultancy:

Sl. No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (Rs. in lakhs)

Journal Editorial Boards:

Sl. No	Name of faculty	Level	Journal
1	Prof.C.Pandu Rangan	Member, Editorial Board	Lecture Notes in Computer Science, Springer
2	Prof.C.Siva Ram Murthy	Associate Editor	IEEE Transactions on Computers
3	Prof.C.Siva Ram Murthy	Subject Area Editor	Journal of Parallel and Distributed Computing

Research Publications:

In Refereed International Journals:

Sl. No	Name of Authors	Title	Date

1	K. Najeeb, Vishal Gupta, V. Kamakoti, Madhu Mutyam	Temporal redundancy based encoding technique for power and delay reduction of on-chip buses, <i>Journal of Low Power Electronics</i>	Vol. 2, No.3 (2006), pp. 425-436
2	V. R. Devanathan, C. P. Ravikumar, V. Kamakoti	On reducing peak capture power of transition delay fault test for SoCs with unwrapped cores, <i>Journal of Low Power Electronics</i>	Vol.2, No.3 (2006), pp. 464-476
3	K. Srinivasa Rao, B. Yegnanarayana	Prosody modification using instants of significant excitation, <i>IEEE Trans. on Speech and Audio Processing</i>	Vol.14, No.3, pp. 972-980, May 2006
4	M.Saravanan, M S.Raman, B. Ravindran	A Probabilistic approach to multi-document summarization for generating a tiled summary, <i>International Journal of Computational Intelligence and Applications</i>	Vol. 6, No. 2 (June 2006), pp. 231-244
5	T. Nagarajan, Hema A. Murthy	Language identification using acoustic log-likelihoods of syllable-like units, <i>Speech Communication</i>	Vol. 48, No. 8 (Aug. 2006), pp.913-926
6	Thomas Greiner, Sukhendu Das	Bestimmung der Objektform durch Bildanalyse der Oberflächentextur - Merkmalsgewinnung mittels der M-Kanal Wavelettransformation, <i>Journal of Automatisierungstechnik</i>	Vol. 54, No.10, Oct 2006, pp. 475-485
7	B. Yegnanarayana, C. Chandra Sekhar, S. Palanivel, V. Suresh, Anil Kumar Sao, N.Dhananjaya	Issues in the development of an audio-video based person authentication system, in Jana Dittmann, Clauss Vielhauer and Jan Hansen (Eds), <i>New Advances in Multimedia Security Biometrics, Watermarking and Cultural Aspects</i>	pp.53-76, 2006
8	S.R. Mahadeva Prasanna, Cheedella S. Gupta, B. Yegnanarayana	Extraction of speaker-specific excitation information from linear prediction residual of speech, <i>Speech Communication</i>	Vol.48, No.10, pp.1243-1261, October 2006.
9	Ser-Nam Lim, Larry Davis, Anurag Mittal	Constructing task visibility intervals for video surveillance, <i>ACM Multimedia Systems Journal</i>	Vol 12, No.16, pp.211-226, Dec. 2006
10	T. Bheemarajuna Reddy, S. Sriram, B. S. Manoj, C. Siva Ram Murthy	MuSeQoR: Multi-path failure-tolerant security-aware QoS routing in ad hoc wireless networks, <i>Computer Networks</i>	Vol. 50, No. 9, pp. 1349-1383, 2006.
11	V. Vidhyashankar, B.S. Manoj, C. Siva Ram Murthy	Slot allocation schemes for delay sensitive traffic support in asynchronous wireless mesh networks, <i>Computer Networks</i>	Vol. 50, No. 15, pp. 2577-2594, 2006
12	N. Ram Mohan, C. Siva Ram Murthy	On-line multicast routing with QoS constraints in WDM networks with no wavelength converters, <i>Computer Networks</i>	Vol. 50, No. 18, pp.3666-3685, 2006.
13	B.S. Manoj, V. Mythili, C. Siva Ram Murthy	On using multi-dimensional Markov chains for performance evaluation of hybrid wireless networks, <i>IEEE Trans. on Parallel and Distributed Systems</i>	Vol. 17, No. 12, pp. 1496-1511, 2006.
14	G.V. Chowdhary, C. Siva Ram Murthy	Efficient routing of sub-wavelength multicast sessions in WDM mesh networks, <i>Journal of High Speed Networks</i>	vol. 15, no. 4, pp. 433-454, 2006.
15	J. Praveen, B. Praveen, T. Venkatesh, Y.V. Kiran, C. Siva Ram Murthy	A first step toward autonomic optical burst switched networks, <i>IEEE Journal on Selected Areas in Communications</i>	vol. 24, no. 12, pp. 94-105, 2006.

16	V.Masilamani, Kamala Krithivasan	Algorithm for reconstructing 3D-binary matrix with periodicity constraints from two projections, <i>Transaction on Engineering, Computing and Technology</i>	vol.16, pp.227-232, 2006.
17	R.Santhanam, Kamala Krithivasan	Graph splicing Systems, <i>Discrete Applied Mathematics</i>	Vol.154 (2006), pp.1264-1278
18	K. S. Dersanaambika, Kamala Krithivasan, H.K.Agarwal , J.Gupta	Hexagonal contextual array P systems, in K.G.Subramanian, K.Rangarajan and M.Mukund (Eds.), <i>Formal models, Languages and Applications</i> , <i>World Scientific</i>	pp.79-96, 2006
19	T. Bheemarjuna Reddy, John P. John, C. Siva Ram Murthy	Providing MAC QoS for multimedia traffic in 802.11e based multi-hop ad hoc wireless networks , <i>Computer Networks</i>	Vol. 51, No. 1, pp. 153-176, 2007.
20	B. Praveen, J. Praveen, C. Siva Ram Murthy	On using forward error correction for loss recovery in optical burst switched networks, <i>Computer Networks</i>	Vol. 51, No. 3, pp. 559-568, 2007.
21	Lalit Gupta, Vinod Pathangay, Arpita Patra, A. Dyana, Sukhendu Das	Indoor vs. outdoor scene classification using probabilistic neural network, <i>EURASIP Journal of Applied Signal Processing</i> , <i>Special issue on Image Perception</i>	pp. 1-10, 2007
22	Siva Nageswara Rao Borra, Annamalai Muthukaruppan, S. Suresh, V. Kamakoti	A novel approach to the placement and routing problems for field programmable gate arrays, <i>International Journal on Applied Soft Computing</i>	(7) 2007, pp. 455-470
23	A. Pavan Kumar, V. Kamakoti, Sukhendu Das	System-on-programmable-chip for face recognition using WMPKA, <i>Pattern Recognition Letters</i>	28 (2007), pp. 342-349
24	S. Palanivel, B. Yegnanarayana	Multimodal person authentication using speech, face and visual speech, <i>Computer Vision and Image Understanding</i> ,	January 2007
25	Prof. Kamala Krithivasan, Ashish Chowdhary	Network evolutionary processors with splicing rules and permitting context, <i>Bio-Systems</i>	Vol. 87, No. 3, pp. 111-116, February 2007
26	C. Jagadish, Vinod Jammula, Timothy A Gonsalves	Low-cost DCN for rural telecom network management, <i>International Journal of Network Management</i>	2007
27	A Vijay Srinivas, D. Janakiram	Scaling a Shared Object Space to the Internet: Case Study of Virat, <i>Journal of Object Technology</i>	Vol. 5, No. 7, September-October 2006, pp. 75-95.
28	A Vijay Srinivas, D. Janakiram	Data Management in Distributed Systems: A Scalability Taxonomy, <i>Scalability Computing: Practice and Experiences</i>	Vol. 8, No. 1 (March 2007), pp. 115-130
29	Yossi Azar, Amos Fiat, Meital Levy, N.S. Narayanaswamy	An Improved Algorithm for Online Coloring of Intervals with Bandwidth, <i>Theoretical Computer Science</i>	Vol. 363(1), 2006, pp 18-27
30	Rajesh M. Hegde, Hema A. Murthy, Venkata Ramana Rao Gadde	Significance of Joint Features Derived from the Modified Group Delay Function in Speech Processing, <i>EURASIP Journal of Applied Signal Processing</i>	2007, Article ID 79032

In Proceedings of International Conferences:

Sl.No	Name of Authors	Title	Venue & Date
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1	K. Najeeb, P. Vishal Gupta, V. Kamakoti, V. Madhu Mutyam	Delay and Peak Power Minimization for On-Chip Buses using Temporal Redundancy, <i>Proc. of the 16th ACM SIGDA Great Lakes Sym. on VLSI Design</i>	Apr 2006, Philadelphia, USA
2	Deepak Khemani, Mohamed Sadiq, Rakesh Bangani, Delip Rao	Improving Case-Based Recommendations using Implicit Feedback, <i>In Proceedings of 19th Int. FLAIRS Conf</i>	May 11-13, 2006, Melbourne Beach, Florida
3	Anurag Mittal	Generalized Multi-Sensor Planning, ECCV'07	May 2006, Austria
4	Anurag Mittal, Visvanathan Ramesh	Visual Correspondence using a Robust Ordinal Measure, CVPR'07	June 2006, New York
5	Toufiq Parag, Ahmed Elgammal, Anurag Mittal	A Framework for Feature Selection for Background Subtraction, CVPR'07	June 2006, New York
6	Bharat Ranjan Kavuluri, Naresh Babu Saladi, Deepak Khemani	Planning for PDDL3 - An OCSP Based Approach, <i>In the proceedings of ICAPS</i>	June 2006 Cumbria,UK.
7	Kamala Krithivasan, P.Harsha, M.Talupur	Communicating distributed H Systems with simple splicing values, <i>Conference on Computer Design</i>	Las Vegas, June 2006, pp.107-111.
8	Kamala Krithivasan, A.Bhatia, T.S.Chandra	Simulations of a Turing machine using Erdo II splicing rules, <i>Conference on Computer Design</i>	Las Vegas, June 2006, pp.125-129.
9	Deepak P, Delip Rao, Deepak Khemani	Differential Voting in Case Based Spam Filtering, <i>In the Proceedings of the 6th Industrial Conference on Data Mining, Leipzig (ICDM Leipzig-2006)</i>	July 2006, Germany
10	Dileep. A.D, C. Chandra Sekhar	Identification of block ciphers using support vector machines, <i>International Joint Conference on Neural Networks</i>	Vancouver, Canada, July 16-21, 2006 pp. 2696-2701
11	Satish. D.S, C. Chandra Sekhar	Kernel based clustering and vector quantization for speech segmentation, <i>International Joint Conference on Neural Networks</i>	pp. 1636-1641, Vancouver, Canada, July 16-21, 2006
12	Debi Prasad, Archana Rai, Karthik Venkatraman, Senthil Kumar, V. Kamakoti, K S Maneperambil, Vivekananda M Vedula	A Novel Unified Framework for Functional Verification of Processors using Constraint Solvers, <i>Proc. of the 10th IEEE VLSI Design and Test Symposium (VDAT)</i>	Aug 2006, Goa, India
13	S. K. Noor Mahammad, H. Siva Kumar Sastry, Shyam Shroff, V. Kamakoti	Constructing Online Testable Circuits using Reversible Logic, <i>Proc. of 10th IEEE VLSI Design and Test Symposium (VDAT)</i>	Aug 2006, pp. 373-383, Goa, India
14	Deepak P, Delip Rao, Deepak Khemani	Building Clusters of Related Words: An Unsupervised Approach, <i>In the Proceedings of the 9th Pacific Rim International Conference on Artificial Intelligence (PRICAI 2006)</i>	August 2006, Guilin, China
15	Lalit Gupta, Sukhendu Das	Texture Edge Detection using Multi-resolution Features and SOM, <i>18th International Conference on Pattern Recognition (ICPR 2006)</i>	Vol 2, Aug 20-24, 2006, pp 199-202

16	H. Siva Kumar Sastry, Shyam Shroff, S. K. Noor Mohammad, V. Kamakoti	Efficient Building Blocks for Reversible Sequential Circuit, <i>Proc. of 49th IEEE Midwest Sym. on Circuits and Systems (MWSCAS 2006)</i>	Aug 2006, Puerto Rico
17	M Venakateswara Reddy, A Vijay Srinivas, Tarun Gopinath, D. Janakiram	Vishwa: A Reconfigurable P2P Middleware for Grid Computations, <i>In Proceedings of 35th International Conference on Parallel Processing (ICPP)</i>	August 14-18, 2006 Columbus, Ohio, USA pp. 381-390
18	Barat, S., V. Kulkarni, D. Janakiram	A safety criterion for reusing a business process in the desired integrated process, <i>IEEE International Conference on Services Computing (SCC 2006)</i>	September 2006, Chicago, USA pp. 381-389
19	Arun Kumar, Anindya Neogi, D. Janaki Ram	An OO based Semantic Model for Service Oriented Computing, <i>IEEE International Conference on Services Computing (SCC 2006)</i>	September 2006, Chicago, USA pp. 85-93
20	Samuel Thomas, M. Nageshwara Rao, Hema A. Murthy, C. S. Ramalingam	Natural Sounding TTS based on Syllable-like Units, <i>ESPC-2006</i>	Sept 4– 8, 2006 Florence, Italy
21	Dhananjaya. N, B. Yegnanarayana	Correlation-based similarity between signals for speaker verification with limited amount of speech data, <i>Proc. Int. Workshop on Multimedia Content Representation Classification and Security (MRCs-2006),</i>	Istanbul, Turkey, Sept 11-13, 2006
22	Anil Kumar Sao, B. Yegnanarayana	Template matching approach for pose problem in face verification, <i>Proc. Int. Workshop on Multimedia Content Representation Classification and Security (MRCs-2006)</i>	Istanbul, Turkey, Sept 11-13, 2006
23	Leena Mary, B. Yegnanarayana	Prosodic features for speaker verification, <i>Proc. Int. Conf. Spoken Language Processing (INTERSPEECH)</i>	Pittsburgh, USA, pp. 917-920, Sept 2006
24	A. Shahina, B. Yegnanarayana	Mapping neural networks for bandwidth extension of narrowband speech, <i>Proc. Int. Conf. Spoken Language Processing (INTERSPEECH)</i>	Pittsburgh, USA, pp. 1435-1438, Sept 2006
25	Anand Joseph. M, Guruprasad. S, B. Yegnanarayana,	Extracting formants from short segments of speech using group delay functions, <i>Proc. Int. Conf. Spoken Language Processing (INTERSPEECH)</i>	Pittsburgh, USA, pp. 1009-1012, Sept 2006
26	B. Venkataramana, Devesh Agrawal, C. Siva Ram Murthy	Design and Performance Evaluation of Meghadoot - A Hybrid Wireless Network Architecture, <i>in Proc. 14th IEEE International Conference on Networks (ICON)</i>	Singapore, September 13-15, 2006.
27	Ka. Selvaradjou, M. Dhanaraj, C. Siva Ram Murthy	Energy Efficient Assignment of Events in Wireless Sensor and Mobile Actor Networks, <i>in Proc. 14th IEEE International Conference on Networks (ICON)</i>	Singapore, September 13-15, 2006.
28	G.V.Rajw, T. Bheemarjuna Reddy, C. Siva Ram Murthy	On Supporting Real-time Speech over Ad hoc Wireless Networks, <i>in Proc. 14th IEEE International Conference on Networks (ICON)</i>	Singapore, September 13-15, 2006.
29	Dinil Mon Divakaran, Hema A. Murthy, Timothy A. Gonsalves	Detection of SYN Flooding Attacks Using Linear Prediction Analysis, <i>in Proc. 14th IEEE International Conference on Networks (ICON)</i>	Sept. 13 -15, 2006 Singapore
30	Lakshmi A., Hema A. Murthy	A Syllable based continuous speech recognizer for Tamil, <i>Proc. Int. Conf. Spoken Language Processing (INTERSPEECH)</i>	Sept 17–21, 2006 Pittsburgh, Pennsylvania

31	Lalit Gupta, S. Lekshmi, Jharna Majumdar, Sukhendu Das	Study of the performance of different texture features for Classification of SAR images, <i>IEE VIE-2006</i>	Sept 26-28, 2006, pp 315-320, Bangalore
32	Arpita Patra, Sukhendu Das	Dual space based face recognition using information fusion, <i>IEE VIE-2006</i>	Sept 26-28, 2006, pp 155-160, Bangalore
33	Shivani G Rao, Sukhendu Das, Thomas Greiner, Manisha Kalra	Error Analysis of M-channel DWT based method for orientation estimation of an inclined planar texture surface, <i>IEE VIE-2006</i>	Sept 26-28, 2006, pp 321-326, Bangalore
34	P. Deepti, Sukhendu Das	Generic Object Recognition using 2D PCA and Virtual Manifolds, <i>IEE VIE-2006</i>	Sept 26-28, 2006, pp 18-23, Bangalore
35	Devesh Agrawal, T. Bheemarjuna Reddy, C. Siva Ram Murthy	Robust Demand-Driven Video Multicast over Ad hoc Wireless Networks, <i>in Proc. BroadNets 2006: 3rd IEEE International Conference on Broadband Communications, Networks, and Systems</i>	San Jose, USA, October 1-5, 2006.
36	G. Shyamnath, B. Venkataramana, C. Siva Ram Murthy	Modeling TCP over Ad hoc Wireless Networks using Multi-dimensional Markov Chains, <i>in Proc. BroadNets 2006: 3rd IEEE International Conference on Broadband Communications, Networks, and Systems</i>	San Jose, USA, October 1-5, 2006
37	Y.V. Kiran, T. Venkatesh, C. Siva Ram Murthy	Reinforcement Learning Based Path Selection and Wavelength Selection in Optical Burst Switched Networks, <i>in Proc. BroadNets 2006: 3rd IEEE International Conference on Broadband Communications, Networks, and Systems</i>	San Jose, USA, October 1-5, 2006.
38	D.M. Divakaran, Hema .A. Murthy, T.A. Gonsalves	Traffic Modeling and Classification Using Packet Train Length and Packet Train Size, <i>Proc. IPOM 2006</i>	Oct 2006 Dublin, Ireland
39	H. Swethalakshmi, Anitha Jayaraman, V. Srinivasa Chakravarthy C. Chandra Sekhar,	Online handwritten character recognition of Devanagari and Telugu characters using support vector machines, <i>International Workshop on Frontiers in Handwriting Recognition</i>	La Baule, France, pp.367-372, October 2006.
40	Manisha Kalra, Sukhendu Das, Amitava Datta	Generic Object Recognition using a combination of ICA and Shape Cues, <i>Proceedings of IEEE conference on AVSS</i>	Nov 22-24, 2006, pp 14, Sydney, Australia
41	A Vijay Srinivas, D. Janakiram	A Peer-to-Peer Framework for Collaborative Data Sharing over the Internet, <i>The 2nd International Conference on Collaborative Computing (CollaborateCom 2006)</i>	November 2006, Atlanta, Georgia, USA
42	V. R. Devanathan, C. P. Ravikumar, V. Kamakoti	On Reducing Transition Fault Test Time and Test Power for SOCs in Hierarchical Scan Test, <i>Proc. of 1st IEEE Design and Test Workshop</i>	Nov 2006, Dubai,
43	Arpita Patra. Ashish Choudhary, Kannan Srinathan , C. Pandu Rangan	Constant Phase Bit Optimal Protocols for Perfectly Reliable and Secure Message Transmission, <i>INDOCRYPT 2006</i>	Dec 11-13, 2006 Kolkata
44	Aakanksha Gagrani, Lalit Gupta, B. Ravindran, Sukhendu Das, PinakiRoy Choudhary, V.K Panchal Das	A Hierarchical approach to Landform Classification of Satellite Images using a Fusion Strategy, <i>ICVGIP' 06, LNCS 4338</i>	Dec 13-16, 2006, pp 140-151, Madurai, India
45	Vinod Pathangay, Sukhendu Das	Selection of Wavelet Sub-bands using Genetic Algorithm for Face Recognition, <i>ICVGIP' 06, LNCS 4338</i>	Dec 13-16, 2006, pp 585-596, Madurai, India

46	Manisha Kalra, Deepti P, Abhilash R, Sukhendu Das	Pose invariant Generic Object Recognition based on orthogonal axis Manifolds in linear subspace, <i>ICVGIP' 06, LNCS 4338.</i>	Dec 13-16, 2006 pp 619-630, Madurai, India
47	Saravanan, M., Ravindran, B., Raman, S.	Improving Legal Document Summarization using Graphical Models, <i>JURIX 2006</i>	Dec. 2006, pp. 51-60, Paris, France
48	BVN Prashant, P. Sreenivasa Kumar	Managing XML data with Evolving Schema, <i>In proceedings of 13th International Conference on Management of Data (COMAD-2006)</i>	Dec 14-16, 2006, New Delhi, India
49	Sandhya Revuri, Sujatha R Upadhyaya, P. Sreenivasa Kumar	Using Domain Ontologies for Efficient Information Retrieval <i>In proceedings of 13th International Conference on Management of Data (COMAD-2006)</i>	Dec 14-16, 2006, New Delhi, India
50	Deepak P, Deepak Khemani	Unsupervised Learning from URL Corpora, <i>In proceedings of 13th International Conference on Management of Data (COMAD-2006)</i>	Dec 14-16, 2006, New Delhi, India
51	B. Anirudh, T. Bheemarjuna Reddy, C. Siva Ram Murthy	K-Tree: A Multiple Tree Video Multicast Protocol for Ad hoc Wireless Networks, <i>in Proc. 13th International Conference on High Performance Computing (HiPC)</i>	Bangalore, December 18-21, 2006.
52	S. Jayashree, C. Siva Ram Murthy	Towards Estimating Lifetime of Ad Hoc Wireless Networks, <i>in Proc. 13th International Conference on High Performance Computing (HiPC)</i>	Bangalore, December 18-21, 2006.
53	Ka. Selvaradjou, C. Siva Ram Murthy	On Maximizing Residual Energy of Actors in Wireless Sensor and Actor Networks, <i>in Proc. 8th International Conference on Distributed Computing and Networking (ICDCN)</i>	Guwahati, December 27-30, 2006.
54	V Masilamani, Kamala Krithivasan, Kannan Srinathan	Bi-Level Image Reconstruction from its Two Orthogonal Projections and a Sub Image, <i>In the proceedings of IEEE-International conference on signal and Image Processing(IEEE-ICSIP 2006)</i>	vol 1, pp.413-419, Hubli, Dec 2006.
55	V Masilamani, Kamala Krithivasan	An Efficient Reconstruction of 2D-Tiling with t1,2, t2,1, t1,1 Tiles, <i>International Workshop on Combinatorial Image analysis(IWCIA 2006), LNCS</i>	vol.4040, pp.474-480, 2006
56	Delip Rao, Deepak Khemani	Discovering Semantic Similarity from the World Wide Web, <i>In the Proceedings of the Workshop on Text-Mining & Link-Analysis (TextLink 2007), in conjunction with the 20th International Joint Conference on Artificial Intelligence (IJCAI)</i>	January, 2007, Hyderabad, India
57	Delip Rao, Deepak Khemani	Social Network Analysis of Natural Language Text, <i>In the Proceedings of the 5th International Conference on Language Processing (ICON 2007)</i>	January, 2007, Hyderabad, India
58	B. Radhika Selvamani, Deepak Khemani	Layers of Memory and Reasoning in the Problem of Diagnosis in Manufacturing, <i>In the proceedings of the workshop on Knowledge Management and Organizational Memory co-located with International Joint Conference on Artificial Intelligence IJCAI07</i>	January, 2007, Hyderabad, India
59	K. Najeeb, Karthik Gururaj, V. Kamakoti, Vivekananda M. Vedula	Controllability Driven Power Virus Generation for Digital Circuits, <i>Proc. of Int. Conf. on VLSI Design</i>	Jan 2007, pp. 407-412, Bangalore
60	V. R. Devanathan, C. P. Ravikumar, V. Kamakoti	Reducing SoC Test Time and Test Power in Hierarchical Scan Test: Scan Architecture and Algorithms, <i>Proc. of Int. Conf. on VLSI Design</i>	Jan 2007, pp. 351-356, Bangalore
61	Lalit Gupta, Sukhendu Das	An efficient Approach for Texture Classification with Multi-resolution features by Combining Region and Edge information using a modified CSNN, <i>ICAPR' 07</i>	Jan 2-4, 2007, pp 407-412, Calcutta

62	Manisha Kalra, Sukhendu Das	A framework for fusion of 3D appearance and 2D shape cues for generic object recognition, <i>ICAPR' 07</i>	Jan 2-4, 2007, pp 332-337, Calcutta
63	P.Deepti, R.Abhilash, Sukhendu Das	Integrating Linear Subspace Analysis and Interactive Graph cuts For content-Based Video Retrieval, <i>ICAPR' 07</i>	Jan 2-4, 2007, pp 263-267, Calcutta
64	Surya Prakash, Sukhendu Das	External Force Modeling of Snakes using DWT for Texture Object Segmentation, <i>ICAPR' 07</i>	Jan 2-4, 2007, pp 215-219, Calcutta
65	Sriram R., Ravindran, B.	Profiling Pseudonet Architecture for Coordinating Mobile Robots, <i>COM.S.WARE '07</i>	Jan 8-9, 2007, Bangalore
66	Jayarajan D., Deodhare D., Ravindran B., Sarkar S.	Document Clustering using Lexical Chains, <i>TextLink 2007</i>	Jan 7 th , 2007, Hyderabad
67	Ravindran B., Barto A. G., Mathew V.	Deictic Option Schemas, <i>IJCAI 07</i>	Jan 8 th – 12 th , pp. 1023-1028, Hyderabad
68	Narayanamurthy S. M., Ravindran, B.	Efficiently Exploiting Symmetries in Real Time Dynamic Programming, <i>IJCAI 07</i>	Jan 8 th – 12 th , pp. 2556-2561, Hyderabad
69	Awasthi P., Gagrani, A., Ravindran, B.	Image Modeling using Tree Structured Conditional Random Fields, <i>IJCAI 07</i>	Jan 8 th – 12 th , pp. 2060-2065, Hyderabad
70	Neetha Sebastian, Kamala Krithivasan	Inference of Regular expression from a Pattern Automaton, <i>Fourteenth International conference on Computational, Mathematical and Statistical Methods</i>	IIT Madras, India, Jan 2007
71	M B Siddardha, Kamala Krithivasan	Ambiguity in Insertion-Deletion Kolam Array Grammers, <i>Fourteenth International conference on Computational, Mathematical and Statistical Methods</i>	IIT Madras, India, Jan 2007
72	V Masilamani, Kamala Krithivasan	Reconstruction of 3D-Bilevel Image from Three Projections with Periodicity Constraints, <i>Fourteenth International conference on Computational, Mathematical and Statistical Methods</i>	IIT Madras, India, Jan 2007
73	Aishwarya Ramachandran, R. Balasubramanian, K. Swaminathan, Sukhendu Das	Analysis of Difference in Orientations and Focal Lengths of Two Arbitrary Perspective Viewing Cameras, <i>Vision Geometry XV, IS&T/SPIE International Symposium on Electronic Imaging-2007</i>	Jan 28 - Feb 01, 2007, Vol.6499, pp 1-12, San Jose, California, USA.
74	Sreyasee Das Bhattacharjee, Sukhendu Das	A Method of Shape Recognition Using the Smoothed Group Delay Function, <i>ICACC' 07</i>	Feb 9-10, 2007, pp. 621-626, Madurai, India
75	T T Mirmalinee, Sukhendu Das, Koshy Varghese	Automatic Curvilinear Structure Detection from Satellite images using Multi resolution GMM, <i>ICACC' 07</i>	Feb 9-10, 2007, pp. 146-149, Madurai, India
76	V Masilamani, Kamala Krithivasan	Bi-Level Image Resconstruction from its Two Orthogonal Projections with periodicity and a Sub Image constraints, <i>In the proceedings of International conference on Advanced Computing and Communications</i>	pp.142-145, Kariapatty, TamilNadu, India, Feb 2007
77	Saritha V, Minu Mary Joseph, Sukhendu Das, Deepak khemani	Chromatogram Image Pre-Processing and Feature Extraction for Automatic Soil Analysis, <i>ICCTA' 07</i>	Mar 5-7, 2007, pp. 726-730, Calcutta, India

78	B.Venkataramana Kini, C.Chandra Sekhar	Kernel autoregressive model with exogenous inputs for nonlinear time series prediction, <i>International Conference on Computation: Theory and Applications,</i>	Kolkatta, pp.355-360, March 2007.
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In Proceedings of National Conference:

SL. No	Name of faculty	Title	Venue & Date

Distinguished Visitors to the Department:

SL. No	Name of the Visitor and Designation	Date of Visit
1	Prof. Krishna Sheno & Dr. Bart Weimber, Director of the Centre for Bio Systems, Utah State University	10 th July '06
2	Mr. Pratab Subramanyam, Principal Scientist, VM Ware	30 th Aug '06
3	Mr. Sujit R. Das, Eaton Innovation Centre, Milwaukee, US	31 st Aug '06
4	Delegation from National University of Singapore	4 th Sep '06
5	Prof. Ramesh Krishnamurthy, Dept. of CSE, Simon Fraser University	8 th Sep '06
6	Dr. Bruno Galantucci, Research Scientist, Haskin's Lab	20 th Sep '06
7	Prof. Krishna Sheno & Team, Utah State University	11 th Oct '06
8	Prof. Lehman, President of Univ. of Applied Sciences, Hof, Bavaria	2 nd Nov '06
9	Dr. Anandan, Director & M.S.. Vidya, Head, Univ. Relations, Microsoft Research	9 th Nov '06
10	Dr. Karu, University of Wisconsin, Madison	16 th Nov '06
11	Delegation from EuroIndia ICT Cooperation	16 th Nov '06
12	Pro. Wolfgang Kunz, University of Kaiserlautern, Germany	21 st Nov '06
13	A Chinese Youth Delegation	23 rd Nov '06
14	Delegates from Georg-August University, Geottingen	30 th Nov '06
15	Prof. Ottmann, Germany	1 st Dec '06
16	Raghu Ramakrishnan, VP and Research Fellow, Yahoo Research & Professor, University of Wisconsin, Madison	28 th Dec 06
17	Prof. Nick Jennings, School of Electronics and Comp. Science, University of Southampton, UK	8 th Jan '07

18	Two Scientists, DRDO Lab	22 nd Jan '07
19	Prof. Seetharaman, CleM.S.on University, South Carolina, USA	8 th Feb '07
20	Prof. Wendy Hall, Head, School of Electronics & Communication, University of Southampton, UK	19 th Feb '07
21	German Delegation, Hochschule Bremen, Germany	19 th Feb '07
22	Dr. Danial Dias & Dr. Krishnapuram Raghuram, IBM IRL	23 rd Feb '07
23	Will Poole and Adam Taylor, Microsoft, USA	26 th Feb '07
24	Prof. Y. C. Tay, Department of Maths & CSE, National University, Singapore	1 st Mar '07
25	Dr. Yang Yang, University College, London	16 th Mar '07
26	Vice Chancellor, University of Texas	22 nd Mar '07

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

- Intel Wireless Laboratory
- Experimental Optics Laboratory
- Image Processing Laboratory
- Digital Signal Processing Laboratory
- Speech Processing Laboratory
- Communications Laboratory
- Microwave Laboratory

Power Systems, Machines and Drives

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

Control and Instrumentation Systems

- Control and Robotics Laboratory
- Measurements and Instrumentation Laboratory
- Optical Networks 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, Cellular and Wireless Communications, Coding and Information Theory, Control Engineering, Digital Techniques and Computer Technology, Electrical Machines and Drives, Electronic Circuits, High Voltage Engineering, Image and Digital Signal Processing, Measurements and Instrumentation, MEMS, Microwave Engineering, Nano technology, Optical Communication and Networks, Optical Devices and Metrology, Power Electronics and Power Systems, Semiconductor Devices, Speech and Video Processing, Robotics and VLSI

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	52	62	63	69	06	252
Integrated M.Tech.						
Communication Systems	17	17	16	15	13	78
Power Syst. & Power Electronics	11	10	17	09	10	57
Micro-Electronics & VLSI Design	17	17	19	14	11	78
M.Tech.						
Communication Systems	24	27	--	--	--	51
Power Syst. & Power Electronics	13	08	--	--	--	21
Micro-Electronics & VLSI Design	13	17	--	--	--	30
Control & Instrumentation Systems	--	--	--	--	--	--
M.Tech. (UOP)						
Digital Signal Processing	--	--	--	--	--	--
M.S.	23	36	27	21	--	107
Ph.D.	10	20	16	20	11	77
Total	180	214	158	148	51	751

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	Venue
1	N. Madhu Mohan	International Electrical Insulation Conference (INSUCON)	24-05-06 to 26-05-2006	Birmingham, UK
2	Sunil Kaimalettu	Summer Internship	16.05.2006 15.07.2006	Georgia Institute of Technology Atlanta, GA

4.8.3 Faculty and their Specialization:

Professors:

Name and Qualification	Major area of specialisation
S.Srinivasan, Ph.D. (IIT Madras) - Head	Digital Design, DSP Architecture and applications, VLSI Design, Semiconductor Devices
Amitava Dasgupta, Ph.D. (IIT Kharagpur)	Si and GaAs Devices, Technology and Simulation
Bhaskar Ramamurthi, Ph.D. (California)	Digital Communication and Communication networks, Signal Processing
K.N. Bhat, Ph.D. (IIT Madras)	MEMS, Semiconductor Devices-Silicon and GaAs
Devendra Jalihal, Ph.D. (Duke)	Statistical Signal Processing
David Koil Pillai, Ph.D. (Cal Tech)	Wireless communication and signal processing
Enakshi Bhattacharya, Ph.D. (TIFR Bombay)	Semiconductor materials and Devices, MEMS, Biosensors
K.Giridhar, Ph.D. (Santa Barbara)	Communication Systems and Signal Processing

Name and Qualification	Major area of specialisation
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
Harishankar Ramachandran (Electromagnetic Fields, Optical Networks
K.M.M.Prabhu, Ph.D.(IIT Madras)	Signal Processing
Vinita Vasudeven, Ph.D (IIT Bombay)	CAD for VLSI, VLSI Design
Associate Professors	
R.Aravind, Ph.D.(Santa Barbara)	Image Processing and Compression
V.Jayashankar Ph.D (Anna. Uni.)	Instrumentation and Measurement
Krishna Vasudevan, Ph.D.(IIT Madras)	Power Electronics
A.N. Rajagopalan Ph.D (IIT Bombay)	Image Processing and Computer Vision
R.Sarathi, Ph.D.(IIT Sc)	High voltage Engineering
K.S. Swarup PhD (IIT Sc)	Power systems, ANN, Distribution Automation
K.Sridharan, Ph.D (RPI, NY)	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
Anjan Chakravorty(IIT Kharagpur)	Solid state
Arun D. Mahindrakar (IIT Bombay)	Control Engineering
Balaji Srinivasan, Ph.D (Univ. of New Mexico)	Optical Commns., Electro magnetics, Optical Components
Bijoy Krishna Das (Univ. of Baderborn, Germany)	Optical communication
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
C. S. Ramalingam Ph.D (Univ. Rhode Irland)	Digital Signal Processing, Speech Recognition and Speech Coding
A. Ravishankar, (Carnegie Mellon)	VLSI Design
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
T.G.Venkatesh, Ph.D.(IIT Sc)	Computer Architecture and Networks
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)
H.Renganathan,M.S(IIT Madras)

Measurements, Computer System Management
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. S. Karmalkar	Research skills for Engineering Teachers NIT, Nagpur	26.06.06 to 27.06.06
2	Dr. S. Karmalkar	A two day workshop on "Research Skills" for prospective researchers University of Goa	29.10.06 to 30.10.06
Short term Course			
1	Dr. S. Karmalkar	Research Skills NIT, Jalandhar	01.12.06 to 03.12.06 01.12.06
2	Dr. Shanthi Pavan & Dr. Nagendra Krishnapura)	RF IC Design , DRDO, Hyderabad	9-12, Jan 2007 23 to 28-01-07
3	Dr. R. Sarathi	Recent trends in high voltage testing techniques	12-18 th Nov. 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	Dr. Harishankar Ramachandran	PSSI-IPR Workshop on the National Fusion Programme – ITER and beyond	Institute for Plasma Research, Gandhi Nagar	08.11.06 to 10.11.06
2	Dr. Devendra Jalihal	Indo-French Workshop on Mobile Multimedia	Indo-French Committee, Nice, France	14.11.06 to 18.11.06
3	Dr. Ashok Jhunjhunwala	IU-ATC Technical Workshop	Infosys Technologies, Bangalore	30.11.06
4	Dr. David Koilpillai	Indo-UK Workshop	United Kingdom	27.02.07 to 03.03.07
5	Dr. Ashok Jhunjhunwala	Focus India Health IT	Health Summit, Bombay	10.02.07 to 10.02.07

Sl. No.	Name of faculty	Title	Institution	Period
6	Enakshi Bhattacharya	Workshop on MEMS	SRM University	07.03.07 to 09.03.07
7	Dr.Manivasakan R	Optical Networks	Training Program for Sterlite Optical Technologies Ltd.	09.03.07
8	Ashok Jhunjunwala	Changing Interface of Science & Humanities	IIT Hyderabad	28.03.07
Conference				
1	Dr. Ashok Jhunjunwala	Computerised Data Acquisition for Power System Automation	IEEE Power India Conference 2006, New Delhi	10.04.06 to 12.04.06
2	Dr. K.S. Swarup	Transmission Expansion Planning using LP-based particle Swarm Optimization	IEEE Power India Conference 2006, New Delhi	10.04.06 to 12.04.06
3	Dr. K.S. Swarup	Coordinated maintenance scheduling of GENCOs and Transcos in restructured environment	IEEE Power India Conference 2006, New Delhi	10.04.06 to 12.04.06
4	Dr. K.S. Swarup	Power System Analysis II & Distribution Automation and Scada-I	IEEE Power India Conference 2006, New Delhi	11.04.06 to 11.04.06
5	Dr. K.S. Swarup	Power System Protection – I & Restructured Power Systems – III	IEEE Power India Conference 2006, New Delhi	12.04.06 to 12.04.06
6	Dr. Ashok Jhunjunwala	Leveraging India as India Stands Up	At Momentum Seminar at Bombay	13-05-2006
7	Dr. David Koilpillai	Research Challenges in Wireless Communications Perspective	Universiti Teknologi Petronas, Malaysia	28.06.06
8	Dr.Ashok Jhunjunwala Dr. Bhaskar Ramamurthi Dr. B Srikrishna	Australia-India Broadband and Information Technology Workshop	Australian Academy of Technological Sciences and Engineering Australia	10.07.06 to 14.07.06
9	Dr. S.Srinivasan	WMSCI-2006 jointly with 12 th International Conference on Information Systems Analysis and Synthesis ISAS-2006	Orlando, Florida, U.S.A	16.07.06 to 19.07.06
10	Dr. Andrew Thangaraj	IEEE ISIT 2006	Seattle, Washington, USA	09.07.06 to 14.07.06
11	Dr. Ashok Jhunjunwala	Pan IIT Alumni Conference for transforming India	IIT Delhi	19.08.06
12	Dr. Shanthi Pavan	Custom Integrated Circuits Conference 2006	IEEE, San Jose, California, USA	10.09.06 to 13.09.06
13		32 nd European Solid State Circuits Conference (ESSCIRC 2006)	Montreux Switzerland	18.09.06 to 22.09.06
14	Dr. B. Srikrishna	40 th Asilomer Conference on Signals, Systems and Computers	Pacific Grove, California, USA	29.10.06 to 01.11.06
15	Dr. Ashok Jhunjunwala	Enhancing agricultural wealth in India using ICT	2 nd International Rice Congress 2006	09.10.06 to 13.10.06

Sl. No.	Name of faculty	Title	Institution	Period
16	Dr. Ashok Jhunjunwala	Providing a Level-Playing Field to world citizens through Innovations in ICT	Alexandria, Egypt	01.12.06 to 04.12.06
17	Dr. Ashok Jhunjunwala	Empowering Rural India: Through Internet connections in villages	Bringing Europe's electronic Infrastructures to Expanding Frontiers, New Delhi	15.12.06 to 15.12.06
18	Dr. Ashok Jhunjunwala	Equalizing opportunities through Technological Innovations	PAN-IIT Conference, Mumbai	24.12.06 to 24.12.06
19	Dr. Bhaskar Ramamurthi	National Conference on Communications 2007	IIT Kanpur	25.01.07 to 29.01.07
20	Dr. B. Srikrishna	National Conference on Communications 2007	IIT Kanpur	26.01.07 to 28.01.07
21	Dr. Andrew Thangaraj	National Conference on Communications 2007	IIT Kanpur	26.01.07 to 28.01.07
22	Dr. K.S. Swarup	Power Systems Protection	Central Power Research Institute, Bangalore	20.02.07 to 23.02.07
23	Dr. K.S. Swarup	National Level Conference on "Innovative Strategies on Power Systems and Power Electronics Drives (ISPSPED '07)	Sona College of Technology, Salem	16.03.07

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Date	Venue
1	Dr. Ashok Jhunjunwala	Rural connectivity towards enhancing health care	07.04.06	Pugwash Conference on HIV/AIDS organised by MSSRF at Chennai
2	Dr. S. Karmalkar	Electrolessplating on polished silicon and chaired a technical session on "Nanoelectronics and nanodevices"	17.04.06	4th Spring Meeting of the International Society for Electrochemistry held at Singapore
3	Dr. S. Karmalkar	Research skills	08-05-2006	VNIT, Nagpur
4	Dr. S. Karmalkar	The Personality of Semiconductor Technology	09-05-2006	VNIT, Nagpur
5	Dr. Nagendra Krishnapura	Data conversion circuit design	16-05-2006	Acharya Institute of Technology, Bangalore
6	Dr. Enakshi Bhattacharya	Silicon and porous silicon Biosensors	16-05-2006	NTU, Singapore
7	Dr. David Koilpillai	Propagation Conditions in Amateur Radio	31.05.06	Chennai
8	Dr. Ashok Jhunjunwala	"Using ICT to Empower Rural India"	09.07.06	Australia-India Broadband & IT Workshop Melbourne Australia
9	Dr. B. Srikrishna	Cellular Systems for Rural Broadband Access	10.07.06	Australia-India Broadband & IT Workshop Melbourne Australia
10	Dr. Enakshi Bhattacharya	Potentiometric Biosensors Based on Silicon and Porous Silicon	12.07.06	Microelectronics Centre, Electrical Engineering Department, Technion Israel Institute of Technology

Sl. No.	Name of faculty	Topic of Lecture	Date	Venue
11	Dr. Shanthi Pavan	Short course on High Speed Analog-to-Digital Converters	25-07.06	ST Microelectronics, Noida
12	Dr. Shanthi Pavan	Keynote Address at the 2nd Workshop on Mixed Signal VLSI and Test,	26.07.06	VLSI Society of India, Coimbatore
13	Dr. Ashok Jhunjunwala	Tenet & Innovation	09.08.06	Wipro Technologies, Bangalore
		Towards transforming India	19.08.06	Pan IIT Alumni Conference, New Delhi
14	Dr. S. Karmalkar	The personality of Semiconductor Technology	02.08.06	Sri Venkateswara College of Engg.
15	Dr. S. Karmalkar	Research skills for prospective researchers	04.08.06	IIT Guwahati
16	Dr. Ashok Jhunjunwala	Emerging Wireless Technologies: An Indian View	06.09.06	Mobile India Conference, New Delhi
17	Dr. Shanthi Pavan	Low Power CMOS Flash Analog-to-Digital Converters	15.09.06	National Semiconductor Virtual Labs, California, USA Distinguished Faculty Lecture Series
18	Dr. Andrew Thangaraj	Error Control Coding	22.09.06	Thiagarajar College of Engineering, Madurai
19	Dr. Enakshi Bhattacharya	Keynote address 'Emerging trends in Physics, Electronics and Engineering Sciences'	25.09.06	JSS College of Arts, Commerce & Science Mysore
20	Dr. Ashok Jhunjunwala	Global Tech-innovation from India	06.10.06	TiE-ISB Connect 2006, Hyderabad
21	Dr. Ashok Jhunjunwala	Towards Rural Prosperity	28.10.06	LMA Convention 2006, Lucknow
22	Dr. Ashok Jhunjunwala	Bringing the Telecom Revolution to Rural India -	09.11.06	NIAS - IISc, Bangalore
23	Dr. Ashok Jhunjunwala	Science & Technology Policies	28.11.06	Indian National Science Academy, New Delhi
24	Dr. S. Karmalkar	National Working Group Meeting on Nanotechnology of the Department of Information Technology	04.12.06	New Delhi
25	Dr. K. Giridhar	1 st Forum Meeting of the Japan-Indo Colloboration Project on "Infrastructural Communications for Information Society	10.12.06	Gakshi-Kaikan, Tokyo, Japan
26	Dr. David Koilpillai	2 nd Project Review Steering Group (PRSG) on "Assessment of Wi-Max Technology for Performance, Manageability and Interoperability on Campus Area Test Bed"	19.12.06	IIT Delhi
27	Dr. Ashok Jhunjunwala	Equalising opportunities through Innovations in ICT	05.01.07	Goa

Sl. No.	Name of faculty	Topic of Lecture	Date	Venue
28	Dr. Bhaskar Ramamurthi	Keynote Address on "Will we have a Cellular Broadband Revolution in India"	08.01.07	COMSWARE Conference, Bangalore
29	Dr. Enakshi Bhattacharya	Silicon based Biosensor	08.01.07	DST Workshop on Sensors at Bengal University of Science and Technology, Kolkata
30	Dr. Ashok Jhunjunwala	Basics of Communication Technology	19.01.07	Manila, Philippines
31	Dr. S. Karmalkar	"Productive Thinking" to new recruits	25.01.07	Tata Consultancy Services, Thorapakkam, Chennai
32	Dr. Devendra Jalihal	PSA to Government of India (RuTAG)	15.03.07	New Delhi
33	Dr. Enakshi Bhattacharya	Si based MEMS pressure sensors at the 12th National Seminar on Physics and Technology of Sensors, NCPTS-12	07.03.07	BARC, Mumbai
34	Dr. S. Karmalkar	Introduction to research	10.03.07	IIT Bombay
35	Dr. Shanti Bhattacharya	Introduction to Optical MEMS	23.03.07	Workshop on MEMS, SRM University
36	Dr. Ashok Jhunjunwala	Equalizing opportunities through Technological Innovations	28.03.07	IIIT Hyderabad
37	Dr. K.S. Swarup	Recent Developments in Power Systems Engineering	08.03.07	National Conference on Electrical Engineering, Sona College of Engineering & Technology, Salem
38	Dr. K.S. Swarup	Recent Developments in Power Systems Protection	27.03.07	Dept. of Electrical Engineering, Anna University

Visits abroad by faculty:

Sl. No.	Name of Faculty	Country Visited	Purpose of visit	Date	
				From	To
1	Dr. S. Karmalkar	4 th International Society of Electrochemistry Spring Meeting 2006	National Univ. of Singapore, Singapore	18.04.06	20.04.06
2	Dr. K. Giridhar	WWRF Board of Governors Meeting	Shanghai	24.04.06	24.04.06
3	Dr. K. Giridhar	WWRF Meeting	Nokia China Research Center, Beijing	25.04.06	25.04.06
4	Dr. K. Giridhar	WWRF-16 Conference	Shanghai	26.04.06	28.04.06
5	Dr. Amitava Das Gupta	Singapore	International MEMS Conference (IMEMS-2006)	09-05-2006	12-05-2006
6	Dr. Ashok Jhunjunwala	France	UNESCO Task Force	10-05-2006	12-05-2006
7	Dr. Ashok Jhunjunwala	U SA	Meet with ADI, Harvard University, Microsoft, Motorola, Google	15-05-2006	31-05-2006

Sl. No.	Name of Faculty	Country Visited	Purpose of visit	Date	
8	Dr. Krishna Vasudevan	Darmstadt University of Technology	Short term DAAD Fellowship	15-05-2006	14-07-2006
9	Dr. Enakshi Bhattacharya	Singapore	Workshop on MEMS and Nanoelectronics	15-05-2006	18-05-2006
10	Dr. K. Sridharan	Singapore	Int. Conf. on industrial Electronics and Applications	24-05-2006	26-05-2006
11	Dr. Shanthi Pavan	Greece	Present research work at the IEEE International Symposium on Circuits & Systems	21.05.06	24.05.06
12	Dr. David Koilpillai	Malaysia	External Examiner for Electrical Engineering Dept., Universiti Teknologi Petronas, Malaysia	24.06.06	01.07.06
13	Dr. David Koilpillai	Universiti Teknologi Petronas, Malaysia	Comprehensive evaluation of Electrical Engineering curriculum and UG/PG Programmes and Role of External Examiner	24.06.06	01.07.06
14	Dr. Shanti Bhattacharya	Germany	Research and use of lab facility	24.06.06	20.07.06
15	Dr. Enakshii Bhattacharya	Israel	DST Indo Israel Project	03.07.06	17.07.06
16	Dr. Anil Prabhakar	Thailand	Collaborative research, Western Digital Corporation	10.07.06	16.07.06
17	Dr. K.M.M. Prabhu	Netherlands	Visiting Professor in the Signal Processing Systems Research Group Department of Electrical engineering, Technische universiteit Eindhoven (TU/e), Eindhoven, Netherlands	06.06.06	20.07.06
18	Dr.V. Jayashankar	Japan	Foreign researcher at Institute of Ocean Energy, Saga University, Japan	06.06.06	20.07.06
19	Dr. Shanti Bhattacharya	Germany	Research and use of lab facility	24.06.06	20.07.06
20	Dr. Enakshii Bhattacharya	Israel	DST Indo Israel Project	03.07.06	17.07.06
21	Dr. Anil Prabhakar	Thailand	Collaborative research, Western Digital Corporation	10.07.06	16.07.06
22	Dr. K.M.M. Prabhu	Netherlands	Visiting Professor in the Signal Processing Systems Research Group Department of Electrical Engineering, Technische Universiteit Eindhoven (TU/e), Eindhoven, Netherlands	06.06.06	20.07.06
23	Dr. V. Jayashankar	Japan	Foreign researcher at Institute of Ocean Energy, Saga University, Japan	06.06.06	20.07.06

Sl. No.	Name of Faculty	Country Visited	Purpose of visit	Date	
24	Dr. K. Sridharan	Singapore	Research discussion with Prof. T. Srikanthan, Director, Centre for High Performance Embedded Systems (CHIPES) Nanyang Technological University (NTU), Singapore	26.07.06	06.08.06
25	Dr. Ashok Jhunjunwala	4th Review Meeting	UNESCO, Paris	30.10.06	31.10.06
26	Dr. K. Giridhar	Heidelberg, Germany	To present the research work at the Wireless World Research Forum WWRF Conference	05.11.06	17.11.06
27	Dr. S. Srinivasan	University of Western Australia	Senior Visiting Research Fellow	24.10.06	16.11.06
28	Dr. Ashok Jhunjunwala	Paris	To attend the Fifth Meeting of Review Committee for Major Programmes II (Natural Sciences) and III (Social and Human Resources)	09.01.07	12.01.07
29	Dr. Ashok Jhunjunwala	Philippines	To attend CPR (Communication Policy Research) South Board Meeting and also to attend the Inaugural CPR South 2007 Conference	17.01.07	21.01.07
30	Dr. Amitava Das Gupta	USA	To present paper at the SPIE's International Symposium on MOEMS-MEMS 2007, Micro and Nanofabrication Reliability, Packaging, Testing and Characterisation of MEMS/MOEMS VI	20.01.07	25.01.07
31	Dr. Enakshi Bhattacharya	USA	SPIE's International Symposium on MOEMS-MEMS 2007, Micro and Nanofabrication Reliability, Packaging, Testing and Characterisation of MEMS/MOEMS VI	20,01.07	25.01.07
32	Dr. Shanti Bhattacharya	USA	SPIE Conference on Reliability, Packaging, Testing and Characterisation of MEMS/MOEMS VI	20.01.07	25.01.07
33	Dr. Enakshi Bhattacharya	USA	Technical discussions on Bio-sensors	30.01.07	30.01.07
34	Dr. S. Srinivasan	Seoul, South Korea	On invitation, to give two seminar talks and sign an MoU between Electrical Engineering Department, IIT Madras and School of Electrical Engineering, University of Korea	05.02.07	06.02.07

Honours and Awards obtained by Faculty/Student:

Sl. No.	Name of faculty/student	Name of Award	Awarded by	Awarded for	Date of award
1	Prof. Ashok Jhunjunwala	IBM Innovation and Leadership Forum Award	Honourable President of India Dr. A.P.J. Abdul Kalam	Impressive contributions of the TeNet Group, IIT Madras	20.06.06
2	Mr. N.Madhu Mohan	IEEE Student Travel Award	IEEE	Financial support for attending the conference	April 2006
3	Dr. Ashok Jhunjunwala	Jawaharlal Nehru Birth Centenary Lecture Award	INSA	Connecting Rural India	2006
4	Dr. Andrew Thangaraj	IETE J C Bose Memorial Award	The Institution of Electronics and Telecommunication Engineers, New Delhi	Rate Compatible LDPC Codes for Wireless Applications	July 2006
5	Prof. S. Karmalkar	Hari Om Ashram Perit Dr. Vikram Sarabhai Research Award	Physical Research Laboratory, Ahmedabad	Analytical modeling and numerical simulation of novel and short-channel devices and development of new semiconductor processes	Aug 2006
6	Dr. Shanthi Pavan	INAE Young Engineer Award	Indian National Academy of Engineering	Technical Excellence in Electrical Engineering	Feb 2007
7	Dr. Anil Prabhakar	INAE Young Engineer Award	Indian National Academy of Engineering	Technical Excellence in Electrical Engineering	Feb. 2007
8	Dr. Ashok Jhunjunwala	Om Prakash Bhasin Foundation	President of India	Science & Technology	26.10.06
9	Dr. A.N. Rajagopalan	Alexander von Humboldt Fellowship	AVH foundation	Carrying out research	Feb. 2007
10	Mr. Adarsh Kumar	Certificate of Merit	Inrenship Program	GE Infrastructure, Transportation – NPI Engineering Team	May 2006
11	Mr. N. Achuthan	Dr.N.G. Patel Prize	NSPTS-12 conference	Best paper award	March 2007

4.8.4 Research and Consultancy
Sponsored Research Projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
1	Dr.BALAJI SRINIVASAN	Distributed high temperature sensor for flue gas monitoring - technology recommendation	BHEL	4.39

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
2	DR.KRISHNA VASUDEVAN	Modelling and computer simulation of diesel engine and 3-phase traction alternator of 3-phase DEMU using matlab-simulink software	BHEL	8.0
3	DR.SHANTHI SWARUP K	Algorithm development, coding, implementation and testing of the ANN based arc fault detection on a suitable DSP power	Honeywell, Bangalore	6.13
4	DR. ANIL PRABHAKAR	Handheld optical time domain reflectometer development	Aishwarya Telecom Pvt. Ltd, Hyderabad	5.0
5	Dr.BIJOY KRISHNA DAS	Integrated optical polarizer for fiber optic gyro applications	Aishwarya Telecom Pvt. Ltd, Hyderabad	9.96
6	Dr.SARATHI R	Condition monitoring of transformer signature UHF sensors and some novel ideas on using fluorescent technique for characterizing thermally aged transformer oil	CPRI	25.0
7	Dr.GIRIDHAR K	Nokia bridging the world	DIT	5.78
8	Dr.ANIL PRABHAKAR	AAC devices for children with CP	INAE	1.0
9	Dr.ANDREW THANGARAJ	Security through quantum communication: Theory and implementation	CEFIPRA	16.44
10	Dr.SHANTHI PAVAN	Filter bank Analog-to-digital converters	DIT	9.06
11	Dr.SHANTHI PAVAN	On Chip Eye-Monitoring Circuits for Multi-Gigahertz Data Rates	Indian National Academy of Engineering,	1.0
12	Dr. Balaji Srinivasan	Development of an unified approach for realizing Fibre Bragg Grating with long term stability	DIT	14.62
13	Dr. ASHOK JHUNJHUNWALA	Incubator Initiative	RTBI	69.87
14	Dr. SHANTI BHATTACHARYA	Fibre Interferometry for Optical Metrology	DST	20.60

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1	Dr.Jagadeesh Kumar V	Loss measurement on 10MVA transformer	Sri Venkateswara Pvt. Limited	1.0
2	Dr.Jagadeesh Kumar V	Loss measurement on 10MVA transformer	Indo Tech Transformers Limited	0.5

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
3	Dr.Jagadeesh Kumar V	Loss measurement on 10MVA transformer	Andrew Yule & Company Ltd.,	0.3
4	Dr. R. Sarathi	Impulse voltage withstand study and testing of power transformers	Sri Venkateswara Pvt. Limited	9.0
5	Dr. R. Sarathi	Impulse voltage withstand study and testing of distribution transformers	Indus Power equipments Ltd& etc.,	1.0
6	Dr. R. Sarathi	Impulse voltage withstand study and testing of distribution transformers	Hindusthan Transformer Ltd.,	0.5
7	Dr. R. Sarathi	Impulse voltage withstand study and testing of distribution transformers	Supreme Power Equipments Pvt. Ltd	0.8
8	Dr. R. Sarathi	Impulse voltage withstand study and testing of distribution transformers	SAP Industries	0.8
9	Dr.BALAJI SRINIVASAN	Measurement of stimulated brillounin scattering threshold in optical fibers	Sterilite Optical Technology, Aurangabad	0.012
10	Dr.BALAJI SRINIVASAN	Certification of optical fiber	Tamilnadu Telecommunication Ltd., Chennai	0.005
11	DR.MAHESH KUMAR	Verification of neutral current in electrical auxiliary power distribution network - DMRC	L&T Pvt Ltd.,	0.56
12	Dr. NAGENDRA KRISHNAPURA	Design of a 10G base-KR standard compliant transceiver	Aishwarya Telecom Pvt. Ltd Hyderabad	29.11
13	Dr. ANIL PRABHAKAR	Mini Optical Time Domain Reflectometer	Aishwarya Telecom Pvt. Ltd, Hyderabad	2.0
14	Dr.BALAJI SRINIVASAN	Main Optical Time Domain Reflectometer	Aishwarya Telecom Pvt. Ltd, Hyderabad.	10.00

Research Publications:

Total No. of papers published in Refereed International Journals	:	40
Total No. of papers presented in National Conferences	:	17
Total No. of papers presented in International conferences	:	29

In Refereed International Journals:

1.	Dr. Vinita Vasudevan	Mapping data-parallel tasks onto partially reconfigurable hybrid processor & architectures	IEEE Trans. VLSI design. vol.14, no.9, pp1010-1023,	K.N.Vikram
2.	Dr. K.S.Swarup	"Development of Power Flow Software using Design Patterns"	IEEE Transactions on Power Systems, Vol.21,No.2, May 2006, pp.611-618	M.P.Selvan
3.	Dr. K. <u>Sridharan, K.</u>	VLSI-efficient scheme and FPGA realization for robotic mapping in a dynamic environment	IEEE Transactions on Very Large Scale Integration (VLSI) Systems, v 15, n 1, , p 118-123	Kumar, P. Rajesh
4.	Dr.Amitava Das Gupta	Analytical Model of Drain Current of Si/SiGe Heterostructure p-channel MOSFETs for Circuit Simulation	IEEE Trans. Electron Devices, vol. 53, pp. 1411 - 1419,	B. Bindu, Nandita DasGupta
5.	Dr.P.A. Janakiraman	Performance evaluation of an FPGA controlled soft switched inverter	IEEE Transactions on Power Electronics, july 2006	Muthurama-lingam,A, Vedulu,S.V.,
6.	Dr. Enakshi Bhattacharya	Physical Model for the Resistivity and Temperature Co-efficient of Resistivity in Heavily Doped Polysilicon	IEEE Trans. El. Dev. 53, Issue 8, 1885-1892, Aug. 2006	Manjula S.R., Teweldebrhan Kifle, K.N. Bhat
7.	Dr. Andrew Thangaraj	Security of Y-00 under heterodyne measurement and fast correlation attack	Physics Letters A, Volume 356, Issue 6, Aug. 2006	S. Donnet, M. Bloch, J. Cussey
8.	Dr.Arun D. Mahindrakar	State-constrained stabilization of beam-balance systems	International Journal of Robust and Nonlinear Control Vol:16, July 2006	V. Sankaranarayanan
9.	Dr. Shanthi Pavan	A distortion compensating flash analog-to-digital conversion technique	IEEE Journal of Solid State Circuits, Sept. 2006	Venkata Srinivas, Ashish Lacchwani
10.	Dr. K.M.M. Prabhu	Complexity of Pruning Strategies for the Frequency Domain LMS Algorithm	Signal Processing Journal, Vol. 86, PP. 2836-2843, Aug. 2006	R. Vasanthan, P.C.W. Sommen
11.	Dr. K.M.M. Prabhu	Transform Decomposition Method of Pruning the FHT Algorithms	Microprocessors and Microsystems Journal, Vol. 30, PP. 184-188, Aug. 2006	G. Ghurumuruhan
12.	Dr. Shanthi Pavan	Automatic Tuning of Time-Constants in Continuous-Time Delta-Sigma Modulators	IEEE Transactions on Circuits and Systems: Express Briefs, April 2007	Dr.N. Krishnapura
13.	Dr. K.S. Swarup	Neural network approach to contingency screening and ranking in power systems	International Journal on Neurocomputing, Vol.70 (2006), pp.105-128, Oct. 2006	G. Sudhakar

14.	Dr. K.S. Swarup	Neural computation using discrete and continuous hopfield networks for power system economic dispatch and unit commitment	International Journal on Neurocomputing, Vol.70 (2006), pp.119-129, oct. 2006	Simi P. Valsan
15.	Dr.K. Sridharan	A hardware-efficient scheme and FPGA realization for computation of single pair shortest path for a mobile automation	Microprocessors and Microsystems Journal, Elsevier, Vol.30, No.7, Oct2006, pp.413-424	T.K. Priya & P. Rajesh Kumar
16.	Dr. A. N. Rajagopalan	Image restoration using the particle filter: Handling non-causality	IEE-F Proceedings on Vision, Image and Signal Processing, Vol. No.153, No.5, pp.650-656, Oct. 2006	P.J. Krishna
17.	Dr. S. Karmalkar	A closed-form model of the drain-voltage dependence of the off-state channel electric field in a HEMT with a field plate	IEEE Transactions on Electron Devices, Vol. 53, No.10, pp. 2430-2437, Oct. 2006	N. Soudabi
18.	Dr. Mahesh Kumar	A Novel method of load compensation under unbalanced and distorted voltages	IEEE Trans. on Power Delivery, Vol. 22, Issue 1, pp.288-295, Jan 2007	A. Ghosh, A. Joshi, H.M. Suryawanshi
19.	Dr. Mahesh Kumar	"A Fast Transient Response Single Phase Active Power Filter under Distorted Supply Voltage,"	IEEE Trans. on Power Electronics Letters, Vol. 21, No. 3, May 2006, pp. 822-825.	P.K. Linash.
20.	Dr. Shanthi Pavan	Analysis and Design of singly terminated Transmission-Line FIR Adaptive equalizers	IEEE Transactions on Circuits and Systems: Regular Papers	R. Tiruvuru
21.	Dr. K.S. Swarup	Swarm Intelligence Approach to the Solution of Optimal Power Flow	Journal of Indian Institute of Science, Vol.86, pp.439-455, Oct. 2006	---
22.	Dr. S. Karmalkar	Effects of Oxide-fixed charge on the Break down Voltage of Super Junction Devices	IEEE Electron Device Letters, Vol.28, Issue 3, pp.229-231, March 2007	S. Balaji
23.	Dr.R. Sarathi	Understanding the thermal, mechanical and electrical properties of epoxy nanocomposites	MAT SCI ENG A-STRUCT 445: 567-578, Feb 2007	R .K. Sahu
24.	Dr.R. Sarathi	Generation of nano aluminium powder through wire explosion process and its characterization	MATER CHARACT 58 (2): 148-155, Feb 2007	TK. Sindhu
25.	Dr.R. Sarathi	Synchronous fluorescence and excitation emission characteristics of transformer oil ageing	TALANTA 70 (4): 811-817, Nov. 2006	S .Deepa
26.	Dr.R. Sarathi	Characterization of partial discharges in a gas insulated system using an acoustic emission technique	ELECTR POW COMPO SYS 34 (6): 653-669, June 2006	Dubey, V, Dr. YG .Srinivasa

27.	Dr.R. Sarathi	Studies on generation and characterization of nano aluminium nitride using wire explosion technique	SYNTH REACT INORG ME 36 (1): 53-58, July 2006	Murai, K Kobayashi, R
28.	Dr.PA Janakiraman	An observer for three-phase current estimation using nonuniform current samples	IEEE T POWER ELECTR 22 (2): 686-692, March 2007	B. Saritha
29.	Dr. KMM Prabhu	Transform decomposition method of pruning the FHT algorithms	MICROPROCESS MICROSY 30 (4): 184-188, June 2006	G Ghurumuruhan
30.	Dr.Amitava Das Gupta	Study of dual-material gate (DMG) FinFET using three-dimensional numerical simulation	Nanoscience, v 5, n 4-5, p 541-545	<u>Havaladar,</u> <u>Dnaynesh S.</u>
31.	Dr.Amitava Das Gupta	Subthreshold current and threshold voltage model of FinFETs based on analytical solution of 3-D Poisson equation	IEEE Trans. Electron Devices, vol. 53, pp. 737 -742,.	Dnyanesh S. Havaladar, Guruprasad Katti, Nandita DasGupta
32.	Dr.Amitava Das Gupta	Study of Gate Leakage Current in Symmetric Double Gate MOSFETs with High-k/Stacked Dielectric	Thin Solid Films, vol. 504/1-2, pp. 317-320,.	P. Nagaraju
33.	Dr.Amitava Das Gupta	Process Optimization for monolithic integration of piezoresistive pressure sensor and MOSFET amplifier with SOI approach	Journal of Physics: Conference Series, vol. 34, pp. 210-215	V. Vinoth Kumar, , K.N. Bhat and K. Natarajan
34.	Dr.Amitava Das Gupta	Design of single-gate n-channel and p-channel MOSFETs with enhanced current-drive due to simultaneous switching of front and back channels in SOI CMOS technology	Solid-State Electronics, vol. 50, Issue 7-8, pp. 1359-1367, July-August 2006.	B. Bindu, N. Lakshmi, K.N. Bhat
35.	Dr.Amitava Das Gupta	Design of single-gate n-channel and p-channel MOSFETs with enhanced current-drive due to simultaneous switching of front and back channels in SOI CMOS technology	Solid-State Electronics, vol. 50, Issue 7-8, pp. 1359-1367,	B. Bindu, N. Lakshmi, K.N. Bhat
36.	Dr.Amitava Das Gupta	Improvement in the interfacial properties and electrical characteristics of ultra-thin SiO ₂ by selective anodization	IETE Journal of Research, vol. 52, no.5, pp. 357 – 363	Binsu Kailath, Nandita Das Gupta and Amitava Das Gupta
37.	Dr.Andrew Thangaraj;	LDPC- based Gaussian key reconciliation Bloch, M GTL,CNRS telecom, Metz, France	IEEE Information Theory Workshop (IEEE Cat. No.06EX1253C), p 5 pp	McLaughlin, S.W.; Merolla, J.-M.
38.	Dr. Bhaskar Ramamurthi	Efficient Low Bit-Rate Low Latency Channelization in DECT	EURASIP Journal on Wireless Communications and Networking, May 2006 (2006),	Mr. Rohit Budhiraja

39.	Dr. S. Karmalkar	Thermionic trap – assisted tunneling model and its application to leakage current in nitrided oxides and AlGaN/GaN HEMTs	Journal of Applied Physics, Vol.99, No.8, April 2006	Mr. D. Mahaveer Sathaiya
40.	Dr.P.A. Janaki raman	“PSPICE MODELING and Simulation of Computation free Digital Speed Control System a DC Motor”	AMSE (France), May 2006	S. Anupama, B.Saritha,

Refereed International Conferences

1	Dr. Andrew Thangaraj	Run-length Limited Codes with Free Distance Properties: Construction and Soft-Decision Decoding	Intermag 2006, May 2006	Harshit Tiwari
2	Dr.Amitava DasGupta	A novel technique for extraction of material properties through measurement of pull-in voltage and off-capacitance of beams	SPIE Symposium on MOEMS-MEMS 2007 Micro and Nanofabrication, 20-25, San Jose, CA., Jan 2007	Jaibir Sharma
3	Dr.Anil Prabhakar	Counting on Sight: Visual impairments among children with developmental disabilities	Intl. Conf. on Education of People with Visual Impairments, July 2006	Dr. Namita Jacob
4	Dr. Andrew Thangaraj	Simple MAP decoding of binary cyclic codes	IEEE ISIT 2006, July 2006	-
5	Dr.Andrew Thangaraj	LDPC-based secret key agreement over the Gaussian wiretap channel	IEEE ISIT 2006 , July 2006	M.Bloch, A. Thngaraj, S. Mel.aughlin, J.M.M erol
6	Dr. Shanthi Pavan	A Single Inductor Multiple Output Converter with Adaptive Delta Current mode Control	IEEE International Symposium on Circuits and Systems/, ISCAS Kos, Greece , May 2006	A.Sharma
7	Dr. Shanthi Pavan	Fundamental Limitations of Continuous-time Delta - Sigma Modulators due to Clock Jitter,.	IEEE International Symposium on Circuits and Systems, ISCA Kos, Greece, May 2006	K. Reddy
8	Dr. Shanthi Pavan	Transmission Line based FIR Structures for High Speed Adaptive Equalization	IEEE International Symposium on Circuits and Systems/, ISCAS Kos, Greece, May 2006	T. Rajesh
9	Dr. Shanthi Pavan	A Technique for accurate frequency response measurement of integrated continuous-time filters	Custom Integrated Circuits Conf., San Jose California	Tonse Laxminidhi
10	Dr. Shanthi Pavan	Rapid simulation of current steering DACs using Veriog-A	Custom Integrated Circuits Conf., San Jose California, Sept 2006	Murali Shanmugasundaram
11	Dr. Shanthi Pavan	A 70-500 MHz Programmable filter compensated for MOS nonquasistatic effects	European Solid State Circuits Conf., Montreux, Switzerland, Sept. 2006	Tonse Laxminidhi

12	Dr. B. Srikrishna	A multiple lattice reduction based detector for space time block codes based on cyclotomic extensions	Proceedings of the Allerton Conference on Communication, Control, and Computing, Monticello, IL, Sept. 2006	A. Gopalan
13	Dr. Anil Prabhakar	Automatic identification of bird calls using spectral ensemble average voiceprints	14 th European Signal Processing Conference, Sept 2006	Hemant Tyagi, Rajesh Hegde, Hema Murthy
14	Dr. Mahesh Kumar	A study on design and dynamics of voltage source inverter in current control mode to compensate unbalance and non-linear loads	International Conference on Power Electronics, Drives and Energy Systems for Industrial Growth (PEDES) – 2006, IIT New Delhi	K. Karthikeyan
15	Dr. Mahesh Kumar	A State Feedback Control of Single Phase Active Power Filter under Non-stiff Supply	IEEE International Conference on Industrial Technology, Mumbai, India, Dec. 2006	P.K. Linash
16	Dr. Mahesh Kumar	A novel fast response power factor meter cum transducer,”	Proc. International Symposium on Industrial Electronics, IEEE, at Montreal Canada, July 2006	R. Tutakne, H. M.Suryawanshi T. G. Arora U. B. Mujumdar
17	Dr. Anil Prabhakar	Dispersion measurement of single mode optical fibre using intensity modulator	Progress on Tunable Lasers for Ultrafast Processes & Applications (PTLUPA 6), Dec. 2006	Pradeep Kumar
18	Dr. Enakshi Bhattacharya	Simple Resonance Frequency Measurement of Micromachined Cantilever Beams	Proceedings SPIE's International Symposium on MOEMS-MEMS 2007 Micro and Fabrication: Reliability, Packaging, Testing and Characterization of MEMS/MOEMS VI, Eds. HHartzell and R. Rameshuni, p64630N01-08, Jan 2007	Somashekara Bhat
19	Dr. Shanti Bhattacharya	Optical MEMS: Designing for reliability	SPIE Conference Proceedings: Reliability, Packaging, Testing and Characterization of MEMS/MOEMS VI, Jan 2007	--
20	Dr. B. Srikrishna	On using channel prediction in adaptive beamforming systems	Proceedings of IEEE COMSWARE 2007, Jan 2007	T.R. Ramya
21	Dr. B. Srikrishna	Spatial and Temporal Power Allocation for MISO Systems with Delayed Feedback	Proceedings of the 40th Asilomar Conference on Signals, Systems and Computers, pp. 809-813, Nov. 2006	V. S. R. Annapureddy
22	Dr. B. Srikrishna	Parametric Channel Estimation for Pseudo-Random User-Allocation in Uplink OFDMA	Proceedings of ICC 2006, Istanbul, Turkey	Lior, M.R.Raghavendra R. Bercovich, K. Girdhar,

23	Dr. Enakshi Bhattacharya	Simple Resonance Frequency Measurement of Micromachined Cantilever Beams	Proc. of SPIE's International Symposium on MOEMS-MEMS 2007 Micro and Nanofabrication: Reliability, Feb 2007	Somashekara Bhat
24	Dr. Arun D. Mahindrakar	Nonlinear control of beam-balance system using a single electromagnet	1 st International Conference on Advances in Control and Optimization (ACODS '07) held at IISc., Bangalore, pp.206, Feb 2007	V. Sankaranarayanan
25	Dr. Arun D. Mahindrakar	A note on the robust stability of nonholonomic systems		V.Sankaranarayanan, Ravi N. Banavar
26	Dr. Swarup K.S.	Fault Detection and Classification for Transmission Lines using Multi-Resolution Wavelet Analysis	International Conference on Power Systems Protection, pp.27-35, feb 2007	Simmi P. Valsan
27	Dr. Swarup K.S.	Digital Signal Processing for Multi Functional Relaying	International Conference on Power Systems Protection, pp97-106, Feb 2007	---
28	Dr.Vinita Vasudevan	Scheduling divisible loads on partially reconfigurable hardware,	Proc. IEEE Symposium on Field-programmable Custom Computing Machines, Poster Summary, pp 289-290, Apr. 2006	K.N. Vikram
29	Dr. <u>Shanthi Pavan</u>	Transmission line based FIR structures for high speed adaptive equalization Source:	IEEE International Symposium on Circuits and Systems, May 2006	Rajesh Tiruvuru

Refereed National conferences

1	Dr. K.M.M. Prabhu	Frequency offset estimation using H_{∞} particle filtering	Proceedings National Conference on Communication 2007, pp.377-381, Jan 2007	B. Senthil, R. Aravind
2	Dr. Mahesh Kumar	Design and Development of DSP based DSTATCOM to compensate unbalanced non-linear loads	IEEE India International Conference on Power Electronics, Chennai, Dec. 2006	P.K. Linash, K.Karthikeyan
3	Dr. Mahesh Kumar	A Three-phase Four-wire Active Power Filter for Unbalanced Voltage Source	National System Power System Conference, IIT Roorkee, Dec. 2006	P.K. Linash, K.Karthikeyan
4	Dr. Maheshkumar	A Novel Load Compensation Algorithm with Unbalanced and Distorted Supply Voltages	National System Power System Conference, IIT Roorkee, Dec.2006	K. Karthikeyan
5	Dr. Mahesh Kumar	A study on design and dynamics of voltage source inverter in current control mode to compensate unbalance and non-linear loads,"	International Conference on Power Electronics, Drives and Energy Systems for Industrial Growth (PEDES), IIT New Delhi, India., Dec. 2006	K. Karthikeyan

6	Dr. Mahesh Kumar	Detection of Inter-turn Short-circuit Fault in Induction Motor Using Theory of instantaneous Symmetrical Components,	Proc. <i>IEEE International Conference on Industrial Technology</i> Mumbai, India., Dec. 2006	K. Mishra M. S. Ballal, Z. J. Khan, H. M. Suryawanshi
7	Dr. Mahesh Kumar	Design and Analysis of Dynamic Voltage Restorer	Proc. <i>Sixth International R&D Conference on Sustainable of Water and Energy Resources: Needs and Challenges</i> Lucknow, India, Feb. 2007	Sudeesh K. Soni, s.Sasitharan
8	Dr. Mahesh Kumar	Modeling and Analysis of Series Hybrid Active Power Filter to Compensate Complete Voltage and Partial Current Harmonics.	Proc. <i>Sixth International R&D Conference on Sustainable of Water and Energy Resources: Needs and Challenges</i> , Lucknow, India, Feb 2007	K. Eswararao, P. Subba Rao
9	Dr. B. Srikrishna	Multiuser scheduling and power sharing for CDMA Packet Data Systems	Proceedings of the National Conference on Communications (NCC), IIT Kanpur, Jan 2007	Sandeep Vangipuram
10	Dr. B. Srikrishna	Rate and Power adaption in OFDM with quantized feed back	Proceedings of the National Conference on Communications (NCC), IIT Kanpur, Jan 2007	A.P. Dileep
11	Dr. Devendra Jalihal	Achieving near beam forming performance with quantized CSI, Paper No.3.1.4	National Conference on Communications (NCC), IIT Kanpur, Jan 2007	---
12	Dr. R. Aravind	Face recognition using canovical correlation analysis, Paper No.1.2.4	National Conference on Communications (NCC), IIT Kanpur, Jan 2007	---
13	Balaji Srinivasan	Thermal Stability of Fiber Bragg Gratings Isochronal Annealing or Isothermal Annealing	Photonics 2006, Hyderabad	Rajesh Joseph, Nirmal K. Viswanathan
14	Balaji Srinivasan	Distributed Temperature Sensing Using Fiber Bragg Gratings	Photonics 2006, Hyderabad	Syam Prasad K
15	Balaji Srinivasan	Novel Techniques for fabricating Fabry-Perot Filters based on Fiber Bragg Gratings	Photonics 2006, Hyderabad	Hari V S, Kalaga Venu Madhav, Gopakumar V T
16	Balaji Srinivasan	Dynamic Range Improvement Using Optical Amplifiers	Photonics 2006, Hyderabad	
17	Balaji Srinivasan	Correlation Optical Time Domain Reflectometer with Enhanced Dynamic Range	Photonics 2006, Hyderabad	Venkatesh Varadhan, Anil Prabhakar, Nitin Chandrachoodan

Patents:

Dr. Shanthi Pavan, "Integrated circuit implementation for power and area efficient adaptive equalization", US 7,142,596, Nov 28, 2006; jointly assigned to Indian Institute of Technology Madras and Vitesse semiconductor, California, USA.

Distinguished Visitors to the Department:

Sl. No.	Visitor Name & Designation	Affiliation	Date	Purpose of visit
1	Twenty Members of a High level microelectronics Delegation from Taiwan visited the department. The team was lead by Mr. T.Y. Wu,	President, Taiwan Semiconductor Industry Association		To explore possible collaboration
2	Three delegates, Prof. S.K. (Suki) Kim, Dr. Jae-Sung Rieh and Prof. Sung-Jea Ko	Korea University		To explore possible interaction with the Department of Electrical Engineering
3	Dr.M.M. Maran	Centre for Molecular Medicine (CMM), Agency for Science, Technology & Research, Singapore	21.12.06	To deliver a talk on "Design and Fabrication of BioMEMS based Microfluidic Devices for Monitoring and Tracking of Cancer Cell Migration and Deformation
4	Rich Templeton, Chief Executive Officer (CEO)	Texas Instruments USA	31-3-2007.	To discuss collaboration in Analog/Mixed Signal Design
5	Dr. David Hame	IBM	05.01.07	To explore possibilities of collaboration between IBM India and IIT Madras in the filed Semiconductor Device Modeling
6	Prof. R.M.M. Matteij	Department of Mathematics and Computational Sciences of Technical University of Eindhoven	19.01.07	Mathematics of Glass
7	Professor V. Blazek	Institute of High Frequency Technology, Aachen University (RWTH)	26.03.07	Rapid fluid shifts along the body axis under space conditions (micro-and hypergravity) - an experiment during the 7th and 8th German parabolic flight campaign
8	Professor V. Blazek	Institute of High Frequency Technology, Aachen University (RWTH)	27.03.07	Title Rhythmical phenomena in the dermal perfusion - historical remarks, modern optoelectronic sensor strategies and recent discoveries

4.9 DEPARTMENT OF ENGINEERING DESIGN

4.10.1 Introduction:

The Department of Engineering Design was established in IIT Madras as its 16th Department with a focus on interdisciplinary teaching and research. The Department launched the novel dual degree programme in Engineering Design with a view to providing the much needed leadership in this area. The first of its kind in the country, the programme constitutes a B.Tech specialisation in Engineering Design and M.Tech specialization in Automotive Engineering with a strong thrust on the modern practices of design.

Engineering design involves the development of a concept and a form to meet a function. The designer has to be well versed rooted in the fundamentals of engineering and possess interdisciplinary skill sets to create cutting edge products within a competitive business environment. The design has to be aesthetically appealing yet robust; long lasting, yet inexpensive; and incorporate light-weight material, yet be sensitive to environmental concerns. This broad-based programme combines all the above aspects of design along with managerial acumen.

4.10.2 Academic Programmes:

The department offers Dual degree, M.S. and Ph.D. programmes.

New lab(s) established:

The following laboratories were established:

1. Product Design Laboratory I
2. Microprocessor Laboratory
3. CAD Laboratory
4. Vehicle Dynamics Laboratory
5. Mechatronics Laboratory

Students on roll as of September 2006+M.S. & Ph.D admission in Jan. 2007:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
Dual Degree	24	26	-	-	-	50
M.S.	01	-	-	-	-	01
Ph.D.	03	-	-	-	-	03
Total	28	26	-	-	-	54

4.10.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization (only 3 areas)
Professor: Dr R Krishnakumar, Head Dr SK Saha	Nonlinear Finite Elements, Vehicle Dynamics and Tyre Mechanics Multibody Dynamics, Robotics, Vehicle Dynamics, Design, Mechatronics
Associate Professor: Dr Nilesh J Vasa	Optoelectronics, Remote Sensing, Laser Based Sensing, Micro-manufacturing, MEMS
Assistant Professor: Dr T Asokan Dr C S Shankar Ram	Robotics, Mechatronics, Control, Electro Hydraulic Servo Systems Modeling, Control, Fault Diagnosis, Pneumatics

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.	N. J. Vasa	Advances in Pulsed Laser Deposition of Functional Thin Films	Short Term Training Programme on Advanced Manufacturing and Metrology arranged by Manufacturing Engineering Section at IIT Madras	4-8 December 2006
2.	T. Asokan	Control systems for Underwater Robotic Vehicles	Short Term Training Programme on Advanced Manufacturing and Metrology arranged by Manufacturing Engineering Section at IIT Madras	4-8 December 2006
3.	SK Saha	Modeling of Mechanical Systems using DeNOC	Winter School on Modeling, Computing and Simulation in Engineering, Dept. of Mathematics, IIT Madras	20th December 2006
4.	SK Saha	Simulation of open and closed chain Mechanical Systems	Winter School on Modeling, Computing and Simulation in Engineering, Dept. of Mathematics, IIT Madras	21st December 2006
Seminar:				
1.	Nilesh J Vasa	Temperature tuned Mid-Infrared light source based on difference frequency generation in periodically poled LiNBO3	Seminar on Tunable Lasers for Ultra fast Processes and applications, (PTLUPA 2006) IIT Madras	21-22, December 2006
Symposia:				
1.	Nilesh J Vasa	Engineering Education for International Students in Graduate Schools	Symposium on "Practical Education in Graduate School of Engineering Sciences", Kyushu University, Fukuoka, Japan,	9-10 March 2007
2.	SK Saha	Robotics	Aarohan, 2007 NIT, Durgapur	10 March, 2007
Conference:				
1.	Nilesh J Vasa	Lightning protection of wind turbine blades	28th International Conference on Lightning Protection, Kanazawa, Japan	18-22 September 2006
2.	Nilesh J Vasa	Novel electric field measurement technique with laser	28th International Conference on Lightning Protection, Kanazawa, Japan	18-22 September 2006

Sl. No.	Name of faculty	Title	Institution	Period
3.	Nilesh J Vasa	"Application of Differential Absorption Lidar System for CO2 Monitoring at Different Wavelengths around 1.6 μm and 2 μm "	5th Asia Pacific Remote Sensing Symposium (LIDAR remote sensing for environmental monitoring VII) (Organized by SPIE) at Goa	13-17 November 2006
4.	Nilesh J Vasa	Development of a Tunable Mid-Infrared Coherent Light Source and application to CO2 Gas sensing	8th International Conference on Optoelectronics, Fibre Optics and Photonics, Hyderabad, University of Hyderabad	13-16, December 2006
5.	Muralidhara, Chirdip K. Suryawanshi; N.J.Vasa; M Singaperumal	Experimental Investigations of Micro-EDM on Silicon	1st International and 22nd All India Manufacturing Technology Design and Research Conference, IIT Roorkee	20-22, December 2006
6.	Nilesh J Vasa; Yasunari Hata; Tuyoshi Yoshitake; Shigeru Yokoyama	Preparation of KTiOPO4 Thin films on Different Substrates by Pulsed Laser Deposition (Accepted for oral presentation)	1st International and 22nd All India Manufacturing Technology Design and Research Conference, IIT Roorkee	20-22, December 2006
7.	Nilesh J Vasa	Laser based micro-manufacturing	National Conference on Advances in Mechanical Sciences, Kumaraguru College of Technology, Coimbatore	22 March, 2007
Short term Course:				
1.	Nilesh J Vasa	Advances in Pulsed Laser Deposition of Functional Thin Films	Short Term Training Programme on Advanced Manufacturing and Metrology, arranged by MES, IIT Madras	4-8, December 2006
2.	T Asokan	Robotics and Robot Applications	Short Term Training Programme on Advanced Manufacturing and Metrology, arranged by MES, IIT Madras	4-8, December 2006
3.	T Asokan	Control Systems for Underwater Robotic Vehicles	NSTL (DRDO), Visakhapatnam	12-13, December 2006

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	N.J.Vasa	Pulsed Laser Deposition of Optically Functional Thin Films for Sensing Applications	NCME 2006 Sona College of Technology, Salem	21-22, April 2006
2.	T Asokan	Mechatronics	Saastra, Thanjavur	September 2006
3.	SK Saha	An Introduction to Robotics	IGNOU, New Delhi	January 29, 2007
4.	SK Saha	Robot Kinematics and Dynamics	IGNOU, New Delhi	January 29, 2007
5.	T Asokan	Robotics	Kumaraguru College of Technology, Coimbatore	February 17, 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Nilesh J .Vasa	Japan	08.05.2006 to 14.5.2006	Presented lectures "Optoelectronics & their applications" at Kyushu University, Fukuoka, Japan	Kyushu University, Japan
2.	Nilesh J Vasa	Kyushu University, Fukuoka, Japan	22-23 Sept. 2006	Discussion with Prof.K.Uchino, Professor (Dept. of Applied Science for Electronics and Materials) regarding joint research work in the field of laser based sensing of plasma	Japan
3.	T Asokan	UK	13-19 November 2006	Pre delivery inspection and training of Steering Robot	IIT Madras
4.	Nilesh J Vasa	Kyushu University, Fukuoka, Japan	6-13 March 2007	Presentation: Engineering Education for International Students in Graduate Schools Symposium on "Practical Education in Graduate School of Engineering Sciences"	Japan

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Nilesh .J .Vasa, (Ed.)	Recent Developments In lasers and Their Applications	Research Sign Post (ISBN 81-308-0098-5)	----

4.10.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Development of a super luminescent diode based gas sensor for environmental monitoring	---	IC&SR Project, IIT Madras (New Faculty Research Grant)	5	Nilesh.J.Vasa
2.	Model-based control and diagnostic tools for brake systems	2006-2009	IC&SR Project, IIT Madras (New Faculty Research Grant)	5	C S Shankar Ram

RBIC projects:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	M Singaperumal T Asokan	Development of Mathematical model for Jet Pipe Servo Valve (2007-2009)	RCI (DRDO) Hyderabad	9.54
2.	T Asokan, M Singaperumal D Arun	Modelling and Control of 6 degree of freedom AUV	NSTL, DRDO	38.14

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

An MoU was signed with M/s Ashok Leyland and M/s Bosch for providing financial support for the Engineering Design department. The building will be named as Ashok Leyland- Bosch Centre of Excellence in Engineering Design.

Students from Kyushu University, Fukuoka, Japan visited the department on 6th March 2007. Four MS students from Graduate school of Information Science and Electrical Engineering and Graduate School of Engineering Science visited. The students presented about their research work.

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed International Journals:	---	5
Total No. of papers presented in National Conferences:	---	-
Total No. of papers presented in International conferences:	---	2

Details:**a) In Refereed International Journals:**

1. "Steady-state analysis of a precision hydraulic flow control servovalve using the finite element method", Somashekhar, H. S.; Singaperumal, M.; Krishna Kumar, R., Journal of Micromechatronics, Volume 3, Number 2, 2006, pp. 103-122(20)
2. "A Finite Element Algorithm for the prediction of steady – state temperatures of rolling tyres", K.V.N. Rao, R. Krishna Kumar, P.C. Bohara and R. Mukhophadyay, Journal of Tyre Science and Technology, Vol. 34 No.3 2006, pp 195 - 214
3. "Development of an electric field sensor based on second harmonic generation with electro-optic materials", N. J. Vasa, Journal of Materials Processing Technology, 185, pp 173-177, 2007
4. "Balancing of four-bar linkages using maximum recursive dynamic algorithm" authored by Chaudhary, H., and Saha S K., has been published in the International Journal of Mechanism and machine Th., V. 42, pp 216-232
5. "Developing a virtual Prototype of a rack and steering" authored by Kamble N., and Saha S K., has been published in the International Journal of Vehicle System Modeling and Testing, V.2, N.1, pp 61-79

b) In Proceedings of International Conferences:

1. "Application of Differential Absorption Lidar System for CO2 Monitoring at Different Wavelengths around 1.6 μm and 2 μm ", Proceedings of Society of Photo Instrumentation Engineers (SPIE), November 2006, LIDAR remote sensing for environmental monitoring VII, Goa, India, authored by N. J. Vasa
2. "RoboSim: A multimode 3D simulator for studying mobile Robot Coperations, Proc. 3rd ICARA, Dec. 2006, Newzealand, authored by G.Seet, S.K.Sim, WC Pang, ZXWU, T.Asokan.

istinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	NTU, Singapore Delegation team	8.1.2007	MoU and student/staff exchange
2.	Team from M/s Caterpillar India & Mr Steve Shoemaker, Director, Systems Engineering, USA	15.2.2007	Possible MoU
3.	Mico-Bosch Members: Mr Krishna, Dr Gerhard Ziegler (R&D)	20.2.2007	Academic related activity
4.	Dr Gerhard Ziegler (R&D)	28.3.2007	Delivered a guest lecture on "Passenger Car Diesel Technologies"

Major infrastructure development made in the Department

- The Product Design Laboratory I, Microprocessor Laboratory, Mechatronics Laboratory, CAD laboratory for student experiments were inaugurated on March 6, 2007.
- Center of Excellence for Innovative Design and Research was inaugurated at the Department of Engineering Design (Location: CAD Laboratory) on 27th March, 2007. The Chief Guests at the function were Mr. Paul Mailhot, Senior Director of Worldwide Education Program, Autodesk Inc., USA and Mr. Rajiv Nair, Regional Director, India, Autodesk Inc.

Available Autodesk Softwares: Autodesk Inventor, AutoCAD Electrical, Alias Auto Studio, Alias Surface Studio, Alias Portfolio Wall installed on 15 computers

4.10 DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

4.9.1 Introduction:

The Department of Humanities and Social Sciences (HSS) is one of the earliest departments established at IITM. The Department is multi-disciplinary in nature and has reputed faculty from diverse disciplines such as Economics, English language and Literature, Philosophy, Sociology, History, and German Studies.

From the academic year 2006-07, the Department has started a unique and innovative five year integrated masters programme, leading to Master of Arts (M.A.) degree in three disciplines viz., Development Studies, Economics and English Studies. With the launch of this programme, the Indian Institute of Technology Madras has crossed a milestone in fulfilling its role in higher education in liberal arts and social sciences in the country.

4.9.2 Academic Programmes:

New Courses introduced: Five year integrated MA programme introduced in July 2006

New disciplines introduced: English Studies, Development Studies and Economics.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
MA	29	-	-	-	-	29
Ph.D.	4	11	9	6	8	38
Total	33	11	9	6	8	67

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
1	Prabheesh K P	Presented a paper on 'Demand for international Reserves for India A Co-integration Approach'	6 th Consortium of Students in Management Research International Conference	IISc Bangalore 21/09/06 to 23/09/06
2	Prabheesh K P	Presented a paper entitled 'Modeling India's Demand for International Reserves'	43 rd Annual Conference of Indian Economic Society	IIT Bombay 05/01/07 to 07/01/07
3	Rajeah V	Presented a paper on 'Reading Tamil Diasporic Aspirations from Homeland'	Conference on 'Facets of Tamil Diaspora'	French University Pondicherry 14/03/07 to 16/03/07
4	Rajeah V	Presented a paper on 'The Making of the Ancient Tamil Literary Canon'	67 th Session of Indian History Congress	Calicut 10/03/07 to 12/03/07
5	Kanthimathi K	Participation: 'Functions of Code Mixing with English among Tamil Bilingual Teenagers'	2 nd International and 38 th Annual ELTAI Conference	Chennai 10/02/07
6	Swetha Kushal	UGC Sponsored National Seminar	"Issue of Identity and Culture in Recent Asian Diasporic Fictions"	Delhi 13/03/07 to 14/03/07
7	C Nalin Kumar	Centre for Trade and Development	Second Annual "South Asian Conference on Trade and Development"	Delhi 19/12/06 to 20/12/06

4.9.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization (Only 3 areas)
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, 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, 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, Indian National Movement, Technology and Development
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; Health Care Finance
N. Sreekumar, Ph.D. (Univ. of Hyderabad.)	Philosophy of Language, Hermeneutics, Indian Philosophy
Umakant Dash, Ph.D. (IIT Kanpur)	Energy Economics; Health Care Economics
Swamalatha, 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
Aysha Iqbal Viswamohan PhD (Vikram University)	American Studies, World Drama, and Intercultural Communication.

DAAD Visiting Faculty:

Karola Heine German

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

Sl. No.	Coordinator(s)	Title	Period
1	Dr Srilata, Dr Swamalatha Dr Suresh Babu	"After Globalization: Resurgence of History, Ideology, Nation and Religion"	23-24 November 2006
2	Dr Sreekumar N	"ICPR National Seminar on Dialogue and Debates: Engaging with Philosophical Hermeneutics"	26 – 27, February, 2007
3	Dr Sreekumar N	International Philosophy Day Celebrations	18 th November 2007

Sl. No.	Coordinator(s)	Title	Period
4	Dr Debashis Acharya	Benefit Incidence Analysis in Health	1-3 November 2006
		Basic Econometrics	20-21 March 2007
5	Dr. Milind Brahme	Co-organized International Seminar on "Translation as Cultural Praxis" and the V Annual Convention of the Goethe Society of India	2 nd to 4 th Nov 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
1	Dr. Jyotirmaya Tripathy	Presented paper on "Indian Muslims, Majority-Minority Syndrome and the Failure of Secular Discourse"	National workshop on THE MINORITY QUESTION: CONSTRUCTION AND CONTESTATION at Center for Contemporary Theory, Baroda	14-17 October 2006
2	Dr. Jyotirmaya Tripathy	Presented paper on "Ecological Resistance to Postmodernism".	Presented in an international conference on NATURE AND HUMAN NATURE at Pondicherry University	21-23 September 2006.
3	Dr. Jyotirmaya Tripathy	"Frontier Myth and American History"	international conference on LITERATURE IN THE TIMES OF VIOLENCE at Punjab University, Chandigarh	22-24 March 2007
4	Dr. Debshis Acharya	Presented paper on "Trade in Service: Issues before Developing Countries"	Department of Economics, Pondicherry University	27 October 2006
5	Dr. N.Sreekumar	Presented paper on Dialogue and Dialectics in Indian Philosophy	Univ. of Madras	1-3, February 2007
6	Dr. N.Sreekumar	Presented paper on "Translation as an Event of Understanding"	<i>Translation as Cultural Praxis</i> , being organized jointly by the Goethe Society of India and the Department of Foreign Languages, University of Pune, at Pune, India	2 nd to 6 th Nov 06
7	Dr. N.Sreekumar	Presented paper on "Human Rights and Identity Politics"	Dept. of Philosophy, Sree Kerala Varma College, Thrissur, Kerala	13 th December, 2007
8	Dr. N.Sreekumar	Presented Paper on "Nietzsche on Moral Agent and Postmetaphysical Thinking"	ICPR National Seminar organized by the Dept. of Humanities and Social Sciences, IIT Bombay	16 – 18, February, 2007

Sl. No.	Name of faculty	Title	Institution	Period
9	Dr. R.Swamalatha	Presented a paper titled "Ecophilosophy in the writings of American transcendentalists"	International Conference of OSLE-India : Ecology and Culture: Interdisciplinary Approaches,	18th and 19th September, 2006
10	Dr. R.Swamalatha	Presented a paper titled "Nature as Third Space: A Study of Perumal Murugan's Seasons of the Palm "	International Conference of ASLE-India on Nature and Human Nature: <i>Land, Landscape and Cultural Constructions of the Environment</i> , Department of English Pondicherry University, Pondicherry India	21st -23rd September 2006
11	Dr. R.Swamalatha	. Presented a paper titled: "The Community and its poetry are not two": A Zen reading of Gary Snyder's poetry"	MELUS-MELOW International Conference on LITERATURE IN TIMES OF VIOLENCE in Chandigarh	22-24 March 2007
12	Dr. K.Srilata	"Landscapes in Classical Tamil Poetry: Intertextuality and Eco-Poetics"	Literature and the Environment, Pondicherry University	2006
13	Prof B Subramanian	International Conference on "The Reception of <i>Faust</i> in non-Christian cultures"	Dept. of Germanic Studies, McGill University Montreal. Paper on: "The Mirror of the 'Faustian' in the conflict between the Devas and Asuras"	4 th Oct 06 to 8 th Oct 06
14	Prof. B Subramanian	International Conference on "Indien im deutschsprachigen Europa"	National Book Trust of India and the Free University of Berlin at Berlin. Paper on: "Poetic Poetology or Globalisation between Tradition and History"	2 nd Oct 06 to 3 rd Oct 06

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	"Challenges in Health Care Sector Some Observations"	National Institute of Advanced Studies, IISc Bangalore 12 On 9 th Nov. 2006
2	Dr. N Sreekumar	Librarian as a Knowledge Manager	LIS Teacher and the Digital Future, organized by the Central Library, IIT Madras during 17-19 January 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1	Dr. Malathy Duraisamy	London (UK)	21/03/07 to 23/03/07	Second International workshop on "International Academic Alliances and Corporate Partnerships"

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
2	Dr. Malathy Duraisamy	Shanghai, China	01/07/06 to 02/07/06	3 rd International Congress "Dragon and the Elephant" "China and India's Economic Reforms"
3	Prof. VR Muraleedharan	London School of Hygiene and Tropical Medicine London	20/11/06 to 22/11/06	"Strengthening Partner Training Programme"
4	Prof. VR Muraleedharan	London School of Economics	24/11/2006	To explore collaborative projects
5	Prof. VR Muraleedharan	University of Warwick, UK	07/03/07 to 09/03/07	Workshop on "Health Governance and the Global Cultural Historic and Contemporary Practices"
6	Dr. Debashis Acharya Dr. Umakant Dash Prof. VR Muraleedharan	Bangkok	10/07/06 to 14/07/06	Second Annual Meeting of the Consortium on Equitable Health System Funding by LSHTM London
7	Prof B Subramanian	Canada	4 th Oct 06 to 8 th Oct 06	International Conference on "The Reception of <i>Faust</i> in non-Christian cultures"
8	Prof. B Subramanian	Germany	2 nd Oct 06 to 3 rd Oct 06	International Conference on "Indien im deutschsprachigen Europa"

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

- The Department signed an MOU with Graduate Institute of Development Studies (Geneva)
- Four students of Political Management of Hochschule Bremen (Germany) spent one semester for course work in this Department.

Journal Editorial Boards:

Dr. Aysha Iqbal Viswamohan was nominated as the IATEFL, (UK) representative for India in May 2006. This is a prestigious professional body expanded as International Association of Teachers of English as Foreign Language.

4.9.4 Research Publications:

1. Chitra G A, Muraleedharan VR, Swaminthan T, Veeraraghavan D: (2006) "Use of Pesticides and its impact on health of farmers in South India" *International Journal of Occupational & Environmental Health* " 12(3), pp 228-233
2. Devaki Reddy S, (2006) "To Teach or Not to Teach Grammar" Vaishna Narang (ed.) *Contemporary Themes and Issues in Language Pedagogy*, Delhi: Book Plus, 169-78
3. Devaki Reddy S (2006) "A study of Linguistic and Nonlinguistic Factors for the Interpretation of Meaning in Communication". *Journal of Communication Practices*, Vol 3, No.1, 19-31
4. Evangeline Manickam and OJ Joycee. (2006) "From Ego Centered to Eco Centered Humanism:"A Wilburian Perspective" *The Atlantic Literary Review*, Vol 7: No:2, pp 75 –82
5. Evangeline Manickam (2006) "Mulk Raj Anand's "Coolie": A social Literary Perspective In "Mulk Raj Anand" edited by TMJ Indra Mohan, Atlantic Publications, New Delhi, pp 118-128.
6. Jyotirmaya Tripathy:(2006). "Towards an Essential Native Identity: A Teoretical Overview.", *Candian Journal of Native Studies* „Vol xxvi, No.2, pp 313-329.
7. Milind Brahme (2006), Seekers of Truth: A Comparative Reading of G.A. Kulkarni's "Kanchanmrug" and Franz Kafka's, "A Hunger Artist", in *German Studies in India*, Munich: IUDICIUM, PP-59-70
8. Subramanian B "The Future of the Aesthetic Education of Man. *The Seven New Liberal Arts in the spirit of Alexander von Humboldt's Political Study of Mexico*. In: Yearbook of the Goethe Society of India 2006, New Delhi 2007

9. Subramanian. B: *Die "Ästhetischen Briefe" als Fürstenspiegel der politischen Moderne. Zum Einfluß Edmund Burkes auf Schiller.* In: Schiller, der unterschätzte Theoretiker, ed. Lothar Ehrlich and Georg Bollenbeck, Verlag Hermann Böhlau, Cologne-Weimar- Vienna 2007

Other Activities:

- Prof Andre Beteille, Chairman, Indian Council of Social Science Research New Delhi visited the department as Guest Professor from 1-3 March 2007 and delivered a series of Lectures. He also delivered an Extramural Lecture on "Access to Education" in IC&SR Auditorium on 2-3-07.
- Mr. Sunil D.S. submitted his thesis entitled "Culture, Formal Institutions and Resource management: A study among the riverine fishing communities in Kerala, India" for the award of degree of Doctor of Philosophy, carried out under the supervision of Dr. Prema Rajagopalan
- Mr. Eswara Rao B submitted his thesis entitled "Tuberculosis and Public health Policies in the Madras Presidency 1882-1948" for the award of degree of Doctor of Philosophy, carried out under the supervision of Dr. D Veerrghavan and Prof. VR Muaraleedharan
- Mr Srinivasa Rao Y, submitted his thesis entitled " Electrification of Madras Presidency, 1900-1947" for the award of degree of Doctor of Philosophy, carried out under the supervision of dr. John Bosco Lurdusamy.
- Mr. Rajesh Raj N, submitted his thesis entitled " Productivity and Technical Efficiency in the Indian unorganized manufacturing sector Temporal and Spatial Analysis" for the award of degree of Doctor of Philosophy, carried under the supervision of Prof Malathy Duraisamy
- Planning Commission (GOI) has nominated Prof. V.R. Muraleedharan as a member of the Working Group on Health Systems Research, Biomedical Research and Development and Regulation of Drugs and Therapeutics for the Eleventh Five-Year Plan (2007-2012).
- Prof. Jean Michel Servet, Institute of Development Studies, Geneva visited our Department on 11th August 2006 to discuss with our faculty members to explore possibilities for collaborative research and faculty exchange programme.
- The HSS Dept., IIT Madras and the British Council, Chennai conducted a session with Aoife Mannix, an Irish performance poet/spoken word artist. on 14th February 2007. Ms. Mannix's poetry has been broadcast on BBC and Radio 3 and she is one of U.K.'s best known performance artists

Research and Discussion Forum

S.No	Name of the Speaker & Institution	Date	Topic
1	Prof. B.N. Patnaik Former Professor of IIT Kanpur and now Senior Fellow of CIIL, Mysore	24/04/2006	Language and Discourse in Mahabharata
2	Dr. T. Sreedharan (In charge of the Krishnamurthy Study Center, Raj ghat, Varanasi)	25/08/2006	Is there a different way of learning?
3	Dr. Arvind Sivaramkrishnan Lecturer Social Sciences and Lawat Tauntons College, Southampton. UK	14/09/2006	MINORITY EDUCATION: Group Rights and Education
4	Dr. Niel Brimnes Asso. Professor at the History Dept Aarhus University in Denmark	18/10/2006	From Colonial to Post-Colonial Medicines: Reflections on the Case of Tuberculosis
5	Dr. Eric Miller Ph.D. candidate in Folklore at the University of Pennsylvania (Philadelphia, USA)	23/10/2006	Introducing Storytelling Studies: - An Inter-Disciplinary Field
6	Prof. Isabel Milbert, Professor, Geneva Institute of Development Studies	22-11-2006	Institutions and Regulations: Urban expansion in Mumbai

S.No	Name of the Speaker & Institution	Date	Topic
7	Dr. Rick Weiss Lecturer, Religious Studies Dept. University of Wellington Victoria, New Zealand	19-01-2007	Recipes for Immortality: Healing, Religion and community in South India
8	Dr. Rajender Singh Professor Succur sale Centre – Ville Quebec, Canada	02/02/2007 to 09/02/2007	'Translation and the Cultural Turn' The Nature and Scope of Science: A view from the Middle' Multi linguilism and the concept of ' Native Speaker ' Language, Culture and Society
9	Prof Andre Beteille Chairman Indian Council of Social Science Research New Delhi	03/03/2007	"Emerging Trends in Social Sciences Research in India"
10	Dr. V. Suresh Advocate President, PUCL-Tamil Nadu and Pondicherry Adviser: for Tamil Nadu to the Supreme Court Commissioner on Food Security Facilitator: Change Management & Institutional Transformation, ODEC (P) ltd, Chennai	27/03/2007	'Democratisation of Water Management Nurturing Democratic Change Story of the Transformation of a Public Sector Water Utility'

4.11 DEPARTMENT OF MANAGEMENT STUDIES

4.11.1 Introduction:

The Department of Management Studies was established in April 2004 with its initial faculty consisting of those of the Department of Humanities and Social Sciences who taught in the M. Tech (Industrial Management) programme until 2001 and thereafter in the MBA programme. On 2nd February 2006, the Department moved into its new premises provided by the Institute to facilitate all-round developments in its teaching programmes, research and industry-interface efforts and initiatives. Over the years, the work and contributions of the faculty and research scholars have been highly acclaimed in academic circles and peer groups. The sharply growing number of well-qualified applicants, with many having significant professional experience, is a good indication of this.

The MBA Programme, which commenced only in July 2001, has rapidly earned quite a fine reputation among all stakeholders. The summer and career placements offered to the students by globally and nationally reputed companies is strong evidence of the growing stature of the programme and the attention it is receiving.

The Department has, perhaps, the largest number of research scholars in any management Institution in India. Its research programmes attract a very large number of applicants, including a high proportion of working professionals. The work of the research scholars is often published in reputed international and national journals, and is presented in prestigious international and national conferences. The research papers have consistently received 'best paper' awards, and are well cited in the literature.

The alumni of the Department continue to make significant contributions to the organizations and institutions they work for. Many among them have won prizes, awards, honours and promotions in their organizations even within their first year of work. They have also played a central role in making their organizations earn laurels from various quarters.

The full-time and visiting faculty members have excellent academic and professional backgrounds, and they collectively work for realizing the Department's vision *"to be a globally unique and most valuable source of knowledge, insight, creativity and expertise in management thought and practice"*

Within the first three years of its existence, the Department thoroughly revised its MBA programme curriculum, expanded its research activities, re-launched the MS (Entrepreneurship) programme with a new structure, and worked for establishing long-term relationships with globally reputed Institutions and organizations. The sections below present an outline of the Department's work during the academic year 2006-07.

4.11.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	MS547	Strategic Human Resource Management
2.	MS548	Cross-Cultural Management
3.	MS555	O R Applications
4.	MS631	Contemporary Issues in Management
5.	MS637	Strategic Networking
6.	MS667	Advanced Corporate Finance
7.	MS668	Fixed Income Securities: Structure and Trading
8.	MS693	Introduction to Entrepreneurship
9.	MS699	Management Research Project
10.	MS742	Organizational Development – I
11.	MS743	Organizational Development – II
12.	MS744	Emotions and Ethical Decision Making
13.	MS745	Creativity for Organizational Excellence
14.	MS801	Corporate Governance, Internal Control and Risk Management

Students on Roll:

Programme	I year	II Year	III Year	IV Year	V Year & later	Total
M.B.A.	61	65				126
MS (by Research) & MS (Entrepreneurship)	04	08	03	03	--	18
Ph.D.	15	09	13	13	15	65
Total	80	82	26	26	15	209

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

Sl. No.	Name of the Student	Programme	Title	Date & Venue
Paper Presented				
1.	Sandhya Shekhar	Int'l Conference 'ISOne World 2006'	An Evolutionary Capability Approach in a Software Product Context	20th April 2006 - Information-Institute, Washington, (held at Las Vegas) USA
2.	Kashi Komala Rama Ayengar and Elizabeth Devasia	Workshop for Research Scholars	NIL	05 – 10 June, 2006 – Xavier Institute of Management, Bhubaneshwar
3.	Antony Arokya Dorairaj and Chandra Sunil Kumar	Certificate Programme on Logistics and Supply Chain Management	NIL	07 – 09 June, 2006 – Institute of Logistics, CII, Chennai
4.	Gopalakrishnan K	International Conference on 'Global Manufacturing and Innovation (GMI 2006)'	Knowledge Acquisition by Organizations	27-29 July 2006 - Coimbatore Institute of Technology, Coimbatore
5.	Ms. P. Padma	--do--	A Study on the Critical Factors of ISO 14001-1996 and Organizational Performance of Indian Manufacturing Firms	27-29 July 2006 - Coimbatore Institute of Technology, Coimbatore
6.	Ms. Sayeeda Begum	--do--	A Conceptual Framework to Assess the Level of Quality Management Practices in Engineering Educational Institutions	27-29 July 2006 - Coimbatore Institute of Technology, Coimbatore
7.	Ms. N. Megala	--do--	An Ant Colony Algorithm for Cell Formation Problem in Cellular Manufacturing Systems	27-29 July 2006 - Coimbatore Institute of Technology, Coimbatore
8.	Manish Kumar	International Conference in Operations and Quantitative Management (ICOQM-VII)	A Comparison Study of Different Training Algorithms to Forecast Financial Time Series	August 3-5, 2006, Jaipur.
9.	K. Balaraju and Gomathi Rajan	VLSI Design and Testing Symposium (VDAT 2006)	NIL	August 9-12. 2006 - Goa

Sl. No.	Name of the Student	Programme	Title	Date & Venue
10.	K. Gopalakrishnan	International Conference of 6th Consortium of Students in Management Research (COSMAR-2006)	Knowledge Management Practices and R&D Effectiveness – A Study of Public Sector R&D Organizations in India	September 21-23, 2006 – Indian Institute of Science, Bangalore.
11.	Madhuri Malhotra	--do--	Announcement Effect of Rights Issue – A Study of selected Indian Manufacturing Companies	September 21-23, 2006 – Indian Institute of Science, Bangalore.
12.	J. Suresh	--do--	Influencing Factors and Propositions for PLM Systems	September 21-23, 2006 – Indian Institute of Science, Bangalore.
13.	R. Ravi Kumar	International Conference of the Academy of International Business & Economics	The Relevance of Participatory Interventions for Employee Adjustability to Change	October 15-18, 2006 – Las Vegas, USA
14.	Manish Kumar	10th Capital Market Conference	Support Vector Machine Approach to Predict S&P CNX Nifty Index Returns	December 18-19, 2006 – Indian Institute of Capital Markets, Mumbai
15.	Madhuri Malhotra	--do--	Stock market reaction and liquidity changes around bonus issue announcement: Evidence from India	December 18-19, 2006 – Indian Institute of Capital Markets, Mumbai
16.	M Pandi Kumar	Society of Operations Management (AICSOM) 2006	Multi Commodity Multi-Echelon Production and Distribution Network Model in Supply Chain"	Dec 21-23, 2006 - IIM Ahmedabad
17.	P V Rajendra Sethupathi	--do--	A Hybrid Genetic Algorithm to Find the Best Base-Stock Levels for a Serial Supply Chain System"	Dec 21-23, 2006 - IIM Ahmedabad
18.	S Unnikrishnan	--do--	An Optimization Model for the Design of a Reverse Logistics Network with Discounted Shipping Costs	Dec 21-23, 2006 - IIM Ahmedabad
19	Antony Arokya Durairaj	--do--	Solving Fixed Charge Transportation Problems in a Supply Chain using Genetic Algorithm	Dec 21-23, 2006 - IIM Ahmedabad
20.	M Pandi Kumar	39th Annual Convention of ORSI,2006) and International Conference and Workshop on 'Operational Research as Competitive Edge'	Single Commodity Multi-Echelon Production and Distribution Network Model	January 5–7, 2007 – Heritage Institute of Technology, Kolkata
21.	B. Shoban Babu	--do--	A Simulation Analysis of Factors influencing the Performance of Functional, Cellular and Hybrid Cellular Layouts	January 5–7, 2007 – Heritage Institute of Technology, Kolkata
22.	G. Kumar Raja Singh	--do--	Operator Reallocation for Team Formation In Incremental Cell Formation	January 5–7, 2007 – Heritage Institute of Technology, Kolkata

Sl. No.	Name of the Student	Programme	Title	Date & Venue
23.	M. Ganesh	--do--	Analyzing the Impact of Product Substitution on the Value of Information Sharing in Multi-Product Supply Chain	January 5-7, 2007 – Heritage Institute of Technology, Kolkata
24.	Mukesh Kumar Barua	4th International Business Research Conference	Impact of Regulations on Direct Insurance Broker Channel and Performance & Cost Comparison with Bancassurance & Traditional Channels	January 14 – 15, 2007 - Dhaka, Bangladesh
Conferences attended :				
1.	Sayeeda Begum	Q I S S Workshop	Quality Improvement through Six Sigma	July 5 -7, 2006 – Dept of Mechanical Engineering, National Institute of Technology, Calicut
2.	K. Balaraju and A. Prashant Karthick	TiE – ISB CONNECT 2006	Workshop on 'Entrepreneurship'	September 20 -22, 2006 - Indian School of Business, Hyderabad –
3.	K. Gopalakrishnan	National Seminar (Invited talk)	Knowledge Management	October 6, 2006 – VLB Janakiammal College of Science and Technology, Coimbatore
4.	Sandhya Shekar	National Seminar (Invited talk)	Knowledge Management Practices for Human Resources Management	October 6, 2006 - Velammal Institute of Management, Chennai
5.	Manish Kumar	Stochastic Process in Finance	Quantitative Finance	November 20 – 24, 2006 - Dept of Mathematics, Indian Institute of Science, Bangalore –
6.	Joshy Joseph and S. Bharadhwaj	International Conference on "Marketing in the New Global Order	Impact of Promotions on Brand Equity : Beyond the Obvious	December 18-20, 2006 – IIM, Indore
7.	S.M. Satish and S. Bharadhwaj	--do--	Study on the Influence of Internet on Information Search Behaviour : An Indian Perspective	December 18-20, 2006 – IIM, Indore
7.	Kashi Komala Rama Ayangar	International Conference	Integrating Spirituality and Organizational Leadership	February 7-10, 2007. University of Delhi (in association with Regent University, USA), New Delhi
8.	Mukesh Kumar Barua	National Workshop	Life Insurance Insights	Feb 22-24, 2007 LIC Zonal Training Centre, Chennai.

4.11.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization

Professor

Anantharaman R N
M.A., Ph. D.

Organizational Behaviour, Human Resources Management,
Industrial Relations

Name and Qualifications	Major area of specialization
Jayachandran S <i>M.A., MBA, Ph. D.</i>	Marketing Management
Kamalanabhan T J <i>M.A., M. Phil., Ph. D.</i>	Industrial Psychology, Organizational Behaviour, Human Resources Management
Ganesh L S (Head) <i>B.E.(Hons.), M. Tech, Ph. D.</i>	Systems Thinking and Applications, Project Management, Technology and Knowledge Management
Narendran T T <i>B.E., M.S., Ph. D.</i>	Operations Management, Cellular Manufacturing, Logistics and Supply Chain Management
Rajendran C <i>B.E., M.E., Ph. D.</i>	Production and Operations Management, Scheduling, Computer Simulation
Srinivasan G <i>B.E., M.S., Ph. D.</i>	Operations Research, Supply Chain Management, Cellular Manufacturing
Thenmozhi M <i>M. Com., M. Phil, Ph. D.</i>	Financial Management, Strategic Management, Computational Finance
Vijayaraghavan P <i>B.E., MBA, Fellow IIM Bangalore</i> (TTK Chair Professor) Associate Professor	Strategic Marketing, Brand Management, Advertising and Sales Promotion
Madhumathi R <i>M. Com., Ph. D.</i>	Financial Management and Accounting, Working Capital Management, Forex Research
Assistant Professor	
Arun Kumar G <i>M. Com., Ph. D.</i>	Market Mirostructures, IPOs, Joint ventures and multinational business
Bharadhwaj S <i>MBA, Ph. D.</i>	Consumer Behaviour, International Marketing, Brand Management
Sanghamitra B <i>B.E., Fellow IIM Calcutta</i>	Organizational Behaviour, Human resources Management
Thillairajan A <i>B.E., M.Sc., Fellow IIM Bangalore</i>	Financial Management and Corporate Finance, Venture Capital and Entrepreneurial Finance, Infrastructure and Project Finance, Business Strategy of Technology Enterprises
Visiting Faculty	
Prakash Sai L <i>P.G. Dipl.(CM&P), M. Tech, Ph. D.</i>	Strategic Management, Business Models, IT Outsourcing and IT Strategic Planning, Technology Management
Ramesh Subramanian <i>PGDBM (XLRI), MBA, Ph. D.</i>	Information Systems 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.	Dr. L Prakash Sai	Short-term Programme exclusively for HAL, Bangalore	Strategic Alignment of Utilities and Shared Services	July 12, 2006 - Bangalore
2.	Dr. C Rajendran	Workshop	Research Methodologies (by Dr Antony Paul Raj, Faculty, University of North Florida)	July 19, 2006 and July 26, 2006 DoMS, IIT Madras
Sl. No.	Name of the Co-ordinators	Programme	Name of the Conference/Seminar/Symposia	Date & Venue
3.	Dr. M Thenmozhi	Workshop	Models of Assets Pricing and Disclosure of Information in	July 24-25, 2006 DoMS, IIT

			Financial Markets (by Dr Murgie Krishnan, Yeshiva University, USA)	Madras
4.	Dr. T J Kamalanabhan, Dr. L Prakash Sai and Dr. Sanghamitra Bhattacharyya	Management Development Programme (for Executives from Industries)	Enhancing HR Competencies for the High Tech Sectors	September 29- 30, 2006 DoMS, IIT Madras
5.	Dr. L S Ganesh	Faculty Development Workshop organized by Coimbatore Management Association	Using the Case Methodology for Teaching MBA students	September 28- 29, 2006 Saraswathi Thyagaraja College, Pollachi.
6.	Dr. L S Ganesh	Workshop	Knowledge Management Strategies'	October 26-28, 2006 - HAL, Lucknow
7.	Dr. T J Kamalanabhan and Dr. L. Prakash Sai	Workshop (for Ministry of Textiles, Govt of India)	Skill Building for Textile Entrepreneurs	November 6-16, 2006 - DoMS, IIT Madras
8.	Dr. T J Kamalanabhan and Dr L Prakash Sai	One-day Workshop	Changing Dimensions in Employee Relations: Issues, Challenges & Opportunities	FICCI, Tamil Nadu State Council, Chennai December 20, 2006
9.	Dr. L S Ganesh	2-Day Workshop for Young Teachers of Engineering and Technology	Thinking for Design: Conceptual and Pedagogical Tools for Teaching Design	Coimbatore Institute of Technology, Coimbatore – December 29- 30, 2006
10.	Dr. L S Ganesh	One-day Workshop for senior Managers of the Murugappa Group	Project Management	January 25, 2007. Chennai.
11.	Dr. T J Kamalanabhan and Dr L Prakash Sai	Workshop for College teachers – organized In association with USEFI, Chennai	Building Entrepreneurial Competences	March 10, 2007 – DoMS, IIT Madras
12.	Dr. G Arun Kumar and Dr. A Thillairajan	Training Programme for Goldman Sachs, Bangalore	Advanced Training Programme in Finance	March 23-24, 2007 Bangalore
13.	Dr. L S Ganesh and faculty members of the Department	One day Reflection Programme for MBA Teachers	MBA Pedagogy and Projects	March 28, 2007 – DoMS, 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
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Conference (Paper Presented) :				
1.	Dr. A Thillairajan	Title "Software Service Providers: A comparative analysis of an Indian and an European Corporation"	IIM, Kozhikode - 9th Strategic Management Forum	18-20 May 2006
2.	Dr. G. Srinivasan	Title: ' <i>Multi Commodity Multi-Echelon Production and Distribution Network Model in Supply Chain</i> ' (at the 10th Annual Conference of the Society of Operations Management (AICSOM) 2006)	Indian Institute of Management, Ahmedabad	December 21-23, 2006

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Prof. T T Narendran	Blood Bank Logistics	Indian Institute of Management, Ahmedabad – 1st April, 2006
2.	Dr. L S Ganesh and Dr. L Prakash Sai	Technology, Business Models and Competitiveness (a National Technology Day Lecture)	Audco India Limited, Chennai 11th May 2006
3.	Prof. L S Ganesh	The Paradox of Problem-Solving	For the Top Management team of ICICI OneSource – 12th July 2006.
4.	Prof. L S Ganesh	Systems Thinking for Management Insight	For the Top Management team of Satyam Computers - Manufacturing Practice – 25th July 2006.
5.	Prof. T T Narendran	Keynote address at the International Logistics & Supply Chain Management Conference	PSG College of Technology, Coimbatore - August 4, 2006
5.	Dr. S Bharadhwaj	Brand Equity and Sales Promotion	LIC Zonal Training Centre, Chennai - August 6, 2006.
6.	Prof. L S Ganesh	Systems Thinking	NIT, Trichy - August 23, 2006.
7.	Prof. L S Ganesh	IT Strategy for Pondicherry	Satyam Computers, Chennai – August 25, 2006
8.	Prof. L S Ganesh	Systems Thinking	Vellore Institute of Technology, Vellore - August 30, 2006
9.	Prof. T J Kamalanabhan	Organizational Citizenship Behaviour and Knowledge Management	Defence Institute of Psychological Research (DIPR), Delhi (Unit of DRDO) – September 13, 2006
10.	Prof. L Prakash Sai	' <i>Business Excellence Models</i> ' (at the National Conference on 'Excellence in Management Through Six Sigma')	Anna Adarsh College for Women, Chennai - October 18, 2006
11.	Prof. L S Ganesh	" <i>Competencies for Professional Excellence</i> " (Inaugural Speech at the Management Association)	Guru Nanak College, Chennai – October 19, 2006
12.	Prof. M Thenmozhi	<i>Mathematical Applications in Finance</i>	Dept of Mathematics, IIT Madras – October 27, 2006
Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
13.	Prof T T Narendran	' <i>Recent Advances in Logistics and Supply Chain Management</i> ' (under Quality Improvement Programme (QIP))	Dept of Production Engineering, National Institute of Technology, Trichirappalli - March 12, 2007.

14.	Prof. L S Ganesh	Different Wisdom	Air Traffic Control, Chennai. - March 21, 2007.
15.	Prof. L S Ganesh	The Teacher's Dilemma	SRM University, Chennai. - March 26, 2007
16.	Prof. L S Ganesh	Fundamental Issues in Teaching- Learning	ICFAI University, Chennai. - March 28, 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Prof. C Rajendran	U.S.A.	July 9 – 16, 2006	Discussion for an MOU with Marshall School of Business, University of Southern California, Los Angeles, USA.
2.	Prof. C Rajendran	Germany	July 23 – August 20, 2006	Humboldt Fellowship
3.	Prof. M Thenmozhi	Singapore	August 10-11, 2006	International Conference on "Institution-Industry Partnership for Mutual Benefit" organized by ICICI
4.	Prof. M Thenmozhi	Australia	September 29 - October 2, 2006	2nd Australian Business and Behavioural Sciences Association International Conference, Adelaide.
5.	Dr. T J Kamalanabhan	U S A	October 15–18, 2006	To attend and present a paper "A Study on the Role of Occupation in the Turnover Process of Information Technology Professionals" organized by the Academy of International Business & Economics, Los Vegas, USA
5.	Dr. L Prakash Sai	China	November 1 – 3, 2006	To attend Oracle Education Annual Conference

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	Prof. M Thenmozhi	Endeavour India Executive Award 2007	Australian Government	To high achieving individuals from around the world to undertake international study, research or professional development	December 2006.

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Co-author
Books:				
1.	Prof. G Srinivasan	Operations Research – Principles & Applications	Prentice-Hall of India	NIL

4.11.4 Research and Consultancy:

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lacs)
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1.	Dr. A Thillai Rajan	Study on 'The Outer Ring Road Project'	Hyderabad Urban Development Authority (HUDA)	11.50
2.	Dr. T J Kamalanabhan and Dr. L. Prakash Sai	"A Study to evaluate the Schemes/Programme under Indian Leather Development Programme of Tenth Five Year Plan"	Council for Leather Exports, Chennai	5.00
3.	Dr. G Srinivasan	"Portfolio Optimization in Ground Handling Operations"	SABRE Travel Technologies (Airlines)	2.00

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

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

Research Publications:

Total No. of papers published in Refereed National Journals	:	06
Total No. of papers published in Refereed International Journals	:	23
Total No. of papers presented in National Conferences	:	--
Total No. of papers presented in International conferences	:	--

In Refereed National Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	Madhuri Malhotra, Ph D Scholar (accepted for publication in Apr 07 Issue)	"Announcement Effects of Rights Issues – A Study of Selected Manufacturing Companies in India"	The Journal of Services Research, Gurgaon	Dr. M Thenmozhi
2.	K R Ravi Shankar,	'Modeling Customer support performance in Indian IT hardware industry'	Journal of Modelling in Management, Vol. 1, Issue 3, Page: 232-254, 2006	P Vijayaraghavan and T T Narendran
3.	A Thillairajan	"BSNL: Ringing in Change, Connecting India"	The ICFAI Journal of Business Strategy – Vol 3 (3) : 65-83	Kamal Sharma and Mithun Zackaria
4.	R Madhumathi	"Long Run Exchange Rate Determination"	Management and Accounting Research, Vol.10, No.1, July-September 2006, pp.110-128.	Shreelalitha Ch.
5.	Suresh Srinivasan	"Impact of Diversification Strategy on Firm Performance: An Entropy Approach"	ICFAI Journal of Applied Finance – Vol.12 No.11 – Nov 2006 Issue – Pages 27-48	P Vijayaraghavan and M Thenmozhi
6.	T T Narendran	"Research Perspective of Supply Chain Modeling"	ICFAI Journal of Operations Management, Vol V, No.4, 2006	K Ganesh

In Refereed International Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	T J Kamalanabhan	'Indexing, Abstracting & Website/Internet Coverage'	International Journal of Transnational Management Technology, USA - Vol.10	----

			Number 4, 2005 - Pages 73 to 97	
2.	K R Ravi Shankar	"Modelling Improved Customer Responses in Web-enabled Support Networks"	International Journal of Agile Systems and Management, U K - Vol. 1 No.2 Page 166 -193, 2006	T T Narendran and P Vijayaraghavan
3.	Neera Katwal	"Development of a Tool to Measure Competencies of Software Project Managers: A Confirmatory Factor Analytic Study"	International Journal of Management Practices & Contemporary Thoughts (IMPACT)	L S Ganesh and T J Kamalanabhan
4.	K Ganesh	'CLOVES: A Cluster-and Search Heuristic to solve the Vehicle routing problem with delivery and pick-up'	European Journal of Operational Research (Jan 2006).	T T Narendran
5.	K R Ravi Shankar	Modeling Customer Support Performance in Indian IT Hardware Industry'	The Journal of Modeling in Management, Vol 1, No.3, 2006, Emerald Group Publishing Ltd - Jan 2006.	T T Narendran and P Vijayaraghavan
6.	G Revathy	"Evaluation of Entrepreneurial Risk taking by the Magnitude of Loss Scale"	Journal of Entrepreneurship, Sage Publications, Vol.15, I, Pp. 37-46 - 2006	T J Kamalanabhan
7.	Deva Prasad S	"A genetic algorithmic approach to multi-objective scheduling in a Kanban-controlled flowshop with intermediate buffer and transport constraints",	The International Journal of Advanced Manufacturing Technology, Vol 29,564-576, June (2006)	O V K Chetty and C Rajendran
8.	Gajpal Y	"An ant colony algorithm for scheduling in flowshops with sequence-dependent setup times of jobs"	The International Journal of Advanced Manufacturing Technology- Vol 30, 416-424, September (2006).	C Rajendran and H Ziegler
9.	Daniel J S R	"Heuristic approaches to determine base-stock levels in a serial supply chain with a single objective and with multiple objectives",	European Journal of Operational Research, Vol 175, 566-59, November (2006).	C Rajendran
10.	Issac G	"An instrument for the measurement of customer perceptions of quality management in the software industry: An empirical study in India"	Software Quality Journal, Vol 14, 291-308, December (2006).	C Rajendran and R N Anantharaman
11.	Nishanth Chandran	"A clustering approach to solve the multiple traveling salesman problem"	International Journal of Industrial and Systems Engineering (IJISE), Vol. 1, No.3, Pg. 372-387, 2006	T T Narendran and K Ganesh
12.	K Ganesh	"TASTE: A two-phase heuristic to solve traveling salesman problem with simultaneous delivery and pick-up"	International Journal of Advanced Manufacturing Technology	T T Narendran
Sl. No.	Name of the Author	Title	Journal	Co-author
13.	K Ganesh	"CLASH: A heuristic to solve vehicle routing problem with delivery, pick-up and time windows	International Journal of Services and Operations Management.	T T Narendran

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14.	S K Preeti	Determinants of Non-Traditional Debt Financing Choices	Journal of Technology Management, 2006 Vol.4, No.1, pp. 22-46.	M Thenmozhi
15.	K R Ravi Shankar	"Optimal Staffing Policies for Customer Support System with Uncertain Demand"	International Journal of Agile Systems and Management, Vol.1, No.3, pp. 299-323, 2006	T T Narendran and P Vijayaraghavan
16.	Chandra Sunil Kumar	"Heuristics for the Real-Time Pickup-and-Delivery Travelling Salesman Problem"	International Journal of Logistics Systems and Management	T T Narendran
17.	Godwin T	"Freight Train Routing and Scheduling a Passenger Rail Network: Computational Complexity and the Stepwise Dispatching Heuristic"	Asia-Pacific Journal of Operational Research	Ram Gopalan and T T Narendran
18.	Godwin T	"Tactical Locomotive Fleet Sizing for Freight Train Operation"	Transportation Research Part E: Logistics and Transportation Review	Ram Gopalan and T T Narendran
19.	Godwin T	"Locomotive Assignment and Freight Train Scheduling using Genetic Algorithm"	International Transactions in Operational Research Vol.13, pp 299-332, 2006	Ram Gopalan and T T Narendran
20.	K R Ravi Shankar	"Field Level Customer Support Model for High-tech Products in India"	International Journal of Management and Decision Making, Vol.8, Nos.2/3/4, pp. 290-317, 2007	T T Narendran and P Vijayaraghavan
21.	Godwin T	"A Heuristic for Routing and Scheduling Freight Trains in a Passenger Rail Network"	International Journal of Logistics Systems and Management, Vol.3, pp. 101-133, 2007	Ram Gopalan and T T Narendran
22.	Natarajan, K	"Performance evaluation of priority dispatching rules in multi-level assembly job shops with jobs having weights for flowtime and tardiness"	The International Journal of Advanced Manufacturing Technology, Vol 31, 751-761, January (2007).	K M Mohanasundaram, B Shoban Babu, S Suresh, K Antony Arokia Durai Raj, and C Rajendran
23.	C Rajendran	"Dispatching in flowshops with bottleneck machines"	Computers & Industrial Engineering, Vol 52, 89-106, February (2007).	Alicke K

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Mr. Rajgopal, CEO, Celebrity Fashions, Chennai	3 rd April, 2006	CEO Connect – an interactive session with MBA students
2.	Mr. R Nataraj, Commissioner of Police, Government of Tamil Nadu	5 th April, 2006	MIST - Interacting with MBA students and Research Scholars
3.	Prof. Shoji Shiba, Professor Emeritus, University of Tsukuba, Japan (International Expert on TQM)	12 th April, 2006	Interaction with faculty members particularly to discuss the VLFM PG programme
4.	Mr. P Pradeep Aavishkar	27 th April, 2006	Guest Lecture to MBA Students
Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
5.	Prof. U R Cherukuri, Professor of Finance, College of Business Administration,	15 th May 2006	Guest lecture on 'Trends in Commercial Banking around the World' for MBA Students and Research Scholars

	California State University		
6.	Dr. S. Satchidananda, Professor, Indian Institute of Information Technology, Bangalore	31st May 2006	Guest Lecture on 'IT for Rural Banking Services Delivery'. Interacted with our faculty members.
7.	Management Students & Faculty from Tiffin University, Ohio, USA	15th June 2006	Study visit.
8.	Mr Eric D'Souza, Mr Deepak Martin S. and Mr Joseph Devadass – Directors of Flextronics Technologies, Bangalore	28th June 2006	Interaction with Faculty members for a possible collaborative effort with IIT Madras, for their future projects.
9.	Delegation from Motorola India Limited	29th June 2006	Discussed on training, summer internship, research and placements and also wish to collaborate with IIT Madras, in the area of Supply Chain Management and sign an MOU for the above.
10.	Prof. Ilene K. Kleinsorge, Dean, College of Business, Oregon State University, USA	July 5, 2006	Interaction with faculty members
11.	Dr. S.P. Raj Professor of Marketing, Cornell University, Thaca, N.Y., USA	July 21-22, 2006	Interaction with Students and faculty members
12.	Prof. Philip Kotler, International expert on 'Marketing'	July 15, 2006	Interaction with Students and faculty members
13.	Prof. Philippe Regnier, Visiting Faculty from IUED, Geneva	July 26 - August 28, 2006	delivered lectures on "Small and Medium Enterprises" to our MBA students
14.	Dr George G. Santhikumar, Dept of Industrial Engg., University of California, Berkeley	August 1, 2006	Interaction with faculty members and Research Scholars
15.	Prof. Jean Michel Servet, IUED, Switzerland	August 10, 2006	Guest Lecture on 'Micro Finance and Micro Insurance' for MBA Students
16.	Mr. L. Ganesh, Vice Chairman and Member, Board of Directors, Rane Group of Companies, Chennai	August 17, 2006	'Corporate Wisdom' Talk on 'Total Quality Management' for MBA Students
17.	Prof. Shoji Shiba, MIT Sloan School (and TQM Guru)	August 21-22, 2006	Conducted a 2-day Workshop for faculty.
18.	Dr. Carsten Sartor, Visiting Faculty, Univ. of Kaiserslautern, Germany,	August 22, 2006 (for a month)	Work with faculty and research scholars in the area of Operations Management
19.	Mr. Sarath Babu – Entrepreneur (IIM-A Alumnus)	August 23, 2006	MIST Programme Speaker – "MBA and the Challenge of Employment"
20.	Prof. Klaus Haase, Vice-Dean, University of Passau, Germany	September 1, 2006	Interaction with Faculty Members of the Department leading to a possible MOU with them for exchange programme of students and faculty members
21.	Mr Devendra Saharia, Co-founder & President, Ajuba Solutions Inc.	October 17, 2006	Interactive Session on "The Key to Successful Entrepreneurship" with MBA students at the 'CEO Connect' Program.
22.	Professor Ernest Johnson, Faculty of Management, University of Regina, Canada	October 23, 2006	Seminar on "MIS under North American Perception" delivered to faculty and research scholars.
23.	Mr. Ramaraju (ex-CEO, SIFY)	October 26, 2006	Lecture on 'Value Addition by VCs' delivered to MBA students.
24.	R Venkatraman, Business Head (Modern Trade & New Business), Henkel Marketing India Ltd	November 1, 2006	Shared his experiences at the event 'Corporate Wisdom', an inter-active session with our MBA students
Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
25.	Team of faculty members, Groningen University, Netherlands	November 13, 2006	Interaction with faculty on our MBA Programme

26.	Dr. A Ramakrishna, (ex-CEO, L&T ECC Ltd) & Adjunct Professor, Civil Engg, IIT Madras	November 14, 2006	Discussion with Faculty members (and Dr K N Satyanarayana) for introduction of new courses
27.	Mr V N Pattabiraman, IOFS (Retd), ex-Director General and Chairman, Ordnance Board, Ministry of Defence, Government of India	November 16, 2006	Guest Lecture on 'Defence Production Projects' to our MBA students
28.	Mr. Daniel Bouton, Chairman – Societe Generale, France	November 22, 2006	Interaction with our MBA students and Research Scholars
29.	Prof. Armin Heinzl, Academic Director and Cornelia Kruger, Program Director, Mannheim Business School	December 4, 2006	Interaction with MBA / Research Scholars and further discussion with HOD/Faculty Members for a possible MOU between IITM and MBS.
30.	Representatives of different Management Institutions from Singapore	December 13, 2006	Interaction with Faculty Members on the programmes offered by the Department.
31.	Prof. Camillus, Carnegie Melon University, USA	January 4, 2007	Interaction with Faculty and MS (Entrepreneurship) Students
32.	Mr. Tarsem Jutla, Managing Director Mr. Sivaraman, General Manager Mr. Ashok Nanjundan, Sr. Manager of CATERPILLAR, USA ; and Dr. Peter Johnsen (Provost and Vice President for Academic Affairs) Dr. Robert Baer, Dean of the Foster College of Business Administration Dr. Edward Bond, Assoc Prof. Mktg. Dr. Mitch Griffin, Assoc Prof of Mktg & Int'l Business Co-ordinator Mrs. Lisa Stufflebeam, Exe. Director Executive Development Center of Bradley Univ, USA	January 8, 2007 and January 12, 2007	Discussion with faculty members for a joint Executive Development Programme and Short-term Programmes for Caterpillar Executives
33.	Dr K Sudhir, Professor of Marketing, Yale School of Management, USA	January 11, 2007	Gave a talk on 'Marketing Strategy' for MBA Students and Research Scholars
34.	Dr. A 'Parsu' Parasuraman (a Distinguished Alumnus of IIT Madras), University of Miami, USA	January 16, 2007	Gave a talk on 'Building Profitable Customer Relationships through Superior Service" to all MBA students and Research Scholars
35.	Prof. Ching-Pu Chen, Director, Academic Exchange Affairs Section, Yuan Ze University, Taiwan.	January 17, 2007	Meeting to discuss possible student exchange programmes
36.	Prof. B Ramaseshan, Head, School of Marketing and Associate Dean (R&D), Curtin Business School, Australia.	January 23, 2007	Meeting to discuss possible MoU and joint research programmes
37.	Mr. Chandran Shankaran, Founder and CEO, Zyme Solutions, USA	January 28, 2007	To discuss possible research and MBA projects in the area of Hi-Tech Supply Chain Management
38.	* Dr. Spencer Pugh, Vice President & Manager, * Mr. Shailendra K. Porwal, Director, Business Development - Industrial & International Market Sector, Battelle Laboratories, Ohio, USA	February 2, 2007	Interaction with faculty and research scholars.
Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
39.	Dr. Lou Tice – Founder, The Pacific Institute, USA	February 8, 2007	Gave a talk on 'Creating Cultures of Excellence'

40.	Mr. Josh Foulger, Head, Mfg Engg, Nokia India Ltd, Chennai	February 12, 2007	Talk under the Corporate Wisdom forum.
41.	Mr K. Pandiarajan, CEO & Managing Director, Ma Foi Consultants Ltd, Chennai	February 19, 2007	Talk under the CEO-Connect forum.
42.	Dr Sankaran Ranganathan, Blueshift Consultants, Chennai	March 8, 2007	Interaction with MBA students at the event - 'CEO Connect'.
43.	Mr. Gagandeep Singh Bedi, IAS Director of Rural Development and Panchayat Raj. (ex- District Collector, Cuddalore)	March 12, 2007	Sharing his views on "Natural Disasters and Human Response for Socio-economic Development" as part of "MIST" (Management Insights for Social Transformation), a forum of the Dept of Management Studies.
44.	* Mr. Arun Leslie George, General Manager –HR, Coromandel Fertilizers Ltd. * Mr. Padmakumar HR - Head - Flat Glass business, Saint-Gobain Glass India	March 15, 2007	Gave a talk on : "Human Resources Function –The integrator" at Corporate Wisdom event organized by the Department.
45.	Mr R. Anand, Partner Ernst & Young Consultants Ltd, Chennai	March 28, 2007	Presented an 'Analysis of the Budget 07' as part of the event Corporate Wisdom for MBA Students.

4.11.5 Other Activities:

1. Mr. Amul Desai, Technical Consultant, SAS Institute, Mumbai conducted a 2-day Workshop 'Introduction and familiarization of SAS software' to Research Scholars and faculty at DoMS between 2nd and 3rd June 2006.
2. 44 MBA Students, 5 Ph D Scholars and 4 MS (by Research) Scholars received their degrees at this year's Convocation held on 28th July 2006. (for last year)
3. Mr. T Godwin, Ph D Scholar in Operations was offered career placement in 'Marketing & Planning Systems' (MaPS), Chennai.
4. HR Laboratory (a project of the MHRD, Govt. of India) was inaugurated in the Department on August 25, 2006.
5. K Balaraju, MS (Entrepreneurship) scholar and his team members of Aerosol Engg Services Pvt Ltd., won the **FIRST Prize** (Prize Money Rs.1,50,000) at the Breakthrough 2006 (a national level B-Plan competition) organized by Shaastra 2006, IIT Madras.
6. Saurabh Suri and Utkarsh Dubey (2nd Year MBA students) won the **FIRST Prize** (Rs.20,000) for their Systems Vertical Paper titled 'Open Source or Proprietary Software?' at the VISTA 2006 contest sponsored by Microsoft India and organized by IIM, Bangalore on 13th Oct 2006.
7. Saurabh Suri and Utkarsh Dubey (2nd Year MBA students) were chosen as **FINALISTS** at the Microsoft Live Case Contest 'Combating Piracy in Indian Markets' contest sponsored by Microsoft India and organized by IIM, Bangalore on 15th Oct 2006.
8. Dr. L Prakash Sai's article "Management Sadhus vs Hari Sadus" was featured in The Economic Times on 21st October 2006.
9. Karan Sood, Naresh Gunda and K K Udaikant (2nd Year MBA students) won the **FIRST Prize** (Cash prize:Rs.15,000) at the Supply Chain Management Game 'Linking Ops' organized by The Institute of Management Technology, Nagpur on 18th October 2006.
10. Prof. S. Jayachandran served as a Member in the selection committee at CIPET on 7th October, 2006.
11. Prof. S. Jayachandran served as the External Examiner : –
 - at the defence viva of a Ph D candidate of the Department of Management Studies, University of Madras on 17th October, 2006.
 - at a synopsis viva of a Ph. D. candidate at NIT, Trichy on 27th October, 2006.

12. Priya Rammohan and Timmaraju Chaitanya (1st year MBA) won the **FIRST Prize** at the Insight Paper Writing Competition (HR) on 4th Nov 2006 organized by Loyola Institute of Business Administration, Chennai.
13. Sujeet Joshi (2nd MBA) was placed **THIRD** at the “*Net Impact Conclave*” – Essay Competition 2006” organized by the Indian School of Business, Hyderabad on 11th Nov 2006.
14. Digvijay Singh and Venkataramamoorthy S. (2nd Year MBA) finished **THIRD** at a competition ‘**Sun Tzu Challenge (Case Study Competition)**’ on ‘*Departmental Stores vs. Hypermarkets*’ organized by Avalon Consulting on 14-Nov-2006. (Top 5 finalists, selected from 25 teams from Business Schools all over India, were invited to Avalon Consulting, Mumbai for presenting their Case).
15. Dr. T J Kamalanabhan served as an External Examiner at the Comprehensive Viva Voce of a Ph D candidate at NIT, Trichy on 15th Nov 2006.
16. Dr. Sangamitra Bhattacharyya served as an External Examiner at the Comprehensive Viva Voce of a Ph D candidate at NIT, Trichy on 15th Nov 2006.
17. Priya Rammohan and Prashant Saxena (1st year MBA) won the **FIRST Prize** at the TRISHNA 2006 ‘Paper Writing Contest’ organized by ICFAI, Hyderabad and held on 18th Nov 2006.
18. Naresh Gunda and K K Udaikant (2nd year MBA) won the **FIRST Prize** (Rs.15,000) in ‘*Ariel’s Flight (Operations Event)*’ of NEEV-06 at Symbiosis Centre for Management and Human Resource Development (SCMHRD), Pune on Nov 25, 2006.
19. K Balaraju and A Prasanth Karthick (MS Entrepreneurship), V Teja Pratap and A N Jayalakshmi (MBA 2nd Yr), S Siddharth (MBA 2nd Yr) launched a magazine **Technikon** on 1st Dec 2006. this is an Entrepreneurial attempt by the team.
20. Arun Kumar Rajain and Dasari Suresh (1st Year MBA) won the **SECOND Prize** at ‘Conquer India’, a Business Plan contest organized by the Indian Institute of Planning and Management, Ahmedabad on 9th December 2006.
21. K Balaraju and A V Gomathirajan (MS Entrepreneurship) incorporated a company called ‘**Samiksa Sali Integrated Systems Solutions Pvt Ltd**’ under the Indian Companies Act. 1956. Incubation support was provided by the C-TIDES, .
22. Suhanya A., Ph D Scholar’s article titled “*An AHP Study; on Critical Factors for Balanced Scorecard Implementation in Indian Organizations*” has been accepted for publication in the International Journal on Business Information and Research, USA.
23. In collaboration with the Department of Biotechnology, DoMS organized a short-term course on “Biotechnology Entrepreneurship” from the last week of December to the first week of January. Participants included students of Biotech programmes from different Institutions in India.
24. The Department of Management Studies organized ‘**Samanvay 2007**’, the business professionals’ festival, on 05th, 06th and 07th January, '07. The festival was inaugurated by Sri M Damodaran, Chairman, Securities and Exchange Board of India (SEBI) and Dr. K C Chakrabarthy, Chairman and Managing Director, Indian Bank delivered a Keynote address.
25. Dr. S Jayachandran conducted a public viva for a Ph D candidate at the University of Madras as External Examiner on 10th January 2007.
26. Dr. S. Jayachandran attended the Expert Committee meeting at AICTE, Hyderabad as Convenor/ Member on 11th /12th and 19th/20th January 2007.
27. Prof. L S Ganesh served as a Member of the Jury at ‘Ideas 2007’, the National Petroleum Innovation Competition, organized by Bharat Petroleum in Mumbai on 09th January 2007.
28. Prashant Janawade and Sujeet Joshi (II Year MBA students) emerged ‘**Winners**’ of the “*Economic Times in the Classroom Quiz*” organized by ET and Cognizant Technology Solutions on 24th Jan 2007.
29. Profs. S Jayachandran and M Thenmozhi conducted Ph D Viva Voce at NIT, Trichy on 29th Jan 2007 as External Examiners.

30. Saurabh Suri and Utkarsh Dubey (II Year MBA students) were declared **FIRST Runners-up** (Prize money: Rs.5,000) at the Online Biz Theatre (Systems) contest organized by IIM, Lucknow held on 19th January 2007.
31. The Department organized a trip to Kodaikanal and Berijam for the MBA Class of 2008 on 20th and 21st January 2007.
32. Saurabh Suri and Utkarsh Dubey (II Year MBA students) won the **FIRST Prize** (Prize money: Rs.15,000) at the IT Case study competition (Blueprint) organized by IIM, Kozhikode held on 21st January 2007.
33. Saurabh Suri and Utkarsh Dubey (II Year MBA students) won the **FIRST Prize** (Prize money: Rs.15,000) at a National Paper presentation competition organized by SJSOM, IIT Bombay on 4th February 2007.
34. Professor S. Jayachandran served as the External Referee and Expert at the Ph D viva voce held at JNTU, Hyderabad (09th February) and NIT, Trichy (13th February).
35. K Gopalakrishnan, J Ajith Kumar, Ph D Scholars were invited to give a talk on "*Knowledge Management - An Overview of the Basics*" at the 2-day Workshop on "Knowledge Management" organized by VIT Business School, Vellore Institute of Technology (VIT), Vellore on 2-March-2007.
36. Prof R N Anantharaman chaired a Session at the National Conference on "Challenges to Globalisation and Strategies to Overcome Them" organized by MNM Jain Engg College, Chennai on 8th March 2007.
37. Prof L S Ganesh was the Moderator for a panel discussion on "*Women's Education and Development*" held at the National Convention on Contemporary Issues in Higher Education organized by Ethiraj College for Women on 8th Mar 2007.
38. The 2nd National Conference on "Management Science and Practice" organized in memory of Late Professor S K Srinivasan, Professor Emeritus, Department of Mathematics, IIT Madras was held in our Department from 09th March to 11th March 2007. Mr. K Raghavendra Rao, Managing Director, Orchid Chemicals & Pharmaceuticals, was the Chief Guest and Professor V G Idichandy, Director-in-charge & Dean (Students) was the President.
The Conference featured parallel sessions on a variety of Management Science/Operations Research related themes with special Tutorials on selected topics such as Game Theory, Revenue Management, Supply Chains, Data Envelopment Analysis, and Six Sigma.
41. Three companies formed by MS (Entrepreneurship) students, Mr. K Balaraju, Mr. Prasanth Karthik, and Mr. Gomathirajan, have been registered.
42. Prof T T Narendran inaugurated and delivered a Keynote address at the short-term course on '*Recent Advances in Logistics and Supply Chain Management*' under the Quality Improvement Programme (QIP) organized by the Dept of Production Engineering, National Institute of Technology, Trichirappalli on March 12, 2007.
43. Priya Rammohan and Prashant Saxena (MBA I Year Students) won the **FIRST Prize** (Cash Prize Rs.10,000) for their paper titled "Employer Branding" at the International Conference on HR & IT Management at "THE ATHENAEUM" organized by Bharathidasan Institute of Management, Trichy on 17-18, March 2007.
44. Prof S Jayachandran served as Selection Committee Member for selecting Dy Directors and Chief Managers, both (Technical & Non-technical) for CIPET, Chennai on March 21, 2007.

4.12 DEPARTMENT OF MATHEMATICS

4.12.1 Introduction:

The Department of Mathematics was established in 1959 along with the Institute. It offers M.Sc. program in Mathematics, M. Tech. program in Industrial Mathematics and Scientific Computing (IMSC) and Ph.D. program. In addition, the Department teaches Mathematics courses to B. Tech., M. Tech., Dual Degree, M. Sc. and Ph.D. students of all the departments in the Institute. The major areas of research of the department are:

- | | |
|------------------------------------|--|
| 1. Algebra and its Applications | 17. Graph Theory and Algorithms |
| 2. Algebraic Geometry | 18. Harmonic Analysis |
| 3. Algebraic Topology | 19. Inventory Control and Reliability |
| 4. Applied Probability | 20. Mathematical Logic and Applications |
| 5. Approximation Theory | 21. Mathematical Modeling |
| 6. Coding Theory | 22. Mathematical Physics |
| 7. Commutative Algebra | 23. Nonlinear Analysis |
| 8. Complex Analysis | 24. Numerical Analysis |
| 9. Computational Fluid Dynamics | 25. Operations Research |
| 10. Continuum Mechanics | 26. Operator Theory |
| 11. Data Networks | 27. Queueing Theory |
| 12. Differential Equations | 28. Statistical Quality Control |
| 13. Inverse and Ill-Posed problems | 29. Stochastic Processes and
their Applications |
| 14. Fluid Mechanics | 30. Theoretical Computer Science |
| 15. Functional Analysis | 31. Wavelets and their Applications |
| 16. Fuzzy Sets and Systems | |

4.12.2. Academic Programmes:

New courses Introduced:

S.No.	Course No.	Title
1.	MA 215	Linear Algebra and Optimization
2.	MA 216	Partial Differential Equations and Numerical Methods
3.	MA 647	Commutative Algebra
4.	MA 648	Galois Theory

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.	32	30	-	-	-	62
M.Tech.	10	09	-	-	-	19
Ph.D.	06	04	18	10	11	49
Total	48	43	18	10	11	130

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

Sl. No.	Name of the Student/Scholar	Name of the Conference/Seminar/ Symposia	Date and Venue
Conference:			
1.	Mr. K.P. Deepesh	Advanced Instructional School in Functional & Harmonic Analysis	July 2 – 29, 2006 ISI, Bangalore
2.	Mr. I. Mohammed Rizwan Sadiq	Application of Fluid Mechanics in Industry and Environment	Aug 28 – 31, 2006 ISI, Kolkata
3.	Mr. H. Ramesh	Unconventional Computation 2006	Sep. 4 – 8, 2006 University of York, U K
4.	Mr. V. Murugan	Functional Equations and Inequalities	Sep. 18 – 23, 2006 Pedagogical University, Cracow, Poland
5.	Mr. K. Paramasivam	25 th Colloquium on Combinatorics	Nov. 16 – 18, 2006 University of Otto-van-Guericke Magdeburg, Germany
6.	Ms. S. Lavanya	Discrete Mathematics	Dec. 15 – 18, 2006 I.I.Sc., Bangalore
7.	Ms. R. Indhumathi		
8.	Mr. T. Karthick		
9.	Mr. T. Karthick	Number Theory & Combinatorics	Dec. 19 – 25, 2006 SASTRA, Kumbakonam
10.	Mr. P. Ravishankar	CMASM 2007	Jan. 6 – 8 , 2007 IIT Madras
11.	Mr. V. Murugan		
12.	Mr. Anthony Vijesh		
13.	Mr. G. Ramesh		
14.	Mr. V. Sankar Raj		
15.	Mr. Sachindranath Jayaraman		
16.	Mr. K. Paramasivam		
17.	Mr. L. Jegannathan		
18.	Ms. J. Anuradha		
19.	Mr. T. Kurmayya		
Seminar:			
1.	Mr. T. Karthick	Graph Theory & Algorithms	June 10 - 12, 2006 PES Institute of Technology, Bangalore
Instructional Conference:			
1.	Mr. K. Paramasivam	25 th Colloquium on Combinatorics	Nov. 16 – 18, 2006 University of Ottovan-Guericke Magdeburg, Germany
2.	Mr. S. Sivananthan	Harmonic & Functional Analysis	Dec. 11 -12, 2006 IIT, Kanpur
3.	Mr. Jitendriya Swain		
4.	Mr. T. Kurmayya	Singular Value Decomposition and its applications.	Feb. 19 – 23, 2007 ISI, Hyderabad
5.	Mr. Jajati Kesari Sahoo		
6.	Mr. A. Chandra Shekaran		
7.	Mr. Sachindranth Jayaraman		
8.	Mr. Nachiketa Mishra		
9.	Mr. I. Jeyaraman		

Workshop:			
1.	Mr. K. Paramasivam	25 th Colloquium on Combinatorics	Nov. 16 – 18, 2006 University of Ottovan-Guericke Magdeburg, Germany
2.	Mr. V.B. Surya Prasath	Annual foundation School - II, 2006	May 31 – June 30, 2006 University of Pune, Pune
3.	Mr. K. Vasudevan	Quantitative Finance	Nov. 20 – 24, 2006 I.I.Sc. Bangalore
QIP Short term courses:			
1.	Mr. Jitendriya Swain	Harmonic Analysis and Partial Differential Equations	IIT Madras Jan.1-12, 2007
2.	Mr. Venku Naidu Dogga		
3.	Mr. S. Sivanathan		
4.	Mr. E. Satyanarayana		
5.	Mr. Manoj Kumar Yadav		

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

Sl. No.	Name of the Student/Scholar	Name of the Programme	Name of the Award	Instituted by
1.	Mr. T. Kurmayya	Ph.D.	R.S. Varma Memorial Best Paper Award	Forum for Inter-disciplinary Mathematics

4.12.3 Faculty and their areas of Research:

Faculty:

Name	Qualifications	Major area of specialization (only 3 areas)
Professors:		
S. A. Choudum [Head]	Ph.D. (IIT Madras)	Graph Theory, Combinatorics and Discrete Mathematics
S. Kalpakam	Ph.D. (IIT Madras)	Applied Probability and Stochastic Processes, Operations Research
S. H. Kulkarni	Ph.D. (IIT Bombay)	Functional Analysis and Numerical Analysis
P. R. Parthasarathy	Ph.D. (Annamalai University)	Applied Probability and Stochastic Models, Mathematical Ecology, Operations Research
P. V. Subrahmanyam	Ph.D. (IIT Madras)	Fixed Point Theory and Applications, Fuzzy sets, Functional Equations
M. Thamban Nair	Ph.D. (IIT Bombay)	Spectral Approximation, Operator Equations, Inverse and Ill-posed Equations
R. Usha	Ph.D. (IIT Madras)	Fluid Dynamics Bio Fluid Dynamics
P. Veeramani	Ph.D. (IIT Bombay)	Fixed Point Theorems and their Applications to Problems in Optimization and Best Approximation, Fuzzy Set Theory
Arindama Singh	Ph.D. (IIT Kanpur)	Logic, Numerical Analysis
S. G. Kamath	Ph.D. (IIT Delhi)	Mathematical Physics
S. Ponnusamy	Ph.D. (IIT Kanpur)	Complex Analysis, Function Spaces, Special functions and Conformal Geometry
R. Rama	Ph.D. (Anna University)	Formal Languages & Automata Theory, Molecular computing.
Satyajit Roy	Ph.D. (IISc., Bangalore)	Convective Heat and Mass Transfer, Computational Fluid Dynamics

S. Sundar	Ph.D. (IIT Madras)	Computational Fluid Dynamics, Numerical Analysis for Partial Differential Equations, Mathematical Modeling
V. Vetrivel	Ph.D. (IIT Madras)	Non-Smooth Optimization, Fixed Point Theory

Associate Professor:

Y.V.S.S. Sanyasiraju	Ph.D. (IIT Madras)	Computational Fluid Dynamics
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Asst. Professors:

A.V. Jayanthan	Ph.D.(IIT Bombay)	Commutative Algebra and Algebraic Combinatorics
R. Radha	Ph.D. (IMSc, Chennai)	Harmonic Analysis, Wavelets
K.C. Sivakumar	Ph.D. (IIT Madras)	Functional Analysis and Mathematical Programming
Ch. Srinivasa Rao	Ph.D.(IISc, Bangalore)	Non-linear Differential Equations
Sounaka Mishra	I.S.I. Kolkata	Approximation Algorithm / Combinatorial optimization
V. Uma	Ph. D. (IMSc, Chennai)	Geometry and Topology of toric varieties and other varieties with group actions
W.B. Vasantha	Ph.D. (Ramanujan Institute for Advanced study in Mathematics, Chennai)	Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra
T.E.Venkata Balaji	Ph. D (CMI, Chennai)	Commutative Algebra , Algebraic Geometry

Senior Scientific Officer (Gr.I):

K. Swaminathan	Ph.D. (Agra University)	Fluid Dynamics, Ship Hydrodynamics, Mathematical Problems related to Naval Architecture and Ocean Engineering
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Short-term Courses / Workshops / Seminars / Symposia/ Conferences organised by faculty members:

Sl. No.	Co-ordinator(s)	Title	Period
International Conferences:			
1.	P.V. Subrahmanyam	Computational, Mathematical and Statistical Methods 2007	Jan. 6 - 8, 2007
Symposium:			
1.	V. Vetrivel	NSMMA – Ramanujan Day	Dec. 22, 2006
International Workshops:			
1.	R. Usha	Wave Dynamics and Stability of Thin Film Flow Systems	Sep 1- 4, 2006
2.	S. Sundar	Winter School on Modeling, Computing and Simulation in Engineering	Dec. 11, 2006 to Jan. 5, 2007
Short Term Courses:			
1.	Satyajit Roy	Convective Heat and Mass Transfer Flow Problems using FD and FEM	Sep 18 – 22, 2006
2.	R. Radha & Dr. Ch. Srinivasa Rao	Harmonic Analysis and partial Differential Equations	Jan.1 – 12, 2007

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

Sl. No	Name of Faculty	Title of the event	Topic of Lecture	Institution	Period
1.	S. Kalpakam	Second National Conference on Management Science and Practice	Analysis of perishable inventory systems under renewal demands	IIT Madras Chennai – 36	Mar 9 -11, 2007
2.	P. R. Parthasarathy		Queueing models for communication system	Rajalakshmi Engineering College, Thandalam Village, Kancheepuram	April 5, 2006
			Continued fractions	Srinivasa Ramanujan Centre, Kumbakonam	April 26, 2006
			Applications of Stochastic Process in Life Sciences and Related Areas	University of Trivandrum Palayam, Trivandrum	Sep. 15 & 16, 2006
			Stochastic models of cancer	Rajalakshmi Engineering College Thandalam, Chennai	Oct 6, 2006
			Recent Trends and Challenges in Applications of Mathematics	Avinashilingam University for Women Coimbatore	Dec 14 – 15, 2006
			Industrial Mathematics	Ethiraj College for Women Chennai.	Feb 24, 2007
			Stochastic Models and Cancer	Annamalai university	Mar. 16, 2007
3.	S.H. Kulkarni	National Conference on Mathematics and Applications: Recent Trends	Projection methods for solving operator equations	Burdwan university	Jan. 10 – 12, 2007
			Ramanujan Endowment Lecture	Anna University, Chennai.	Jan. 31, 2007
			National Conference on Operator Theory	Govt. Arts College Coimbatore	Feb. 28 March 1, 2007
			Symposium on Curriculum Development at P.G. Level in Mathematics	Madurai Kamaraj University Madurai	Mar. 1, 2007
			Symposium on Curriculum Development at P.G. Level in Mathematics	Madurai Kamaraj University Madurai	Mar. 2, 2007
4.	P.V. Subrahmanyam	QIP Workshop on Harmonic Analysis and Partial Differential Equations	Inaugural Talk on "Fourier Analysis"	IIT Madras	Jan 1, 2007
			Computational Mathematics	Vel Tech Eng College	Aug, 2006
			Gronwall's inequality	DMT College	Oct, 2006
			Compactness	Satya Sai Insitutie of Higher Learning	Feb. 24, 2007

5.	Satyajit Roy	Application of Fluid Mechanics in Industry and Environment	Role of non-uniform thermal boundary conditions on a natural convection flow within a square cavity	ISI, Kolkata	Aug 30 – 31, 2006
		National Conference on Mathematics and Applications: Recent Trends		The University of Burdwan West Bengal	Jan. 10 – 12, 2007
6.	S. Sundar	National Conference on Differential Equations and Applications	Mathematical Model for Fluid Flow in Lung using Lattice Boltzmann Methods	Department of Mathematics Periyar University Salem	Sep 28 – 29, 2006
			Higher Educational Career in Mathematics	Bhavan's School Kilpauk	Sept 2, 2006
			Adaptive Methods for Solving Partial Differential Equations	Ramanujan Institute for Advanced Studies in Mathematics	November 3 & 6, 2006
		International Technical Seminar on Modeling Computing & Simulation in Engg		PNS College of Engg. & Technology Tirunelveli	Dec 14 – 15, 2006
		International conference on Current Trends in Industrial and Applied Mathematics		M.S. University Baroda	Jan 16 – 18, 2007
			On Mesh Free Methods for Solving Partial Differential Equations	Bharathiar University Coimbatore	February 14, 2007
7.	M. Thamban Nair	Mathematics Talent Search & Nurture Programme	Linear algebra	University of Calicut Calicut	May 23 – 24, 2007
		National Seminar on Recent Innovations in Mathematics	On solving matrix equation	Kongunadu College of Arts and Science Coimbatore	Aug 5, 2006.
		International Winter School on Modeling, Computing and Simulation in Engineering	On stability estimates for backward heat conduction problems	IIT Madras	Dec. 11, 2006 Jan .12, 2007
		International Conference on Computational Mathematics, Applications and Statistical Methods	On regularization of nonlinear ill-posed equations under Morozou's discrepancy principle	IIT Madras	Jan. 6 -8, 2007
		QIP Workshop on Harmonic Analysis and Partial Differential Equations	Sobolev imbedding theorems	IIT Madras	Jan, 2007
8.	R. Usha		Stability and Convergence Problem of CFD	Aeronautical Development Establishment Bangalore	June 28, 2006

9.	P. Veeramani		On Best Proximity Pair Theorems	Mahendra Arts & Science College Periyar University, Salem	Sept 9 - 10, 2006
			On applications of fixed theorems	SRM University Kattankulathur	Jan. 5, 2007
			Introduction to set theory and topology	Periyar University Salem	Jan.24, 2007
			Fuzzy set Theory and applications	Holi Cross College Tiruchirappalli	Jan. 25, 2007
			On Applications of Tychonoff theorem	Govt. Arts College Palaghat, Kerala	Mar. 3, 2007
			Introduction to Fuzzy Metric Spaces	NGM College Pollachi	Mar. 10, 2007
			Fuzzy Set Theory and its Applications	Basaveshwar Engg. College Bagalkot, Karnataka	Mar. 17, 2007
			Fuzzy numbers and their Applications	Islamiah college Vaniyambadi	Mar. 22, 2007
			Introduction to Fuzzy Set Theory	MES college Nedumkardam, Kerala	Mar. 26, 2007
10.	Arindama Singh		Non Standard Analysis	Pondicherry University	Sep 21 – 24, 2006
			Lyapunov Transformations	Stella Mary's College	Jan 6, 2006
			Logic	Utkal University Orissa	Mar 25 – 27, 2006
			Brainstorming in NPDTE	IIT Bombay	Nov. 12-13, 2006
			Logic and Applications	Utkal University Orissa	Mar. 25 – 30, 2007
11.	S. Ponnusamy		Univalent functions	Manonmaniam Sundaranar University, Tirunelveli	April 13, 2006
			Complex Analysis / Univalent Functions	Karnatak University Dharwad	June 12-19, 2006
			Five proofs of divergence of p-Harmonic and p-Harmonic alternating series	Periyar E V R College, Trichy	September 5, 2006
			Use of Conformal mappings	P K R Arts & Science College Erode	September 6, 2006
			Riemann Integrals	Kamadhenu College of Arts and Science, Erode	September 7, 2006
12.	Satyajit Roy	ISTAM Congress	Natural convection flows in square cavity with non-uniform heated bottom wall	Andhra University Visakhapatnam	Dec 18 – 21 2006
		National Conference on Mathematical Methods and Applications	Role of various thermal boundary conditions on natural convection with enclosures	S.V. University Tirupati	Dec 21 - 23, 2006
		National Conference on Recent Trends in Mathematics	Effects of various thermal boundary conditions on natural convection flows in enclosures	Burdwan University Burdwan	Jan 10-12, 2007
			Natural convection flows in enclosures	Dept of Mathematics Osmania university Hyderabad	Feb. 9, 2007
			Finite difference schemes to incompressible flows	Sri Sathya Sai University Puttaparythy	Mar 3, 2007

13.	Y.V.S.S.S. Raju	ISTAM Congress	Grid free Global and Local RBF Schemes for Steady Convection Diffusion Equations	Department of Mechanical Engg. Andhra University Visakhapatnam	Dec 18-21, 2006
		QIP Workshop on Harmonic Analysis and Partial Differential Equations	Finite difference and finite volume schemes for partial differential equations	IIT Madras	Jan 2-15, 2007
		Applications of Computational Fluid Dynamics in IC Engines	Solvers	Velammal College Chennai	July 11, 2006
		Applications of Computational Fluid Dynamics in IC Engines	Finite Volume Method to Flow Problems	Velammal College Chennai	July 13, 2006
		Short Term Training program on Computational Fluid Dynamics	Finite Volume method for Fluid flows	NIT, Warangal	Jul. 18, 2006
		UGC Refresher course	Grid generation techniques	Bharathiar Univ., Coimbatore	Jan 29, 2007
			Finite Difference Schemes to Incompressible Flows	Department of Mathematics Sri Sathya Sai Univ., Puttaparthi	March 3, 2007
14.	R. Radha	Functional and Harmonic Analysis	Hermite semigroup and holomorphic Sobolev spaces	IIT Kanpur	Dec 22 – 24, 2006
		Modern trends in Analysis and applications	Multipliers for Fourier transform	Kerala Mathematical Association Thrissur	Jan. 5-7, 2006
		Communication Colloquium	Biomedical Imaging	Rajalakshmi Engineering college Chennai	Oct. 2006
		Functional and Harmonic Analysis	Hermite semigroup and holomorphic Sobolev spaces	IIT Kanpur	Dec. 22-24, 2006
15.	K.C. Sivakumar	Recent Advances in Optimization Theory and Applications	Applications of Nonnegative Operators in Optimization	University of Delhi Delhi	Oct. 27 & 28, 2006
		National Symposium on Functional Analysis, Optimization and their Applications	Nonnegative Moore-Penrose Inverses of Gram Operators	University of Delhi Delhi	Jan. 19 & 20, 2007
		Modern Analysis and Allied areas	Star Isomorphisms over Indefinite Inner Product Spaces	Banaras Hindu University Varanasi	Feb. 23 & 24, 2007
		National Conference on Operator Theory	Nonnegative Moore-Penrose Inverses	Government Arts College Coimbatore	Mar. 28 & Apr 1, 2007
		Refresher Course for College Teachers	Non-standard Problems in Linear Algebra	Madurai Kamaraj University Madurai	Mar. 9 & 10, 2007

16.	Ch. Srinivasa Rao		Nonlinear first Order Partial Differential Equations	University of Madras	Nov 16 – 17, 2006
			Basic Theory of Ordinary Differential Equations	IMSc Chennai	Dec 4 - 8, 2006
			Nonlinear first nodes Partial Differential Equations	Bharathiar University Coimbatore	Feb 8, 2007
17.	Sounaka Mishra		Approximation algorithms for Combinatorial Optimization Problems	NERIST, Nirjuli (Itanagar), Arunachal Pradesh	July 11, 2006
			Approximation Algorithms to some generalizations of Minimum Dominating Set	NERIST, Nirjuli (Itanagar), Arunachal Pradesh	October 15 – 16, 2006

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of Visit	Funding From
1.	S. Sundar	Germany	June 1 – 30, 2006	Joint Research Collaboration	TU – Kaiserslautern
2.	K.C. Sivakumar	Poland	July 3-7, 2006	Attend A Conference	IIT Madras
		Germany	July 8-15, 2006	Joint Research Collaboration	Nil
3.	A.V. Jayanthan	Spain	Aug 22 - 30, 2007	Attend a Conference	NBHM
4.	V. Uma	Japan	May 29, 2006	Attend a Conference	NBHM
		Spain	Aug 8, 2006	Attend a Conference	NBHM
5.	K. Swaminathan	USA	April 17, 2006 May 31, 2006	Book writing	Nil

Honours and Awards obtained by faculty :

Sl.No	Name of faculty	Name of Award	Awarded by	Date of award
Awards:				
1.	Dr. W.B. Vasantha	Kalpana Chawla Award	Government of Tamil Nadu	August 15, 2006

Sl. No	Name of faculty	Honour	Journal
Honours:			
1	S. H. Kulkarni and Radha	One of top 25 most downloaded articles	Linear Algebra and its Applications
2.	M.T. Nair		Journal of Complexity
3.	K.C. Sivakumar		Linear Algebra and its Applications

Books/Monographs authored or co-authored:

Sl.No.	Name of Faculty	Title	Publisher	Co-author
1	R. Rama	Formal Languages Aspects of Natural computing	Ramanujan Mathematics Society Lecture Notes Series (3)	Kamala Krithivasan IIT Madras
2.	S. Ponnusamy	Complex Variables with Applications	Birkhauser	Herb Silverman College of Charleston USA

Fellowships of Academies and Professional Societies:

Journal Editorial Boards:

Sl.No.	Name of Faculty	Level	Journal
1.	P.R. Parthasarathy	Member, Editorial Board	International Journal of Modern Mathematics
		Advisory Editor	Journal of Statistical Management Systems
		Associate Editor	American Journal of Mathematics and Management Sciences
		Associate Editor	Inter. Jour. Computer Mathematics.
		Associate Editor	Stochastic Modelling and Applications
		Member, Reviewer Advisory Board	Computing Reviews, ACM
2.	P.V. Subrahmanyam	Editor	Journal of Functional Analysis and Approximation Theory
		Editor	Differential Equations and Dynamical Systems
3.	Satyajit Roy	Member, Editorial Board	The Journal of Indian Academy of Mathematics
4.	S. Sundar	Member, Editorial Board	Pattern Recognition Letters

4.12.4 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	T. S. Prasanna Kumar (MM) & A. Avudainayagam
2.	A numerical Study of Multiple Jets with Particulate Suspension	2 years	ISRO	7.82	R. Usha
3.	Non – Uniform multiple slot-Boundary layer flows	3 years	CSIR	6.50	Satyajit Roy & Tanmay Basak (CHE)
4.	Knowledge Based Systems for Spatial Databases and Geographic Information Systems	3 years	ISRO – IITM Cell	10.62	S.Sundar K.M.M. Rao (ISRO)

SL. No.	Title	Period	Funding Agency	Amount (Rs.in lacs)	Co-ordinators
5.	Apollonian Metric and Problems in Geometric Function Theory	3 years	DAE	4.85	S. Ponnusamy
6.	Studies in Numerical Harmonic Analysis	3 years	NBHM	4.86	R. Radha
New Faculty Scheme:					
1	Wavelets in Signal and Image Processing	3 years	IC & SR, IIT Madras	4.5	R. Radha
2.	Desingularization, Deformations, Singularities and Specializations of Important Moduli Spaces in Algebraic Geometry	3 years	IC & SR, IIT Madras	5.0	T.E. Venkata Balaji
3.	Combinatory of Coxeter Group and its Applications to Geometry and Representation Theory	3 years	IC & SR, IIT Madras	5.0	V. Uma
4.	A Study of Generalized Burgers Equation	3 years	IC & SR, IIT Madras	4.30	Ch. Srinivasa Rao
5.	Numerical Solutions of Infinite Linear Programs	3 years	IC & SR, IIT Madras	4.70	K.C. Sivakumar
6.	Hilbert – Kung Multiplicities of Ideals and Their Blowup algebras	3 years	IC & SR IIT Madras	4.60	A.V. Jayanthan
7.	A Study on Approximation of Optimization Problems Relation to Generalization of Domination Set	3 years	IC & SR IIT Madras	5.0	Sounaka Mishra

Exchange programme with other Universities:

Sl. No.	Programme Name	Name of University	Student Name	Guide Name
1.	DAAD Sandwich –Ph.D.	TU - Darmstadt, Germany	Mr. Maddushankar	S. Sundar
2.	DAAD – M.Tech	TU - Kaiserslautern Germany	Mr. Arindam Mondal	P.R. Parthasarathy
3.	DAAD – M.Tech		Mr. Anshul Deep Saxena	S. Sundar
4.	DAAD – M.Tech	TU - Karlsruhe Germany	Mr. Anu Thomas	P.R.Parthasarathy

Faculty members' participation with other institution under MoU:

Sl. No.	Programme Name	Name of University	Student Name	Guide Name
1.	DAAD Sandwich –Ph.D..	TU-Kaiserslautern, Germany	Mr. K. Selvanayagam	Prof. V. Vetrivel & Prof. S. Sundar

Research Publications:

Total No. of papers published in Refereed National Journals	...	1
Total No. of papers published in Refereed International Journals	...	43
Total No. of papers published in Proceedings of National Conferences	...	6

Total No. of papers published in Proceedings of International Conferences ... 4
Details:

In Refereed National Journals:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	P.V. Subrahmanyam & Anthony Vijesh	A Variant of Newton's method and its Applications	Journal of Functional Analysis and Approximation Theory Vol. 1, pp.43-56, (2006)

In Refereed International Journals:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S.A.Choudum, T.Karthick and M.A.Shalu	Perfect coloring and linearly chi-bound P6-free graphs	Journal of Graph Theory Vol. 54, (4), 293-306, (2007)
2.	S.H. Kulkarni , M.T. Nair and M.N. N.Namboodiri	An elementary proof for a characterization of * - isomorphisms	Proc. Amer. Math. Soc. Vol. 134, pp. 229 -234,(2006)
	R. Balasubramanian, S.H Kulkarni and R. Radha	Solution of a tridiagonal operator equation	Linear Algebra and its Applications Vol. 416, pp. 389 – 405, (2006)
3.	S. Kalpakam & S. Shanthi	A continuous review perishable system with renewal demands.	Annals of operations Research Vol. 143, pp. 211 – 225, (2006)
4.	P.R. Parthasarathy & R. Sudhesh	Time – dependent Analysis of a single – server retrial queuer with state – dependent rates,	Operations Research Letters Vol. 34, pp. 125 – 136 (2007)
		An exact solution of an M/M/1 queue with piecewise – constant rates	Journal of Mathematical Sciences Vol. 31, pp. 48 - 52 (2006)
		A formula for the coefficients of orthogonal polynomials from the three – terms recurrence relations	Applied Mathematics Letters Vol. 19, pp. 1083 -1089 (2006)
	P.R.Parthasarathy K. Vasudevan	Summation Identities	International Journal of Modern Mathematics Vol. 1, pp. 1 – 12 (2006)
		A single server queue with two types of queues in a varying environment	International Journal of Modern Mathematics Vol. 2, pp. 81-102 (2007)
5.	R.W. Bamard, S. Naik, & S. Ponnusamy	Univalence of a weighted integral transform of certain functions	J. Comput. Appl. Math. Vol. 193, 638-651 (2006)
	Peter Hasto, S. Ponnusamy & S.K. Sahoo	Inequalities and geometry for the Apollonian and related metrics	Rev. Roumaine Math. Pures Appl., Vol. 51, (4), 433-452, (2006)
	J. Mueller, S. Naik & S. Ponnusamy	Growth of entire functions of exponential type defined by convolution	Archiv. Math. Vol. 87, 330-342, (2006)
	M. Obradovic, S. Ponnusamy, V. Singh & P. Vasundhra	Differential inequalities and criteria for starlike and univalent functions	Rocky Mountain J. Math. Vol. 36, (1), 303-318, (2006)
	S. Ponnusamy & S.K. Sahoo	Study of some subclasses of univalent functions and their radius properties	Kodai Math. J. Vol. 29, 391-405, (2006)

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
6.	Meena Mahajan, R. Rama, Venkatesh Raman & S. Vijayakumar	Approximate Block Sorting	International Journal of Foundations of Computer Science, Vol. 17, (2), 337-355, 2006.
	Meena Mahajan, R. Rama & S. Vijayakumar	On Sorting by 3-Bounded Transpositions	Discrete Mathematics Vol. 306, 1569-1585, 2006.
7.	P.V. Subrahmanyam & Anthony Vjesh	A Newton type method and its Application	International Journal of Mathematics and Mathematical sciences (2006), Article ID 23674
	P.V. Subrahmanyam & Anthony Vjesh	Two point Newton type method and its Applications	Differential Equations and Dynamical systems Vol. 14, pp. 365 – 382 (2006)
	P.V. Subrahmanyam & V. Murugan	Special Solutions of a general iterative functional equation	Aeg. Maths Vol. 72, pp. 269 – 287 (2006)
8.	M. Thamban Nair & Pallave Mahale	General source conditions for nonlinear ill-posed equations	Numerical Functional Analysis and Optimization Vol. 28, 1 – 2, pp. 111 – 126 (2007)
9.	R. Usha, S. Senthilkumar & E.G. Tulapurkara	Numerical study of Particulate suspension flow through wavy-walled channels	Numerical Methods in Fluids Vol. 5, pp. 235 – 259, (2006)
	B. Uma and R. Usha	Dynamics of a thin visco – elastic film on an inclined plane	Engineering Science Vol. 44, pp. 1449 – 1481 (2006)
10.	A. Antony Eldred and P.Veeramani	Existence and Convergence of Best Proximity Points	Journal of Mathematical Analysis and Applications Vol. 323, (2), pp. 1001 -1006, (2006)
	V. Gregori, S. Romaguera and P.Veeramani	A note on intuitionistic fuzzy metric spaces	Chaos Solitons Fractals Vol. 28, 4, pp. 902 – 905, (2006)
11.	Samir Roy and S. Sundar	Study of heat flow through highly porous heat insulators	Studies in Applied Mathematics Vol. 118, pp. 1 – 15, 2007
	Samir Roy, Michael Junk and S. Sundar	Understanding the porosity dependence of heat flux through glass fibre insulation	Mathematical and Computer Modeling Vol. 43, pp. 485 -492, (2007)
12.	Tanmay Basak, Satyajit Roy, T. Paul & I.Pop	Natural convection in a square cavity filled with a porous medium: Effects of various thermal boundary conditions	International Journal of Heat and Mass Transfer Vol. 49, pp 1430 -1441 (2006)
	Prabal data, D. Anilkumar, S. Roy & N.C. Mahanti	Effect of Non – Uniform slot injection (Suction) on a forced flow over a slender cylinder	International Journal of Heat and Mass Transfer Vol. 49, pp. 2366 – 2371, (2006)
	Satyajit Roy & D. Anilkumar	Unsteady mixed convection from a moving vertical slender cylinder	ASME Heat Transfer Vol. 128, pp. 368-373 (2006)
	Tanmay Basak, S. Roy & A. R. Balakrishnan	Unsteady mixed convection over a vertical cone due to impulsive motion	International Journal of Heat and Mass transfer Vol 49. pp. 4525–4535 2007
	S. Roy, Prabal Datta & N.C. Mahanti	Non-similar solution of a unsteady mixed convection flow over a vertical cone with suction or injection	International Journal of Heat and Mass Transfer Vol 50, pp. 181 – 187 2007
	M. Sathiyamoorthy, Tanmay Basak, S. Roy & I. Pop	Steady natural convection flows in a square cavity with linearly heated side wall(s)	International Journal of Heat and Mass Transfer Vol. 50, 3-4, pp. 776-775 2007
	Paramjeet Singh & S. Roy	Unsteady mixed convection flow over a vertical cone due to impulsive motion	International Journal of Heat and Mass Transfer Vol. 50, 5 -6 pp. 949–959 2007

SI.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
13.	Y.V.S.S.S. Raju & V. Manjula	Fourth order semi compact scheme for flow past a rotating and translating cylinder	Journal of Scientific Computing 1-19, DOI, 10.1007/s10915-006-9098-4, 2006
14.	S. Jitendriya & R.Radha	Characterisation of $L+1 - L_p$ multipliers for the Heisenberg group.	International Journal of Pure and Applied mathematics Vol, 34, 4, pp. 537 -548, (2007)
	R. Radha & A.K. Vijayarajan	A convolution type characterization for L_p multipliers for the Heisenberg group	Journal of Function Spaces and Applications Vol. 5, 2, pp.175-182, 2007
15.	K.C. Sivakumar & C.R. Saranya	Generalized inverses of an invertible infinite matrix over a finite field	Linear Algebra and its Applications Vol. 418, 2-3, pp. 468-479 2006
	K.C. Sivakumar	Proof by Verification of the Greville/Udwadia/Kalaba Formula for the Moore-Penrose Inverse of a Matrix	Journal of Optimization Theory and Applications Vol. 131, 2, pp. 307-311, 2007
	T. Kurmayya & K.C. Sivakumar	Nonnegative Moore-Penrose inverses of Gram operators	Linear Algebra and its Applications Vol. 422, 2-3, pp. 471-476 2007
	Sachindranath Jayaraman & K.C. Sivakumar	Weak monotonicity of Hilbert space operators.	International Journal of Pure and Applied Mathematics Vol. 29, 1, pp. 65-79 (2007)
16.	A.V. Jayanthan, Tony Puthenpurakal & J.K. Verma	On fiber cones of m - Primary Ideals	Canadian Journal of Mathematics Vol. 59, 1, pp.109-126 (2007)
17.	V. Uma	$K -$ theory of quasi - topic manifolds	Osaka Journal of Mathematics Vol. 44, 1, pp 71-89 (2007)
18.	T.E. Venkata Balaji	Line - bundle - valued ternary quadratic forms over schemes	Journal of Pure and applied Algebra Vol. 208, 1, pp. 237 - 259. (2007)

In Proceedings of National Conferences:

SI.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	R Rama	On DNA computing	Ramanujan Mathematics Society Lecture Notes Series 3, 17-30, 2007.
	S N Krishna and R Rama	An infinite hierarchy for some variants of P system	Ramanujan Mathematics Society Lecture Notes Series 3, 179-186, 2007
2.	S.Sundar, M.S.Shanmugam & D. Srikanth	A new predictive classifier for improved performance in data mining, object oriented design and implementation	Industrial Mathematics Narosa, pp. 491-514, (2006)

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
3.	R. Radha	Characterization of multipliers	Proceedings of National Seminar on Modern trends in Analysis and Applications, Kerala Mathematics Association pp 45 – 53, (2006)
		Hardy's inequalities for Hermite expansions	Publications of the Ramanujan Institute pp. 26 -38, (2006)
4.	Y.V.S.S.S.Raju & Chandhini	An upwind RBF-FD model for convection diffusion problems	Proceedings of Recent Advances in computational mechanics and simulations pp. 1437 – 1444, (2006)

In Proceedings of International Conferences:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	H. Ramesh, Shankara Narayanan Krishna & R.Rama	On the Power of Bio-Turing Machines	International Conference on Unconventional Computation pp. 243-253, (2006)
	S.N. Krishna & R. Rama	Towards Reducing Parallelism in Systems	Formal Models, Languages and Applications Vol. 66, 2006
	K.Lakshmanan & R. Rama	Computational Efficiency of Insertion Deletion Tissue P Systems	Formal Models, Languages and Applications Vol. 66, 2006
2.	R. Usha	Spreading of a thin - film of a power – law liquid on an inclined plane : Contact line motion	Applications of Fluid Mechanics in Industry and Environment, ISI Kolkatta pp 66 – 67, (2006)

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
1.	Prof. Alok Nath Chakrabarti Department of Mathematics IISc, Bangalore	May 29 - 31, 2006	Gave a special lecture on "Scattering of surface water waves: Integral equations Approach"
2.	T. Parthasarathy CMI, Chennai	June 5, 12, 19, and 26, 2006	Gave lectures on " The Linear Complementarity Problem"
		July 17, 24 and 31, 2006	
		Aug 7, 14, 2006	
3.	Prof. Nageswari Shanmugalingam Department of Mathematical Sciences University of Cincinnati USA	Aug 4 - 25, 2006	To give a series of lectures on Complex Analysis
4.	Prof. V. Cekanavicius University of Vilnius Lithuania	Nov 18 - 20, 2006	Indo-Finland joint academic program
5.	Dr. Antti Rasila Institute of Mathematics Finland	Nov 24 - Dec. 9, 2006	Gave a series of lectures on Quasiregular Mapping and interacted with the faculty

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
6.	Prof. Niko Sauer Dept. of Mathematics & Applied Mathematics University of Pretoria South Africa	Dec. 10 -17, 2006	Gave lectures on: 1. Introduction and Modeling of boundary physics with dynamic boundary conditions 2. DBC problems as system of evolution equations
7.	Prof. Christian Le Roux Dept. of Mathematics Applied Mathematics Univ. of Pretoria South Africa		Gave lectures on 1. Boundary value problems for fluids with threshold slip conditions 2. Boundary value problems for second-grade fluids with slip conditions
8.	Prof. Axel Klar TU-Kaiserslautern, Germany	Dec.9-16, 2006	Collaborative research work
9.	Prof. Helmut Neunzert Fraunhofer, IITWM, Germany	Jan. 3-14, 2007.	Collaborative research work
10	Prof. Manfred Kudlek Dept. of Informatik MIN Faculty University of Hamburg Germany	Jan. 12, 2007	Gave a talk on Introduction to Quantum Computing.
11	Dr. Michael Schroeder Optimization Group Fraunhofer ITWM Kaiserslautern, Germany	Jan. 18 – 19, 2007	Gave a lecture on Constraint Programming and Hybrid Optimization
12	Ms. Manzi Huang Department of Mathematics Hunan Normal University Changsha Hunan 410081 China	Mar. 19 – June 25, 2007	Collaborative research work

Other Activities:

SEMINAR TALKS:

Sl. No	Name of the Faculty	Title	Date
1.	Norbert Henze, Vice-Rector Technical University of Karlsruhe Karlsruhe Germany	Some issues and problems in testing for multivariate normality	Apr. 7, 2006
2.	R. Aravind Department of Electrical Engg. IIT Madras	Some applications of Fourier techniques in Digital Signal Processing: A Tutorial	Apr.21, 2006
3.	P. Chellapandi Associate Director Nuclear Engineering Group IGCAR, Kalpakkam	Applications of Computational Mechanics in FBR design	Aug. 4, 2006
4.	K. Varadarajan Department of Mathematics University of Calgary Canada	Clean elements in $C(X)$ and π regularity of $C(X)$	Aug. 11, 2006
5.	T.E.S. Raghavan Department of Mathematics Statistics and Computer Science University of Illinois at Chicago U.S.A.	Shapley value and the nucleolus for assignment games	Aug. 18, 2006
6.	V. Kamakoti Department of Computer Science & Engg. IIT Madras	Digital Hardware Design – Past, Present & Future	Aug. 25, 2006

Sl. No	Name of the Faculty	Title	Date
7.	C. Pandurangan Department of Computer Science & Engg. IIT Madras	Secure Multiparty Computations	Sep.8,2006
8.	G. Srinivasan Department of Management Studies, IIT Madras	Minimizing completion time variance in static scheduling problem	Sep.15, 2006
9.	Nandan Kumar Sinha Department of Aerospace Engineering IIT Madras	Optimum Parameters and Stability Computations using Continuation techniques; Examples from Aircraft Flight Dynamics	Sep. 22, 2006
10.	T. Sundarajan Department of Mechanical Engg IIT Madras	Hyperbolic Conduction Across Thin Metallic Layers	Oct. 6, 2006
11.	K. Giridhar Department of Electrical Engg. IIT Madras	Major Design Issues in Wireless Broadband Communications	Oct.13, 2006
12.	M. Thenmozhi Dept. of Management Studies IIT Madras	Mathematical Applications in Finance	Oct.27, 2006
13.	H. Gopalkrishna Gadiyar AU-KBC Research Centre Chennai	Entropy and Hadamard Matrices	Nov. 3, 2006
14.	G.V. Ramaman Sura Systems Chennai	Singular Value Decomposition: Applications and recent Results in Pattern Recognition and Machine Learning	Nov 10, 2006
15.	Andrew Thangaraj Department of Electrical Engg. IIT Madras	Two Problems in Coding Theory and their Connections to Algebra	Nov 17, 2006
16.	K.M.M. Rao Deputy Director National Remote Sensing Agency Hyderabad	Remote Sensing and its Applications	Nov 20, 2006
17.	V. Uma Department of Mathematics IIT Madras	Topology of Varieties with Group Actions	Feb. 2, 2007
18.	P.L. Kannappan Department of Mathematics University of Waterloo, Canada	Applications of Functional Equations	Feb. 9, 2007
19.	S.Swaminathan Dalhousie University, Canada.	A Tale of Two Theorems	Feb.21, 2007
20.	T.E. Venkata Balaji Department of Mathematics IIT Madras	Azumaya Algebras	Feb.23. 2007
21.	B.D. Acharya, F.N.A.Sc. Advisor & Head (MSO/ESS) Dept of Science & Technology, New Delhi	Scope and Opportunities in Mathematical Sciences through DST.	Mar 12, 2007
22.	K.N. Raghavan Institute of Mathematical Sciences, Chennai	A characteristic free approach to invariant theory	Mar 16, 2007
23.	Surajit Pal ISI Chennai	Failure Modelling for Two-dimensional Warranty Cost Analysis	Mar 23, 2007
24.	Tanmay Basak Department of Chemical Engg IIT Madras	Finite Element Simulations of Natural Convection in Differentially Heated Triangular Cavities filled with Fluid or Porous Substances	Mar 29, 2007

Ph.D. Viva – Voce Examination:

Sl. No	Name of the scholar	Title of the thesis & Viva date
1.	Mr. R. Sudhesh	Time-dependent Analysis of State-Dependent Queues April 10, 2006
2.	Mr. T. Johnson	Some new fuzzy data analysis models and their application June 12, 2006
3.	Mr. R.S. Selvaraj	Metric properties of rank distance codes June 28, 2006

Ph.D. Thesis Evaluation:

Sl.No	Name of the faculty	Activity
1.	P. Veeramani	Served as Ph. D. Viva-Voce examiner, IIT Madras, Kanpur June 25 -27, 2006 External Examiner for Ph.D. Viva- voce exam at Periyar University, Salem October 6, 2006
2.	R. Usha	External Examiner for Ph.D. Viva- voce exam at VIT, Vellore October 27, 2006

New Faculty:

Sl.No	Name of the Faculty	Designation	Date of Joining
1.	V. Uma	Assistant Professor	May 15, 2006.
2.	Sounaka Mishra	Assistant Professor	July 6, 2006
3.	T.E. Venkata Balaji	Assistant Professor	July 13, 2006

Ph.D. Seminar Talks:

Sl. No	Name of the scholar	Title	Date
1.	Mr. A. Anthony Eldred	Existence and convergence of best proximity points	May 15, 2006
2.	Mr. G. Ramesh	Some properties of unbounded operators with closed range	May 29, 2006
3.	Mr. D. Sukumar	Condition Spectrum	June13, 2006
4.	Mr. V. Anthony Vijesh	Variants of Newton's Method	July 21, 2006
5.	Mr. Param Jeet Singh	Numerical Investigations on Unsteady Mixed Convection Flows	Oct 12, 2006
6.	Mr. K. Vasudevan	Queues in Varying Environments with Gate Mechanism	Oct 26, 2006

Sl. No	Name of the scholar	Title	Date
7.	Mr. E. Natarajan	Natural convection flows in a trapezoidal enclosure under various thermal boundary conditions	Nov. 20, 2006
8.	Mr. T. Kurmayya	Non-negative Generalized Inverses of Gram Operators	Feb. 1, 2007
9	Ms. S. Lavanya	Optimal embeddings of tress in Hypercubes	Feb. 5, 2007
10.	Mr. H. Ramesh	On the power of Bio-Turing Machines	Feb. 9, 2007
11.	Mr. V. Murugan	Special solutions for a functional equation involving series of iterates	Mar 1, 2007
12.	Ms. Pallavi Mahale	On Tikhonov regularization for nonlinear ill-posed equations	Mar 8, 2007
13.	Mr. Sachindranath Jayaraman	Some aspects of weak Monotonicity	Mar. 15, 2007

Other Activities:

Sl.No	Name of the Faculty	Activity
1.	S.A. Choudum	To process the sub-project proposals for the Cardmath centre at Srinivasa Ramanujan Centre at Kumbakonam, SASTRA September 11- 13, 2006
2.	S. Kalpakam	Chief guest at GSS Jain College for Women During DAMORS 2006' an Intercollegiate Math Fest August 31, 2006
3.	P.R. Parthasarathy	Selection Committee Expert at University of Lucknow, Lucknow August 28, 2006
		Staff selection Committee Expert at National Institute of Technology Karnataka, Surathkal September 19, 2006
		Resource Person for Workshop on Bio-Statistics, University of Kerala, Trivandrum October 13, 2006
		Selection Committee Expert at University of Delhi, Delhi Nov 15, 2006
		Selection Committee for the recruitment of lectures as a Subject Expert at Visvesvaraya National Institute of Technology, Nagpur held on 4 th May, 2006

Sl.No	Name of the Faculty	Activity
4.	Arindama Singh	Selection Committee Expert at University, Baroda Nov 29 -30, 2006
5.	S. Ponnusamy	Elected as a Vice-President of the Indian Academy of Mathematics for a period of two years 2006 and 2007
		To inaugurate the Launch of First Research Department at Theivanai Ammal Colege for Women, Villupuram and delivered a lectured on " Convergence and Divergence" September 4, 2006
		To inaugurate State Level Seminar at Mahendra Arts & Science College, Periyar University, Salem
		Member of the Board of Examiners for Ph.D. Examination at Sambalpur University Sambalpur Aug, 2006
6.	Satyajit Roy	Nominated as a member of the Advisory Committee of the Journal of the Indian Academy of Mathematics for a period of two years, 2006 and 2007
7.	S.Sundar	Nominated by the Government of Chattisgarh to be the Member, Central Educational Board for a period of two years 2006 and 2007

FORAYS 2007 – A MATH FEST

FORAYS, The annual mathematics festival organized by the students of the Department of Mathematics was held on 10th and 11th March, 2007.

FORAYS 2007 started with the Inaugural function presided by the chief guest Prof. R. Balasubramanian, Director, Institute of Mathematical Sciences. Prof Balasubramanian also delivered an invited talk.

Events such as Quiz, Olympiad, Hodge Podge, Big Fight and Mr. & Ms. Forays 2007 were conducted as part of the math fest. The novelty this year has been the introduction of the event Mathematical modeling. Overall, FORAYS 2007 was a big success.

NATIONAL SYMPOSIUM ON MATHEMATICAL METHODS AND APPLICATIONS (NSMMA–2006)

A one-day 'National Symposium on Mathematical Methods and Applications (NSMMA 2006)' to commemorate the birth anniversary of Sri Srinivasa Ramanujan was conducted on 22nd December 2006. The Head of the Department Prof. S.A. Choudum was the Chairperson and Prof.V. Vetrivel was the Secretary of the Symposium.

The day's events were inaugurated by Prof. M.S.Ananth, Director, IIT Madras, Chennai. There were three invited talks in the morning and evening sessions by Prof. S.H. Kulkarni, Department of Mathematics IIT Madras, Prof. Joerg Kuhnert, Fraunhofer institute for Industrial Mathematics Kaiserslautern, Germany, and Prof. V. Balaji, Chennai Mathematical Institute, Chennai. About 100 registered participants attended the symposium and about 80 of them presented their work in parallel sessions conducted during the symposium. The valedictory function was chaired by Prof. S.A.Choudum, Head, and Department of Mathematics.

4.13 DEPARTMENT OF MECHANICAL ENGINEERING

4.13.1 Introduction:

The Department of Mechanical Engineering was established in the year 1959. The department offers Ph.D., M.S., M.Tech, B.Tech. and Dual Degree programmes. The department has excellent facilities to carry out state-of-the-art research in three major disciplines of Mechanical Engineering, namely, Thermal Engineering, Mechanical Design and Manufacturing Engineering.

The Thermal Engineering Stream comprises of six laboratories namely, Heat Transfer and Thermal Power, Hydro-Turbo Machines, I.C.Engines, Refrigeration & Airconditioning, Thermal-Turbo Machines and Thermodynamics & Combustion.

The Design Stream consists of the Machine Design Section, Machine Dynamics laboratory and Composites Technology Centre.

The Manufacturing Engineering Stream consists of the Manufacturing Engineering Section and Precision Engineering & Instrumentation laboratories.

Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	ME 797	Vehicle Systems Design
2.	ME 552	Explosion and Safety

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
B.Tech	55	58	70	84	03	270
Dual Degree						
M.Tech.	83	69				152
M.S.	26	17	37	16		96
Ph.D.	36	34	35	56	49	210
Total						798

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	P. Karthikeyan	ME03D019	17 th International Sym. of Transport Phenomena	4-8 Sept. 2006 Toyama, Japan	CSIR,DST, & IIT Alumni
2.	N. Sendhil Kumar,	ME03D016	Global Conference on Renewable Energy Approaches for Desert Regions	Jordan, Amman 18-22 Sept. 2006	OWN
3.	Patel H. E.	ME03D024	13 th International Heat Transfer Conference	13 th – 18 th August, 2006, Sydney, Australia.	IIT Madras CSIR
4.	D. Ruben Sudhakar	ME04D024	Biomass Workshop	Nov. 2006 Goteborg, Sweden	SIDA

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
5.	M K Ravishankar	ME04D058	13 th International Congress on sound & vibration	July 2-6, 2006, . Vieana Australia	
6.	S Dhanasekaran	ME03D009	Asian Symposium on Materials and Processing 2006	9-10 November 2006 Bangkok, Thailand	
7.	S Dhanasekaran	ME03D009	Materials science and Technology, Conference and Exhibition 2006	15-19 October 2006, Cincinnati, Ohio, USA	
8.	B.V.N. Ramakumar	ME01D018	ASME Turbo Expo 2006	8-11 May, 2006 Barcelona, Spain	
India					
1.	M. Deiveegan	ME04D026	First Workshop on Megha Tropiques organized by ISRO	10-14 July 2006 IISc., Bangalore	ISRO
2.	P. Manoj Kumar	ME04D028	Advances in Energy Research (AER) 2006	4-5, Dec. 2006 IIT Bombay	IIT Madras
3.	D. Jayakrishna,	ME04D025	3 rd Int. and 33 rd National Conf. on Fluid Mechanics and Fluid Power	7-9 Dec. 2006 IIT Bombay	IIT Madras
4.	MVJJ Suresh	ME04D028	Advances in Energy Research (AER) 2006	-do-	-do-
5.	P. Karthikeyan	ME03D019	Recent Advances in Heat Transfer	21-22 Sept. 2006, KITS, Coimbatore	IIT Madras
6.	D. Jayakrishna.	ME04D025	Recent Advances in Heat Transfer	21-22 Sept. 2006, KITS, Coimbatore	IIT Madras
7.	Anoop K B	ME05D008	33 rd National and 3 rd International conference on Fluid Mechanics and Fluid Power	December 7-9, 2006 IIT Bombay	IIT Madras
8.	Anoop K B	ME05D008	National Review and Coordination meeting on Nanoscience and Nanotechnology	Feb 21-23,2007 Hyderabad	DST
9.	Anoop K B	ME05D008	DST Advanced school on Nanoscience and Nanobiology	Feb 5-16, 2007, IISC Bangalore	DST
10.	Patel H. E.	ME03D024	18 th National and 7 th ISHMT-ASME Joint Conference on Heat and Mass Transfer	3 rd – 6 th January, 2006, IIT Guwahati, India.	IIT Madras
11.	D. Jaya Krishna	ME04D025	International Conference on Recent Advances in Heat Transfer	21 st -22 nd Sept, 2006, KITS, Coimbatore	IITMadras
12.	D. Jaya Krishna	ME04D025	33 rd National 3 rd International Conference on Fluid Mechanics and Fluid Power	December 7-9, 2006 IIT Bombay	IITMadras
13.	Ram Subhash Maurya	ME04D051	33 rd National & 3 rd International Conference on Fluid Mechanics and Fluid Power	December 7-9, 2006 IIT Bombay	IITMadras

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
14.	P.V.Manivannan	Ph.D	Engine Electronics(sensors) And Control System in Automobiles QIP short term Course on "State of Art Technologies in IC Engines, IIT Madras	29.5.2006 to 2.6.2006	IITM
15.	G.Satheesh Kumar	Ph.D	1 st International and 22 nd All India Manufacturing Technology Design and Research	IIT Roorkee Dec.20-22,2006	IITM
16.	R.M.Kuppan Chetty	Ph.D	1 st International and 22 nd All India Manufacturing Technology Design and Research	IIT Roorkee Dec.20-22,2006	AICTE
17.	Muralidhara	Ph.D	1 st International and 22 nd All India Manufacturing Technology Design and Research	IIT Roorkee Dec.20-22,2006	AICTE
18.	Parikshit Verma	Ph.D	1 st International and 22 nd All India Manufacturing Technology Design and Research	IIT Roorkee Dec.20-22,2006	ISRO
19.	Satheesh Kumar	Ph.D	1. Contour generation for a Multi-axis robotic platform" 2. Vibration isolation using a Stewart Platform	MSB 348 26.6.2006 MSB 348 27.6.2006	Ph.D. Seminar Talk
20.	Team of research Scholars	Ph.D	Techfest 2007 Constructed a robot for the Robotics competition 'void: The National Robotics challenge"	25.1.2007 to 28.1.2007 IIT Bombay	IITM
21.	I.A.Palani	Ph.D	Study on feasibility of Pulsed Nd:YAG laser in annealing of silicon in National Conference of Research Scholar in Mechanical Engineering	IIT Kanpur, 23-24, March 2007.	IITK
22.	Team of Research Scholars	Ph.D	Kurukshetra – 2007 Constructed a robot and Participated in triathlon	7 th Jan.2007 Anna University	IITM
23.	Team of Students and Research Scholars	M.Tech and Ph.D	Robo Soccer – Mechanica 2007	IIT Madras	IITM
24.	A Sahaya Grinspan	ME03D013	International Seminar on the Fatigue, Fracture and Durability	26-28 June 2006, Bangalore	
25.	S.Sandesh	ME04D037	Intl. Conference GMI 2006	July 2006 Coimbatore	
26.	S Prashanthpillai	ME05S008	Intl. Conference GMI 2006	July 2006 Coimbatore	
27.	S Dhanasekaran	ME03D009	Int Symp for Research Scholars	20 th Dec 2006, IIT Madras, Chennai	
28.	M Dharmendra Sharma	ME04S027	Int Conf on Industrial Tribology, ICIT 2006	30 Nov 2006, IISc Bangalore	

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
29.	S.Shankar	ME03D003	Int Conf on Industrial Tribology, ICIT 2006	30 Nov –Dec 2006 IISc Bangalore	
30.	K Anandavel	ME05D030	National Symposium of Research Scholars in Mechanical Engineering 2007	March 23, 2007 IIT Kanpur	
31.	P. Padma Kumar	ME03S009	International Conference on Computational Fluid Dynamics, Acoustics, Heat Transfer and Electromagnetics CFEMATCON-06	July 24-25, 2006, Andhra University, Visakhapatnam	
32.	K. Haraprasad	ME05S009	International Conference on Computational Fluid Dynamics, Acoustics, Heat Transfer and Electromagnetics CFEMATCON-06	July 24-25, 2006, Andhra University, Visakhapatnam	
33.	L. Satyanarayan	ME03D010	Int Symp for Research Scholars	18-20 Dec 2006, IIT Madras, Chennai	
34.	Ch. N. Kiran Kumar	Dual Degree	National Conference on Nondestructive Testing 2006	7th – 9th Dec 2006, Hyderabad	
35.	B V Soma Sekhar	ME02D017	Proceedings of National seminar on Non-Destructive Evaluation	7 th - 9 th Dec 2006, India	
36.	Sridharan Chandrasekaran		15 th National Symposium on Ultrasonics NSU-XV 2006		
37.	Janardhan Padiyar M	ME06D004	National Symposium on Acoustics- NSA-2006		
38.	Sridharan Chandrasekaran		National Symposium on Acoustics- NSA-2006		
39.	L. Satyanarayan	ME03D010	National Conference on Nondestructive Testing 2006	9th Dec 2006, Hyderabad	
40.	Vishnu Varadhan	ME04D014	National Conference on Nondestructive Testing 2006	7th – 9th Dec 2006, Hyderabad	
41.	R.Dhayalan	ME05D022	National Conference on Nondestructive Testing 2006	7th – 9th Dec 2006, Hyderabad	
42.	A Sahaya Grinspan	ME03D013	Int Symp for Research Scholars	18-20 Dec 2006, IIT Madras, Chennai	
43.	Dharmendra Sharma	ME04S027	Int Symp for Research Scholars	18-20 Dec 2006, IIT Madras, Chennai	
44.	S Srikanth		A one day conference on current trends in Engineering Analysis & Design (Dreams 2007)	12 March 2007, GE, Bangalore	
45.	T. Ramesh Babu	ME06S023	National Symposium of Research Scholars in Mechanical Engineering 2007 (NCRSME 2007)	March 23-24, 2007 IIT Kanpur	
46.	Prashant Bhokardole	ME05S024	NMD – ATM	14-16, Nov. 2006 Jamshedpur	Institute

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
47.	Prashant Bhokardole	ME05S024	ISAS 2007	9-11, April 2007, Chennai	Institute
48.	Anandavel K.	Ph.D. Scholar	International Conference on Fatigue, Durability	June 2006, IISc, Bangaore	
49.	Anandavel K.	Ph.D. Scholar	National Conference on Research Scholars	March 2007, IIT Kanpur	
50.	P. Usha Sri	ME02D006	National Conference on CFD applications in Power & Industry Sectors	Nov. 17 & 18, 2006 Hyderabad	
51.	N. Kulasekharan	ME04D009	National Conference on CFD applications in Power & Industry Sectors	Nov. 17 & 18, 2006 Hyderabad	
52.	S. Anish	ME05D015	International Conference on Advances in Mechanical Engg.	Dec. 14-16, 2006 Chennai	
53.	M. Mahendran	ME04D030	International Conference on Computational Mechanics and Simulation	Dec. 8-10, 2006 Guhawati	
54.	K. Goutham Kumar	ME04S002	CFEMATCON-06	July 24 & 25, 2006 Andra Univ.	
55.	B.V.N. Ramakumar	ME01D018	CFEMATCON-06	July 24 & 25, 2006 Andra Univ	
56.	B. Dhanasekar	Ph.D.	Texture measure for classification of machined Surface-Machine vision approach", 34 th NAMRI/SME Conference.	May 10-15, 2006, USA	
57.	N. Santhosh Kumar	Ph.D.	Magnetic field assisted cleaning of spark gap contaminants in Electrical Discharge Machining - International Conference on Manufacturing Science & Technology (ICOMAST 2006)	August 28-30, 2006 Melaka, Malaysia.	
58.	B. Anand Ronald	Ph.D.	Effect of Grit siye on performance during Grinding of Al/SiCp MMC with Diamond Wheel - International Conference on Manufacturing Science & Technology (ICOMAST 2006)	August 28-30, 2006 Melaka, Malaysia.	
59.	R. Varatharajan and	Ph.D.	Machining studies on Thermoplastics and Thermoset Composites", - Fifteenth International Symposium on Processing and Fabrication of Advanced Materials (PFAM XV) of International Conference on Materials Science and Technology 2006 (MS&T'06)	October 15-19, 2006, USA	
60.	S. Denis Ashok	Ph. D.	First International and 22 nd All India Machine Tool Design & Research.	December, 21-23, 2006, IIT Roorkee.	

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
61.	N. Arunachalam	Ph.D.	First International and 22 nd All India Machine Tool Design & Research	December, 21-23, 2006, IIT Roorkee	
62.	Binu C yeldose	Ph.D.	First International and 22 nd All India Machine Tool Design & Research	December, 21-23, 2006, IIT Roorkee	
63.	D.S. Srinivasu	Ph.D.	First International and 22 nd All India Machine Tool Design & Research	December, 21-23, 2006, IIT Roorkee	
64.	S. Srinivas	Ph.D.	First International and 22 nd All India Machine Tool Design & Research	December, 21-23, 2006, IIT Roorkee	
65.	Ch. R. Vickram Kumar	Ph.D.	First International and 22 nd All India Machine Tool Design & Research	December, 21-23, 2006, IIT Roorkee	
66.	P. Priya	M.S	First International and 22 nd All India Machine Tool Design & Research	December, 21-23, 2006, IIT Roorkee	
67.	Vidya Venkat	M.S	First International and 22 nd All India Machine Tool Design & Research	December, 21-23, 2006, IIT Roorkee	
68.	T. Micha Prem Kumar	ME05D014	33 rd National and 3 rd International Conference on Fluid Mechanics and Fluid Power	7-9, Dec 2006 IIT Bombay, Mumbai	Institute
69.	S. Christopher	ME03D001	National Conference on CFD application in Power & Industry sectors	17th – 18 th , November 2006, BHEL R & D, Hyderabad	Institute
70.	S. Christopher	ME03D001	Second International Congress on Computational Mechanics and Simulation, ICCMS-06	December 8-10, 2006, IIT Guwahati, Assam	Institute
71.	V. Jyothishkumar	ME03D025	National Conference on CFD Applications in Power Industry Sectors	Nov. 17-18, 2006 Hyderabad	IIT M
72.	Ganesan, S.	ME01D019	9th Annual CFD Symposium. 2006	Aug. 11-12, 2006, Bangalore	GTRE
73.	Ganesan, S.	ME01D019	3rd STAR-CD user conference, 2006	July 4, 2006 Bangalore	Project
74.	T. Anand Kumar	ME03D014	3rd STAR-CD user conference, 2006	July 4, 2006 Bangalore	Project
75.	V. Jyothishkumar	ME03D025	DREAMS 2007 at GE	12 th March, 2007 Bangalore	GE
76.	E. Porpatham	ME02D018	Int. Conf. on Biofuel Vision-2015	Oct. 13-15, 2006 Engg. College, Bikanar, Rajasthan	IIT M

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

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1.	T.Periasamy	Ph.D	National Doctoral Fellowship	AICTE
2.	I.A.Palani	Ph.D	National Doctoral Fellowship	AICTE
3.	L. Satyanarayan	ME03D010	Best Technical paper award in an International level conference	

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
4.	A Sahaya Grinspan	ME03D013	Best Poster Presentation Award	
5.	Ch. N. Kiran Kumar	Dual Degree	Best Poster award in a National level conference	

Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor:

Shunmugam M.S., Ph.D.	[Head]	Metrology, BTA, Gear Machining, Grinding, EDM, Statistical Quality Assurance, Automation, Computer Aided Manufacturing Systems and Control
Ajit Kumar Kolar, Ph.D.		Fluidised Bed Combustion, Fuel Cells, Advanced Coal Technologies
Chandramouli P., Ph.D.		Nonlinear Dynamics, Acoustics & Noise Control, Finite Element Analysis of Vibration
Das S.K., Ph.D.		Heat Exchangers, Two Phase Flow, Nano Fluids, Jet Oscillations, Nuclear Heat Transfer, Fuel Cells, Porous Media, Micro-channel Flow and Heat Transfer
Ganesan N., Ph.D.		Finite Element Modeling, Vibration and Acoustics, Fluid Structure Interaction
Ganesan V., Ph.D.		Theoretical and Experimental Studies in Fluid Flow, Heat Transfer and Combustion in I.C. Engines, Gas Turbines, After-burners and Related Engg. Equipment
Gnanamoorthy R., Dr.Eng.		Machine Design, Design of Test Machines, Fatigue and Fracture Mechanics
Gopinath K., Ph.D.		Machine Design, Tribology, Surface Engineering
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 Balasubramaniam, Ph.D.		Non-destructive Evaluation, Online Measurements, Materials Characterization
Kumaraswamy S., Ph.D.		Pumps, Hydroturbines, Cavitation
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
Muthuveerappan G., Ph.D.		Machine Design, Vibrations of Structures in Fluid Environments, Generation of Gear Teeth and Fillet Profiles for Stress Analysis and Design
Nagarajan T., Ph.D.		Robotics, Pneumatics Medical Instruments
Narayanan S., Ph.D.		Vibration, Non-linear and Random Vibration, Chaos
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

Name and Qualifications

Premananda Shet U.S., Ph.D.

Raju Sethuraman, Ph.D.

Ramamoorthy B., Ph.D.

Ramesh Babu N., Ph.D.

Ramesh A., Ph.D.

Seshadri Sekhar A, Ph.D.

Singaperumal M., Ph.D.

Sitaram N., Ph.D.

Siva Prasad N., Ph.D.

Srinivasa Murthy S., Ph.D.

(Late) Srinivasa Y G , Ph.D

Sujatha C., Ph.D.

Sundararajan T., Ph.D.

Swarnamani S., Ph.D.

Venkatarathnam G., Ph.D.

Venkateshan S.P., Ph.D.

Vijayaraghavan L., Ph.D.

Associate Professor

Babu Viswanathan, Ph.D

Balaji C, Ph.D.

Nilesh J.Vasa, Ph.D.

Raghu Prakash V, Ph.D.

Assistant Professor

Arunn Narasimhan, Ph.D.

Dhiman Chatterjee, Ph.D.

Krishna Kannan, Ph.D.

Mallikarjuna J.M., Ph.D.

Samuel G L., Ph.D.

Shaligram Tiwari, Ph.D.

Shamit Bakshi, Ph.D.

Shankar Krishnapillai, Ph.D.

Srinivas Reddy K., Ph.D.

Srinivasan K., Ph.D.

Major area of specialization (only 3 areas)

Design of gas oil and solid fuel burners, swirl combustion, flame image analysis, control of combustion generated pollutants, supersonic combustion, thermodynamics, combustion and propulsion

Computational Solid Mechanics, Fatigue and Fracture of Materials

Metrology, Computer Aided Inspection, Vision Applications, Surface Technology, Sensors, Manufacturing Engineering, Quality Control.

Computer aided Manufacturing-CNC, PLC, grinding, unconventional machining processes - LBM, AWJM

IC Engine Combustion and Emissions, Electronic Engine Management, Alternative Fuels, Two Stroke Engines

Rotordynamics, Tribology, Condition- monitoring

Fluid Power, System Simulation, Mechatronics

Precision Engineering.

Turbomachinery / end wall flows, computational fluid dynamics, compressors and turbines, boundary layers, tip clearance flows

Finite Element Analysis, Computer Aided Design, Stress analysis

Refrigeration & Air conditioning,

Energy Conservation & Heat Recovery,

Solar & Hydrogen Energy Utilisation

Control Active Suspension, Active Vibration Control, Extrude Honing

Machine Dynamics, Vehicular Vibration, Acoustics

Droplet combustion, supersonic reacting jet flows, computational fluid dynamics

Vibration, Instrumentation, Diagnostics

Refrigeration, Cryogenic Engineering, Heat Exchangers

Heat Transfer, Instrumentation

Metal Cutting, CAD, Grinding, Condition Monitoring, Composites and Surface Technology

CFD, high speed reacting flows, high performance computing

Fundamental Heat Transfer, Optimization of Thermal Systems, Inverse Problems in Heat Transfer, Satellite Meteorology

Laser technology, Instrumentation, Mechatronics,

MEMS

Experimental Fatigue & Fracture Characterization of Materials, Structural Integrity, Life prediction

Heat Transfer and Fluid Flow in Porous Media, Phase change and Convection, Heat Transfer in Biology and Medicine

Cavitation, Turbomachines, Two-phase flow

Continuum Mechanics, Elasticity, Plasticity

Simulation of Engine processes, Data Acquisition, Design of Engine Components

Micro Machining, CAD-CAM, FMS

Refrigeration and Airconditioning, Boiling, Flow Transition, Vortex Dynamics, CFD, Maragonic Convection

CFD in I.C. Engines, Liquid Atomization and Spray Systems, Fuel Nozzle Modeling

Vibrations & Dynamics, System Identification, Optimization

Renewable Energies, Solar Energy, Energy Conservation, Energy Environment, Heat Transfer in Two-Phase Systems

Jet Flow and Noise, Active and Passive Flow Control, Measurement and Instrumentation

Name and Qualifications**Major area of specialization (only 3 areas)****Visiting Faculty:**

Ramamurthi K., Ph.D.

Combustion, Propulsion, Explosions

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 Officers / Engineers:

Raja Rao S., M.E.

Computer Aided Drawing, Machine Drawing

P.V.Manivannan, M.E

Microprocessors & Control System, Mechatronics and Embedded System, Automotive Electronics

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Dr.M.Singaperumal	Co-Chairman of Local Organizing Committee, Indian National Academy of Engineering Conference on "International Engineering Education"	1-2, March 2007 IIT Madras
2.	Dr. N Siva Prasad	CAE in Mechanical Design, IIT Madras	6-16, June 2006
Workshop:			
1.	Dr.Ajit Kumar Kolar Dr. K.S. Reddy	A One day Indo-Swedish workshop on "Biomass for Energy and Fuels"	7 th Dec. 2006
2.	Dr.G.L. Samuel:	Compact DAQ Hands at Taj Coromandel, Chennai, 18 Creative learning at Department of Management Studies on	August 2006 05.10.2006.
Short term Course:			
1.	Dr. N Siva Prasad	CAE in Mechanical Design, IIT Madras	6-16, June 2006
2.	Dr. G.L. Samuel	Coordinator QIP-STTP on "Advanced Manufacturing and Metrology"	4 th - 8 th December 2006.
3.	Dr. R.P. Shama Dr. Pramod S. Mehta	Trends in Engine Emissions, Fuels and Lubricants	April 21 - 22, 2006
4.	Dr.J.M. Mallikarjuna	State of the Art Technologies in I.C. Engines	May 29 – June 2, 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.	Dr. U.S.P. Shet	Session Chair at the International Workshop on Role of Computational Diagnostics in Modeling, Design and Control	Dept. of Mechanical Engg, Jadavpur University, Kolkata-700 032	January 2-3, 2006

Sl. No.	Name of faculty	Title	Institution	Period
2.	Dr. U.S.P. Shet	EU-INDIA RENET [Network for Renewable Energy Research]	Renewable Energy Community Development & Showcase Workshops, IIT- Madras, Chennai- 600 036	Sept 27-28, 2006
3.	Dr. U.S.P. Shet	Energy and Fuels from Biomass	ICSR, IIT-Madras	December 7, 2006
4.	Dr.Kumaraswamy S	RENET – Renewable energy community development & showcase workshops	IIT Madras	27 th and 28 th Sept. 2006
Seminar:				
1.	Dr. U.S.P. Shet	Session Chair at Combustion and Thermodynamics	SRM University, School of Mechanical Engineering, Kattankulathur, Chennai- 603 203	December 16, 2006
2.	Dr. U.S.P. Shet	Aerospace Technologists Meet 2007	IIT-Madras, Chennai-600 036	February 1-2, 2007
3.	Dr.M.Singaperumal	Micro-Machining Requirements in Fluid Power Industry	Sponsored by Department of Science and Technology Held at ICSR Building	22, April 2006
4.	Dr. N.Sitaram	DREAMS – 2007	GE India	March 12, 2007
Symposia:				
1.	Dr. R.P. Sharma	Fuel Symposium on Biodiesel	M/s Mico Bosch, Bangalore	May 10, 2006
Conference:				
1.	Dr. K. Srinivasan	Session Chair at 2 nd International congress on Computational Mechanics and Simulation	IIT Guwahati	8-10 Dec 2006.
2.	Dr. Ajit Kumar Kolar	Advances in Energy Research	IIT Bombay	Dec. 2006
3.	Dr. B. Ramamoorthy	National Factory automation, Robotics and Soft computing Key National Conference on Advances in Manufacturing Valedictory International Intl Conf CRUIS Intl. conference on Global Mfg and innovation Intl. conf AIMTDR	NITW KSR College of Technology Kongu Engg., College , Erode CIT Cbe, IIT Roorkee,	18-19, Jan 2007 22 nd Feb. 2007. JAN. 2006 July 27-29, 2006 21-23, Dec. 2006
4.	Dr.Kumaraswamy S	Dreams2007	GE, John F. Welch Technology Centre, Bangalore	12 th March 2007

Sl. No.	Name of faculty	Title	Institution	Period
5.	Dr.Kumaraswamy S	A Paradigm Shift in Water Treatment: Latest Technologies for Water Related Problem and Cost Effective Solutions	Held at Hotel Ambassador Pallava Chennai, Organized by Water Digest In association with UNESCO	February 16 th -17 th 2007
6.	Dr.Dhiman Chatterjee	2 nd International Congress on Computational Mechanics & Simulations	IIT Guwahati	8-10, Dec, 2006
7.	Dr. R.P. Sharma	CD Adpco User Conference on "Use of CFD in Automotive Technology"	Bangalore	July 4, 2006
8.	Dr. V. Ganesan	2006 ASME Int. Mech. Engg. Congress and Exposition	Chicago, USA	Nov. 5-10, 2006
9.	Dr. V. Ganesan	CD Adpco User Conference on "Use of CFD in Automotive Technology"	Bangalore	July 4, 2006
10.	Dr. A. Ramesh	2006 ASME Int. Mech. Engg. Congress and Exposition	Chicago, USA	Nov. 5-10, 2006
11.	Dr. A. Ramesh	Int. Conf. on Biofuel Vision -2015	Bikanar, Rajasthan	Oct. 13-15, 2006
12.	Dr. J.M.Mallikarjuna	3 rd BSME-ASME International Conference on Thermal Engineering,	Dhaka, Bangladesh	Dec. 20-22, 2006,
Training:				
1.	Dr.M.Singaperumal	Short term training program on Advanced Manufacturing and Metrology Presentation Title: Sensors, Actuators and Control in Manufacturing	IIT Madras	4-8, Dec.2006

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. U.S.P.Shet	Swirled Premixed Turbulent Combustion	Dept. of Mechanical Engineering, Queen Mary University of London, U.K	August 1, 2006
2.	Dr. U.S.P.Shet	Swirl Effects on Partially Premixed Turbulent Burner Flames	Technical University, Munchen, Germany	August 4, 2006
3.	Dr. U.S.P.Shet	Invited Lecture: Swirl Effects on Performance Characteristics of Partially Premixed Flames	Jadavpur University, Institute of Engineering and Management, Salt Lake, Kolkata and Government Engineering College-Jalpaiguri	March 22-23,2007
4.	Dr. K.Ramamurthi	Electrical Propulsion	IIT Kanpur	21.4.2006
5.	Dr. K.Ramamurthi	Combustion Instability and Control	IISc, Bangalore	23.5.2006

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
6.	Dr. K.Ramamurthi	Rocket motor Combustion Instability – causes and cures	DRDL, Hyderabad	5.7.2006
7.	Dr. K.Ramamurthi	Innovation in Rockets	VIT, Vellore	14.3.2007
8.	Dr. C. Balaji	Microwave Radiation Heat Transfer	I.I.Sc., Bangalore	11 th July 2006
9.	Dr.K.S. Reddy	Effective Energy Systems for Sustainable Developments	K.S.Rangasamy College of Engg., Trichengode, TN	16 th Sept. 2006
10.	Dr.K.S. Reddy	Research Opportunities in Thermal Engineering	-do-	-do -
11.	Dr. C. Balaji	Asymptotic CFD	Fluid Dynamics Colloquium of the Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore	20 th Sept. 2006
12.	Dr. Ajit Kumar Kolar	A key note lecture “Advanced Coal Technologies for India”	First National Conference on Advances in Energy Research, IIT Bombay	Dec. 4, 2006
13.	Dr. K.S. Reddy	Advanced Solar Energy Conversion Systems	Ganadipathy Tulsi's Jain Engg. College, Vellore	Feb. 16, 2007
14.	Dr. S. K. Das	Transition to Turbulence, - from Micro-scale to Macro	Jadavpur Univ, Kolkata	18-01-07 to 21-01-07
15.	Dr. Arunn Narasimhan	Thermohydraulics of porous medium flow with non plug flow profiles	IISc., Bangalore	April 5, 2007
16.	Dr. M.Singaperumal	Auto MEMS	Kongu Engineering College, Erode	19 th January 2007
17.	Dr.N.J.Vasa	Pulsed Laser Deposition of Optically Functional Thin Films for Sensing Applications	NCME 2006 Sona College of Technology, Salem	21-22, April 2006
18.	Dr. N Siva Prasad	Introduction on FEA	Jnana Sangama, Belgaum	29.1.07 to 3.2.07
19.	Dr. A. S. Sekhar	Rotor Dynamics- Basic concept & Dynamic Balancing	Indira Gandhi Centre for Atomic Research, Kalpakkam	14.11.06 & 20.11.06
20.	Dr. P. Chandramouli Dr. C. Sujatha	Acoustics and Noise Control	Jeppiar Engg. College, Chennai	6.12.2006-12.12.2006
21.	Dr. P. Chandramouli Dr. C. Sujatha Dr. A. S. Sekhar	Vibrations and Rotor Dynamics	IGCAR Kalpakkam	November 2006
22.	Dr Raghu Prakash V	Miniature specimen testing – Opportunities and challenges	North Carolina A&T University, Greensboro, NC, USA	15 th Sept. 2006
23.	Dr Raghu Prakash V	Significance of Fatigue and Fracture machines in the design, operation and maintenance of dynamically loaded component	MICO-Bosch Technical Centre, Bangalore	Aug.2006
24.	Dr Raghu Prakash V	Rainflow cycle counting technique	Centre for Wind Energy, Chennai	24-25 Feb.2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
25.	Dr. B. Ramamoorthy	Trends in M/C design STTP-MV applications in Mfg. ProfNS	IIT Madras	June 2006
		Calibration of CNC machines using Laser Interferometer	NIT Trichy	July 2006
		Adv. Metrology and Inspection"- Machine Vision Application in Metrology	VIT Vellore	Sept 2006
		Automated inspection using Machine Vision	PSG, Coimbatore	Oct 2006
		Short term course on Advances in Manufacturing and Metrology.	IIT Madras,	Dec. 2006
		ISTE	Adhiparasakthi col. Of Engg., Melmarruvathur,	Dec. 2006.
		Factory automation, Robotics and Soft computing	NIT, Warangal	18-19 Jan. 2007
		Advances in Inspection –an Overview, Valedictory	KSR College of Technology,	Feb. 2007
Advances in Inspection – an Overview	Karunya University,	March 2007.		
26.	Dr.A. Mani	New Refrigerants	Arunai Engineering College, Thiruvannamalai	1 st March 2007
27.	Dr. A. Mani	Helium cooled super conducting Generator	Sri Chandrasekhra Saraswathy Maha Vidyalaya – Deemed University, Kancheepuram	24 th March 2007
28.	Dr. A. Mani	Studies on vapour jet refrigeration system	Bannari Amman Institute of Technology, Sathyamangalam	27 th March 2007
29.	Dr. A. Mani	Advances in solar energy	Arupadai Veedu Institute of Technology, Chennai.	16 th February 2007
30.	Dr. Kumaraswamy S	Advancement of Technology in Hydroturbomachinery	Special address delivered at Turbomachinery 2006 organised by CII-Godrej GBC at Hyderabad	11 th May 2006
31.	Dr. Kumaraswamy S	Potential and status of microhydel systems in India	RENET – Renewable energy community development & showcase workshops held at IIT Madras	27 th Sept.. 2006

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
32.	Dr. Kumaraswamy S	Selection of pumpsets for better utilization of water'	Invited talk for the engineers of TWAd Board at Anna Institute of management. Chennai.	5 th Dec.2006
33.	Dr. Kumaraswamy S	Pump Design for Pump Application Engineers	Part 1 of the Inaugural address delivered during the Course on 'Pumping Systems and Control' organised by Fluid Control Research Institute, Palghat	18th Dec. 2006
34.	Dr. Kumaraswamy S	Pump Application for the Pump Design Engineer	Part 2 of the Inaugural address delivered during the Course on 'Pumping Systems and Control' organised by Fluid Control Research Institute, Palghat	18th Dec. 2006
35.	Dr. Kumaraswamy S	Present status of Micro Hydro Energy	Two day workshop on Renewable Energy Sources organized by Arupadai Veedu Institute of Technology, Paiyanoor	15 th Feb. 2007
36.	Dr. R.P. Sharma	Biodiesel Fuel: Issues and Research Areas	MNES, Chennai	April 24, 2006
37.	Dr. R.P. Sharma	i) An Appreciation of Fuel Injection Technology ii) Use of CFD during Automotive Engine Development	QIP Short term course on CFD held at Velammal College of Engg., Chennai	July 21, 2006
38.	Dr. A. Ramesh	Utilization of Hydrogen and Vegetable Oils in Engines	Engineering College, Biknar Rajasthan	Oct. 14, 2006
39.	Dr. A. Ramesh	Utilization of Straight Vegetable Oils and Biogas	ARAI, Pune	Dec. 15, 2006
40.	Dr. V. Ganesan	Promising Gaseous Fuels for Automotive Applications	Bharath Univ. Chennai	Feb. 21, 2207
41.	Dr. A. Ramesh	Gasoline Direct Injection	Anna University, Chennai	March 2007
42.	Dr. A. Ramesh	Engine Management	Sri Venkateswara College of Engineering, Sriperumbudur	March 16, 2007
43.	Dr. V. Ganesan	Promising Gaseous Fuel for Automotive Applications	Sri Venkateswara College of Engineering, Sriperumbudur	March 17, 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. U.S.P. Shet	U.K London	Aug 1-3, 2006	Invited lecture	Partially from Project Fund
2.	Dr. U.S.P. Shet	Germany	Aug 4, 2006	Invited lecture	Partially from Project Fund
3.	Dr. U.S.P. Shet	Germany	Aug 6-11, 2006	Paper presentation at the 31 st International Symposium on Combustion.	Partially from Project Fund
4.	Dr.S.P. Venkateshan	Sydney, Australia	14 th Aug. 2006	To attend and deliver a key note lecture at the 13 th Int. Heat Transfer Conference	IIT Madras
5.	Dr.C. Balaji	Sydney, Australia	14 th Aug. 2006	To attend & present papers at the 13 th Int. Heat Transfer Conference	IIT Madras
6.	Dr. K.S. Reddy	-do-	-do-	--do-	IIT Madras
7.	Dr.S.P. Venkateshan	Melbourne Australia	22 nd Aug. 2006	To deliver a lecture at Mechanical and Aerospace Department, RMIT (Royal Melbourne Institute of Technology)	IIT Madras
8.	Dr. K.S. Reddy	Thailand	25 th Aug. 2006	To attend 1 st Int. Training Program on Effective Energy Systems for Sustainable Development at Asian Institute of Technology, Bangkok	EBARA, Japan
9.	Dr. K.S. Reddy	Canberra, Australia	18 th Aug. 2006	To attend a symp. on Energy Options for Australia's Future at Australian National Univ.	IIT Madras
10.	Dr. K.S. Reddy	Dhaka Bangladesh	20 th Dec. 2006	To attend and present a paper at the 3 rd BSME-ASME Int. Conf. on Thermal Engg.	IIT Madras
11.	Dr. Sarit Kumar Das	Sydney, Australia	13-08-2006 to 18-08-2006	To present papers at the 13 th International Heat Transfer Conference	IIT Madras
12.	Dr. M.Singaperumal	Hudson, Massachusetts, USA	11.10.2006 & 12.10.2006	To attend and present paper at the Intel's Embedded and Communications Education Summit	INTEL USA

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
13.	Dr. M.Singaperumal	University of Karlsruhe and University of Kaiserslautern In Germany	16.10.2006 to 21.10.2006	To visit for Discussion and presentation of Research in 'Hexapod'	
14.	Dr.N.J.Vasa	Japan	08.05.2006 to 14.5.2006	Presented lectures "Optoelectronics & their applications" at Kyushu University, Fukuoka, Japan	Kyushu University, Japan
15.	Mr.P.V.Manivannan	United Kingdom	Dec.2006	Visit to AB Dynamics, UK	IITM
16.	Dr.Raju Sethuraman	Atlanta, USA	May14-19, 2006	Paper Presented at 9th international Fatigue conference	Institute Fund
17.	Dr. Krishnan Balasubramaniam	USA	June 2006	Project Discussion	Project Fund
18.	Dr. Krishnan Balasubramaniam	USA	27 th July 2006 – 7 th Aug. 2006		Project Fund
19.	Dr. B.V.S.S.S. Prasad	Spain	8-11 May, 2006	ASME Turbo Expo 2006 conference	From PCF
20.	Dr. S. Srinivasa Murthy	University of Nottingham, UK University of Porto, Portugal Aachen University of Applied Sciences, Germany	20 th May-7 th June, 2006	European Union Sponsored Projects and Delivering Special Lectures on Renewable Energy Systems and Energy Conservation.	European Union Project
21.	Dr. S. Srinivasa Murthy	Universitat Rovira I Virgili, Spain	22 nd June-10 th July, 2006	Lectures on Sorption Systems	Spanish University
22.	Dr. S. Srinivasa Murthy	Univ. of Newcastle; Univ. of New South Wales; CSIRO Laboratories, Australia	2 nd December- 10 th December, 2006	Member of Scientific Delegation sponsored by Ministry of Sc & Technol., Workshop on Sustainable Energy Technologies / Promotion of collaborative efforts.	DST/Australian Academic of Engineers
23.	Dr. R.P. Sharma	Chukalomgkorn Univ., Bangkok, Thailand	May 25, 2006	To present a paper on "Biodiesel: Issues and Concerns"	IIT Madras
24.	Dr. R.P. Sharma	China	Aug 19-26, 2006	As a member of Technical Delegation of M/s Essar Petroleum to China for Technology Scouting	
25.	Dr. V. Ganesan	USA	Nov. 5-10, 2006	To present a paper at 2006 ASME International Mech. Engg. Congress and Exposition	IIT M

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
26.	Dr. A. Ramesh	USA	April 3-6, 2006	To present a paper at SAE World Congress	IITM
27.	Dr. J.M. Mallikarjuna	Bangladesh	Dec. 20-21, 2006	To present a paper	IITM

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
ii. Awards:					
1.	Dr. V. Ganesan	Certificate of Merit for 2005-2006	The Institution of Engineers (India)	For the best paper entitled "A study of Steady Flow Through a SI Engine Intake System using CFD" published in the Jl. of Instn. Of Engineers	Dec. 26, 2006
2.	Dr. V. Ganesan	Fellowship Award of SAE International	SAE International at SAE International Congress, 2006, Detroit, USA	Exceptional professional distinction by reason of outstanding and extraordinary qualification, experience and sustained accomplishment in the field of automotive engineering	April 2006
3.	Dr. V. Ganesan	Certificate of Appreciation	American Society of Engineers of Indian Origin – MI Chapter, 3 rd ASEI Annual Indian Delegation Banquet held at Michigan, USA, 2006	Outstanding life long achievements	Nov. 5, 2006
4.	Dr. V. Ganesan	Best Paper and Presentation Award	CD Adapco USA at 2 nd STAR-CD User Conference, 2006	Best paper and presentation for the paper titled "CFD Studies in a Gas Turbine Afterburner using STAR CD "	4 th July 2006
5.	Dr. V. Ganesan	Sir Rajendra Nath Mookerjee Memorial Prize 2006	The Institution of Engineers (India) 21 st Indian Engg. Congress at Pragjyoti-ITA Centre for Performing Arts, Guwahati	Best paper published in the Jl. of Instn. Of Engineers, India 2005, paper entitled "CFD Analysis of Flow Through Vane Swirlers"	Dec. 22, 2006
6.	Dr. V. Ganesan	Environmental Engg. Design Award 2006	The Instn. Of Engineers (India) at the 21 st Indian Engineering Congress held at Pragiyoti-ITA Centre for performing Arts, Guwahati	Design of Carburetor for the LPG Operation for two Wheelers	Dec. 22, 2006
7.	Dr. V. Ganesan	2006 SAE Cliff Garrett Turbomachinery Engg. Award	SAE International, USA	Outstanding contributions in the area of Turbomachinery (Gas Turbines)	April 2007

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
8.	Dr. V. Ganesan	2007 Excellence in Engg. Education (Triple "E") Award	SAE International, USA	Long standing participation and support of engineering education initiatives	April 2007
9.	Dr. V. Ganesan	UWA Outstanding Intellectuals of 21 st Century Award	United Writers' Association, Chennai	Outstanding Life Time achievements in the field of Engg.	22 nd April, 2007

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	N.J.Vasa, (Ed.)	Recent Developments In lasers and Their Applications	Research Sign Post (ISBN 81-308-0098-5)	----
2.	Kannan, K	Simulation of fiber spinning process using thin- filament approximation, in Wave Dynamics and Stability of Thin-flow systems	Eds. R.Usha, Ashutosh Sharma and B.S. Dandapat, pp. 435 – 458, Narosa, New Delhi, 2006	Rajagopal, K.R
3.	Kannan, K	A thermodynamical framework incorporating the effect of the thermal history on the solidification of molten polymers, in Material substructures in complex bodies: from atomic level to continuum	Eds. Gianfranco Capriz and Paola Maria Mariano, Elsevier, Heidelberg, 2007	Rajagopal, K.R.
4.	Kannan, K.	Modeling Ziegler - Natta Polymerization in high pressure reactors, Material substructures in complex bodies: from atomic level to continuum	Eds. Gianfranco Capriz and Paola Maria Mariano, Elsevier, Heidelberg, 2007	Fasano A., Mancini, A., and Rajagopal, K.R

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Humboldt Fellowship:		
1	Dr. Shomit Bakshi	2005
INAE:		
1.	Dr. Sarit Kumar Das Fellow of the Indian National Academy of Engineering (FNAE)	2007
2.	Dr. S. Srinivasa Murthy	1999
Others:		
1	Dr. V. Ganesan Fellowship Award of SAE International	2006
ASME:	Dr. S.Srinivasa Murthy	2005

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	Dr.M.Singaperumal	Editor	International Journal Of Automation and Control
2.	Dr. Krishnan Balasubramaniam	Regional Editor (South Asia)	Nondestructive Testing and Evaluation (Taylor & Francis)
3.	Dr. M. Govardhan	Member	Journal of Thermal Science

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

Development of an Eco-friendly LPG-Air Burner based on a novel concept of using swirled partially premixed flames (patent process being processed)

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	On-line NO _x , CO, CO ₂ and O ₂ Analyser	15.0
2.	Microscope installation for micro-device Imaging - 29 th August 2006	0.99
3.	Two computers with motherboard from INTEL embedded with LAN, WAN and WI-FI System and INTEL Pentium- M processor (1.7 GHz)	Received from INTEL Under University Exchange Programme
4.	Infrared-red, multipass cell	\$4,248.32
5.	High speed cascade tunnel	10.00 Lakhs
6.	Particle Image Velocimetry (PIV)	1 crore
7.	D Space System	12 Lakhs
8.	Eddy Current Dynamometer (200 kW)	12 Lakhs

Patents:**Patents filed:**

Sl. No.	Name of faculty	Topic of patent
1.	Dr. Sarit Kumar Das	A Multi Block Heat Exchanger (1447 CHE 2006)
2.	Dr. R.Gnanamoorthy	A method and apparatus for oil jet peening
3.	Dr. M.S. Shunmugam	A Devise for Reducing Backlash in Gear Drives No.194871(636/MAS/03) Dt. 13.12.2005
4.	Dr. Kumaraswamy S	An Axial Flow Impeller with Twistless or Single Curvature Shape Vanes or Blades particularly, though not exclusively, for Axial Flow Turbomachines
5.	Dr. A. Ramesh	A joint patent between IIT Madras and M/s Bajaj Auto Ltd., Pune has been filed on a "New variable valve timing system for two wheelers engines"
6.	Dr. V. Ganesan	Rotary Engine

Patents awarded:

Sl. No.	Name of faculty	Topic of patent
1	Dr. G.Venkatarathnam	Refrigerant Composition for Refrigeration Systems (Patent No.197997)
2	Dr. G.Venkatarathnam	Refrigerant Composition for a Single Stage Refrigeration Systems (Patent No.205644)

4.13.4 Research and Consultancy:

Sponsored Research Projects: (on going & new)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Prototype Development of Plant Oil Stove Socially Relevant project	Nine months from 1.7.2006	M/S Servals Automation Pvt.Ltd, Chennai-32	Rs.60,000/-	Dr. USP. Shet
2.	Flow Calibration for Stack and Ambient Air-Monitoring Equipment	Two weeks from 17.1.2007	M/s. Panasonic Carbon India Co. Ltd, Tada Village, Nellore Dt, AP-524 401	Rs.14,400/-	Dr. USP. Shet
3.	Technical Evaluation of a Innovative Cooker	Two months from 14.2.2007	For Mr. N. A. Vrishabadoss Jain, Chennai-96 in collaboration with L-RAMP, IIT-Madras and RIN, ICSR approved Project	Rs.20,000/-	Dr. USP. Shet
4.	Porous Medium Enhanced Energy Efficient Solar Parabolic Through Collector	3 ½ years From April 2005	MHRD	15.00	Dr. K. Srinivas Reddy Dr. Arunn Narasimhan
5.	Development of Mathematical Model for Melt Relocation Studies	3 years w.e.f. Sept. 2005	IGCAR-IITM Cell	16.09	Dr. T. Sundararajan Dr. Sarit Kumar Das
6.	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
7.	Thermal and Electrical Conduction in Nano-fluids	5.12.2004 to 4.2.2007	DST	7.60	Dr. Sarit K. Das Dr.T. Sundararajan T. Pradeep A. Dasgupta N. Dasgupta
8.	Development of a generalized radiative Transfer model including polarization and robust retrieval algorithms to obtain geophysical parameters using sea and land surface using microwave remote sensing data	1.9.2004 To 28.2.2007	ISRO	15.58	Dr. S.P. Venkateshan Dr. C.Balaji
9.	Biofuel conversion	Upto June 2007	SIDA-SRC	15.00	Dr. Ajit Kumar Kolar Dr. BVSSS Prasad
10.	Modelling and Experiments of Water Management Problem in APEM Fuel Cell	27-03-07 to 26-03-2009	The Ministry of New and Renewable Energy (MNRE)	8.94	Dr. Sarit Kumar Das Dr. T. Sundararajan

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
11.	Development of a Computer Code to study Quenching and Dry out behaviour of Heat Generating Porous Debris Bed with Validation Experiments	3 years from 9.7.2006 to 8.7.2009	BRNS	28.6	Dr. Arunn Narasimhan Dr. S.P. Venkateshan
12.	Development of a superluminescent diode based gas sensor for environmental monitoring	2 years	IC&SR Project	5.0	Dr.N.J.Vasa
13.	Development of MEMS based micro valves	2 years	ISRO	38.00	Dr.M.Singaperumal Dr.A.Dasgupta Dr.N.Dasgupta
14.	Simulation and Measurements of MBT Arjun Vehicle Dynamics		CVRDE	49.7	Chandramouli P Swarnamani S Sujatha C
15.	Rolling Contact and Bending Fatigue Studies on Case carburized En 353 and 20MnCr5 Steel		Ashok Leyland Ltd. Chennai	20.7	Dr. K Gopinath Dr. M M Mayuram
16.	Web and Video based lecture On Machine Design II		NPTL	8.0	Dr. K Gopinath Dr. M M Mayuram
17.	Evaluation of PMTC Bearings		ARCI	2.38	Dr. K Gopinath Dr. M M Mayuram
18.	RCF testing of Cryogenic treated cbearing material		CVRDE	3.3	Dr. K Gopinath Dr. G Muthuveerappan
19.	Development of Advanced NDE Techniques (with Enhanced Sensitivity, Reliability and Reduced Inspection Time) for Detection and Characterisation of Flaws		BRNS, BARC, Trombay	213.00	Dr. Krishnan Balasubramaniam
20.	Development of a technique the detection of cracks in Ti welds in pressure bottles		ISRO, LPSC, Bangalore	16.00	Dr. Krishnan Balasubramaniam
21.	Detector Array Characterisation for Computer Aided Tomography		DRDL (DRDO), Hyderabad	195.00	Dr. Krishnan Balasubramaniam
22.	Structural Health Monitoring Demonstration for LCA Components		ADA, Bangalore	104.00	Dr. Krishnan Balasubramaniam
23.	Development of an online weld defect characterization using thermal imaging techniques		ISRO	19.97	Dr.Krishnan Balasubramaniam
24.	Design of Automatic Coir Ratt		RuTAG, DST	1.5	Dr.Shankar Krishnapillai
25.	Design of Low Bed Tractor Trailer		RuTAG, DST	0.5	Dr.Shankar Krishnapillai

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
26.	Development of an online weld defect characterization using thermal imaging techniques		ARCI	2.38	Dr. K Gopinath Dr. M M Mayuram
27.	Studies on cryogenic treatment in enhancing the material properties of gears and bearing		MHRD		Dr.G Muthuveerappan Dr. K Gopinath
28.	Augmentation of Research Facilities	March 2005- Feb. 2010		38.00	Dr. M. Govardhan Dr. N. Sitaram Dr. BVSSS Prasad
29.	Turbine Rotor/Stator Interaction including Film Cooling Effects	April 2003 - June 2007		9.07	Dr. BVSSS Prasad
30.	Investigation of Subsonic Impulse and Reaction Turbine Cascades	April 2003 - March 2007		10.00	Dr. M. Govardhan
31.	Non-contact Sensor-based Measurement, Modeling and Analysis of Geometric and Spindle Errors in Numerically Controlled Machine Tools, New faculty scheme project	3 years	IC&SR, IITM	5.00	Dr. G.L. Samuel
32.	Co- investigator "Development of Setup for Investigation of Mechanical Micromachining of Composites.	2 years	AR&DB	22.06	Dr. G.L. Samuel Dr. M.S. Shunmugam
33.	Studies on compact vapour absorption refrigeration system with environmentally friendly working fluid	August 2009	DST	24.52	Dr. A.Mani
34.	Design and development of ventilation system for the Siddha Medicine Production Unit, Gandhigram	June 2007	SRP	0.30	Dr. A.Mani
35.	Design and development of ventilation system for the soap Production Unit, Gandhigram	July 2007	SRP	0.30	Dr. A.Mani
36.	Modernisation of soap unit in Gandhigram.	May 2009	DST	13.828	Dr. A.Mani
37.	Development of reliable and reproducible prototype cryogenic Refrigerator for on board cooling	16.11.2006 to 15.11.2009	NRB	36.36	Dr. G.Venkatarathnam

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
38.	Study of vapour liquid Equilibrium wide Fluorocarbon mixture at low Temperature and Development	31.10.2006 to 30.10.2008	DST	27.1	Dr. G.Venkatathnam
39.	Experimental Studies on Hydraulic Transport of Large Solids in Hoses	6/28/2004 to 6/27/2007	National Institute of Ocean Technology	29.82	Dr.Kumaraswamy S, Dr. Madhusudana Rao M
40.	Exploratory Studies on a Cavitation-induced Ignition System for Non-hypergolic Liquid Propellant Rockets	11/3/2005 to 9/30/2007	Indian Space Research Organisation	18.66	Dr.Dhiman Chatterjee Dr.Kumaraswamy S
41.	Fuel Nozzle Modelling	2002-2006	Aeronautical R & D Board	7.47	Dr. V. Ganesan
42.	Development of an Engine management System for a small Two Wheeler Engine	18 months from 15 th June 2005	TIFAC	110.00	Dr. A Ramesh Dr. R P Sharma Mr. P. V. Manivannan
43.	Augmentation of Research Facilities	2006-2008	DST	158.00	Dr. V. Ganesan Dr. J.M. Mallikarjuna

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr. K.Srinivas Reddy	Thermal Conductivity Test for LRB Mattresses and Calcium Silicate	M/s Lloyd Insulations (India) Ltd., Chennai	0.33
2.	Dr. C. Balaji Dr. Balaji Srinivasan Dr. Harishankar Ramachandran	Distributed High Temperature Sensor for Flue Gas Monitoring – Technology Demonstration	BHEL Thiruchirappalli	3.96
3.	Dr. Ajit Kumar Kolar	45 KWA Wind-Solar-Pengham Oil Integrated Hybrid System	CWET, Chennai	2.00
4.	Dr. N Siva Prasad	FEA of Bolted / Flanged Connecton of Hydro Turbine	BHEL, Bhopal	3.40
5.	Dr. N Siva Prasad	Welding Distortion and Control	BOC	2.00
6.	Dr. N Siva Prasad	Optimisation of the Design of ESP Casing Panel using Profile Plates	BHEL, Ranipet	3.00
7.	Dr. N Siva Prasad	Design of a Conical Hopper with Support Column for ESP	BHEL, Ranipet	1.50
8.	Dr. N Siva Prasad	Bearing selection and bearing housing configuration for high pressure fan	BHEL, Ranipet	2.00
9.	Dr. Raghu Prakash V	Fatigue Testing of Rocker lever arms.	Sundaram Fasteners Limited, Autolec Division, Plant-3, Chennai.	Rs.33,200/-

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
10.	Dr. Raghu Prakash V	Design of custom test systems	Techno Testing Instruments (P) Ltd., Pune.	Rs.33,200/-
11.	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	\$151,000
12.	Dr. Krishnan Balasubramaniam	Measurement of Viscosity and Density in Glass Melts	Corning Inc, USA	\$ 40,000
13.	Dr. Krishnan Balasubramaniam	Development of an Ultrasonic Technique Quality Evaluation of Large Composite Tube	DRDL, Hyderabad	9.92
14.	Dr. Krishnan Balasubramaniam	Burn Rate Measurement Technique Development	DRDL, Hyderabad	9.80
15.	Dr. Krishnan Balasubramaniam	Antenna Design	DLRL, Hyderabad	9.80
16.	Dr. Krishnan Balasubramaniam	C-Scan Algorithm Development for Billet Inspection	Mahindra Intertrade	2.00
17.	Dr. Krishnan Balasubramaniam	Flow and Cure Monitoring Sensors using Guided Ultrasonic Waves	Research and Development Establishment, Pune	9.80
18.	Dr. Krishnan Balasubramaniam	Integrated Circuits C-SAM Images Interpretation	GE Medical Systems	0.65
19.	Dr. Krishnan Balasubramaniam	Development of automatic defect recognition system for real time radioscopy (trtr) of handcock valv	NDTL, BHEL Trichy	14.9
20.	Dr. M M Mayuram	Static and dynamic analysis of Motor Fixing Brackets	Elgi Equpt. Co., Coimbatore	0.40
21.	Dr. N. Sitaram	Air Flow Test for Perforated Raised Flooring Panel	United Insulation	0.3
22.	Dr. M. Govardhan	Performance testing of DE fans	CVRDE, Avadi	0.5
23.	Dr. Shaligram Tiwari	Fluidized Bed Comb.	BHEL	20.5
24.	Dr. A. Mani	Design Evaluation of induced draft cooling tower	Larsen and Tubro Ltd	0.50
25.	Dr.Kumaraswamy S and Dr.Swaminathan T (Ch.E.)	Establishment of the RO Plant Including Treatment of The RO Reject	Tamilnadu Coop. Textile Processing Mills Ltd	3.50
26.	Dr. Kumaraswamy S and Dr. Swaminathan T (Ch.E.)	Improvement of Existing Effluent Treatment Plant	Tamilnadu Coop. Textile Processing Mills Ltd	1.00
27.	Dr.Kumaraswamy S	Expert Opinion on Pump Test Rig Arrangement	Titanium Tantalum Products Ltd	0.30
28.	Dr. Prasad B V S S S and Dr. Dhiman Chatterjee	Design of Wind Turbines for Solar & Wind Power Plant	MSC Engineering (India) Pvt Ltd	1.80
29.	Dr.Kumaraswamy S	Vetting of Chiller Water Pumping Scheme	SVC Projects Pvt Ltd	0.50
30.	Dr. Kumaraswamy S	Pump Testing and Verification of Guarantees	Flowell Pump Industries	0.25

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
31.	Dr. Kumaraswamy S	Review of DPR for Mini Hydel Scheme	Ceebros Power Generation Pvt.ltd	0.50
32.	Dr. A. Ramesh	Testing of a Fuel Saver	L.Ramp	0.30
33.	Dr. A. Ramesh	Development of a LPG Tractor Engine	M/s Mahindra Ltd., Pune	0.55
34.	Dr. J.M. Mallikarjuna Dr. A. Ramesh	Testing of MK10 Engine as per BIS standards	M/s Greaves Cotton Ltd., Chennai	2.02
35.	Dr. J.M. Mallikarjuna Dr. B. Nageswara Rao	FEM Analysis of Engine Valves	M/s Rane Engine Valves, Chennai	2.6

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr. Sarit Kumar 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
2.	Dr.M.Singaperumal and Dr.T.Asokan	Development of Mathematical Model for Jet Pipe Servo valve RCI(DRDO)	RCI (DRDO), Hyderabad	9.54
3.	Dr.M.Singaperumal Dr.T.Asokan Dr.A.Mahindrakar	AUV development	NSTL, Vizag	38.30
4.	Dr.N.J.Vasa	Development of a Superluminescent diode based gas sensor for environmental monitoring	Industrial Consultancy and Sponsored Research, IIT Madras	5.0
5.	Late Prof.Y.G.Srinivasa Prof.M.Singaperumal	Design and development of a self-guided vehicle(SGV) with embedded system controller	DST	15.38
6.	Late Prof.Y.G.Srinivasa	Hardware-in-Loop design, Fabrication and Testing of a Real-Time Closed-Loopmicropump	ISRO, ISRO, 2004-2006	10.71
7.	Dr. BVSSS. Prasad / Dr. N. Sitaram	Computational Investigation and Testing of Fan Model	Cethar Vessels	7.5
8.	Dr BVSSS. Prasad	CFD Modelling for combustion and NO _x emission in Pulverized coal fired boilers	BHEL, Trichy	8.15
9.	Dr. BVSSS. Prasad	CFD MOdelling of cyclone separator	BHEL, Trichy	6.0
10.	Dr. BVSSS. Prasad	Design review of pressurized fluidized bed gasifier	BHEL, Trichy	20.50
11.	Dr. BVSSS. Prasad	CFD modeling and investigation of gasifier to optimize methodology for scaling up.	BHEL, Trichy	15.0
12.	Dr. M. Govardhan Dr. BVSSS. Prasad	Erosion studies on ID Fans	BHEL	3.40
13.	Dr.Kumaraswamy S	Configuration and Design of High Pressure Hydraulic Booster Turbopump	Liquid Propulsion Systems Centre	5.3314

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
14.	Dr.Kumaraswamy S Mr.Balabaskaran V and Dr.Dhiman Chatterjee	CFD Simulation of Flow Through Francis Turbine Using CFX Software and its Validation for Tested Models	Bharat Heavy Electricals Ltd., Bhopal	14.00
15.	Dr.Kumaraswamy S Mr.Balabaskaran V and Dr.Dhiman Chatterjee	Development of Methodology for CFD Analysis for Kaplan Turbine	Bharat Heavy Electricals Ltd., Bhopal	18.00
16.	Dr. V. Ganesan	Modeling of Steady Flow Through Intake and Exhaust Manifolds	Infosys Technologies Ltd., Bangalore	15.00
17.	Dr. V. Ganesan	CFD Modeling and Analysis of Intake and Exhaust System	e-Engg Solution, L & T Technology, Vadodara	12.00
18.	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
19.	Dr. A. Ramesh Dr.. R.P. Sharma 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
20.	Dr. Krishna Vasudevan Dr. A. Ramesh Dr. B.V.S.S.S. Prasad	Modeling and Computer Simulation of Diesel Engine using Matlab-Simulink Software	M/s BHEL, Bhopal	8.00

Retainer Consultancy: (on going & new)

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

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

Indo-German project on "Adaptive Control of Abrasive Water Jet Cutting Process with Soft Computing Approaches" (August 2002 – July 2006)

Value of project: Euro 99,400

Co-ordinators: Prof. N. Ramesh Babu, IIT Madras
Prof.Dr.Ing. Hartmut Louis, Univ. of Hannover, Germany

Funding Agency: Volkswagen Foundation, Germany

Faculty members participation with other institution under MoU:

Sl. No.	Name of faculty	Participation details	Name of University/ Institution which has MoU
1.	Dr. R Gnanamoorthy		Nagoake University of Technology, Japan
2.	Dr. C Sujatha Dr. S Narayanan	Based on prototype of MR damper, broad range of MR denies	NPOL Cochin
3.	Dr. Krishnan Balasubramaniam	Summer students visiting IITM during summer in the area of Acoustics & Non-Destructive Evaluation	Auburn University from NSF (USA)

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals:	-- 24
Total No. of papers published in Refereed International Journals:	-- 102
Total No. of papers presented in National Conferences:	-- 41
Total No. of papers presented in International conferences:	-- 129

Details:

In Refereed National Journals:

S.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Anand Kumar R Annigeri, N Ganesan and S Swarnamani	Free Vibration behaviour of multiphase and layered magnets electro elastic beam	online paper in J sound and Vibration (in press).
2.	Balasubramaniam K, B.V Somasekar	Structural Health Monitoring of Composite Structures Using Guided Lamb Waves	Advanced NDE I
3.	Balasubramaniam K,	Inverse Models and Implications for NDE	Advanced NDE I.
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3.	Badrinath, K., Surendra Balaji, D., Prasad, C.V.S.S., Anil Subash Babu and Sarit K. Das	Application of Leveque Analogy to Offset Strip-Fin Surfaces for Prediction of Heat Transfer Characteristics	International Journal of Heat Exchangers, Vol. 7, 2006, pp 75-86
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36.	M. Murali Krishna, M.S. Shunmugam and N. Siva Prasad	A study on the sealing performance of bolted flange joints with gaskets using finite element analysis	International Journal of Pressure Vessels and Piping, In Press, Corrected Proof, Available online 6 April 2007

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41.	T.R. Kannan and M.S. Shunmugam	Processing of 3-D Sheet Metal Components in STEP AP-203 Format – Part I: Feature Recognition System	International Journal of Production Research (2007), (Accepted for publication)
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51.	Manesh, Saravanakumar, M. Singaperumal, B. Ramamoorthy	Modelling of Fluid Continuum Considering 3D Surface Parameters in Hydraulic Assemblies	Accepted for Intl JIof Precision Engg.
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In Proceedings of National Conferences:

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2.	Manoj Kumar, P. and Ajit Kumar Kolar	Effect of Operating Parameters on the Performance of an Air-Breathing PEM Fuel Cell with a Ducted Cathode	First National Conference on Advances in Energy Research, IIT, Bombay	4-5, Dec. 2006, 297-302
3.	Ajit Kumar Kolar and Suresh, M.V.J.J.	Advanced Coal Technologies in Energy Education and Research	First National Conference on Advances in Energy Research, IIT, Bombay	4-5, Dec. 2006, 535-540
4.	Sendhil Kumar, N. and Reddy, K.S	Study of Combined Natural Convection and Surface Radiation in a Modified Cavity Receiver for Solar Parabolic Dish Collector	First National Conference on Advances in Energy Research, IIT, Bombay	4-5, Dec. 2006.
5.	Suresh, M.V.J.J. Reddy, K.S. and Ajit Kumar Kolar	Energy and Exergy Analysis of Thermal Power Plants Based on Advanced Steam Parameters	First National Conference on Advances in Energy Research, IIT, Bombay	4-5, Dec. 2006, pp 15-21
6.	Siva Prasad N	Invited talk in the Seminar on Trends of Cooperation between India and Italy in the Mechanical Sector	Indo-Italian chamber of Commerce and Industry	
7.	Siva Prasad N	Invited talk at 51 st Congress of Indian Society for Theoretical and Applied Mechanics	Andhra University, Visakhapatnam	18-19, December 2006
8.	Siva Prasad N	Key Resource Person - a two day workshop on Laboratory Experiments	Mechanical Engineering, Trivandrum Engineering College	
9.	Raghu Prakash V.	GE workshop on Materials Characterization	Bangalore	Dec.12-14, 2006
10.	K Anandavel, Raghu Prakash V	A Parametric Study in Dovetail Attachment in Aero-Engine Rotor	National Symposium of Research Scholars in Mechanical Engineering 2007 (NCRSME07) IIT Kanpur	March 23, 2007
11.	S. Srikanth, T. Ramesh Babu, A. S. Sekhar	Vibration behaviour of transient cracked rotor	A one day conference on current trends in Engineering Analysis & Design (Dreams 2007) GE, Bangalore	12 March 2007

Sl.No.	Name of the faculty	Title	Institution	Period
12.	T. Ramesh Babu, A. S. Sekhar	A new diagnostic technique for crack detection: fracture mechanics approach	National Symposium of Research Scholars in Mechanical Engineering 2007 (NCRSME07) at IIT Kanpur	March 23-24, 2007.
13.	A. S. Sekhar	Fault identification in rotor systems	51 st Congress of Indian Society for Theoretical and Applied Mechanics, Andhra University, Visakhapatnam	18-20, December 2006
14.	A. S. Sekhar	An Overview of Product design	National conference on Emerging Technologies in Mechanical Engineering for sustainable development, SRKR Engineering college, Bhimavaram	23-24 December 2006
15.	K. Ramamurthy	Detonation in Hydrocarbon – Air for Pulse Detonation Engines	8 th National Conference on Air Breathing Engines and Aerospace Propulsion, IAT Pune	Dec. 2006.
16.	Sivakumar.R., Chakravarthy.S.R. and Babu.V	Experimental and numerical Investigation of the acoustic field in a bluff body combustor	AIAA-2006-2613, 2006.	2006
17.	A. Rajasekaran & V. Babu	The effect of Schmidt & Prandtl numbers in the numerical prediction of supersonic combustion,	AIAA 2006-5037, 2006.	2006
18.	Kadam Prashant & V. Babu	Numerical predictions of noise from subsonic jets	AIAA 2006-3207, 2006	2006
19.	B. Behera and K. Srinivasan	Design Methods for Axisymmetric Supersonic Nozzle Contours”, 2 nd International congress on Computational Mechanics and Simulation (ICCMS 06)	IIT Guwahati	8-10 Dec, 2006.
20.	S. K. Singh, D. Chakraborty, and K. Srinivasan	Simulation of Crack Prediction using Acoustic Emission and Artificial Neural Network”, 2 nd International congress on Computational Mechanics and Simulation (ICCMS 06)	IIT Guwahati	8-10 Dec, 2006.
21.	K. Goutham Kumar and N. Sitaram	Computational Investigations of Effect of Tip Clearance in an Annular Turbine Rotor Impulse Cascade with Non-Uniform Inlet Flow	CFD Applications in Power & Industry Sectors Hyderabad, India.	Nov. 17&18, 2006
22.	M. Mahendran and N. Sitaram	Computational Study of Incidence Effects on Secondary Flows and Losses in a Linear Turbine Cascade	CFD Applications in Power & Industry Sectors, Hyderabad, India.	Nov. 17&18, 2006
23.	P. Ushasri and N. Sitaram	Computational Investigation of Flow in a Centrifugal Impeller with Chamfered Blade Tips: Effect of Tip Clearance	CFD Applications in Power & Industry Sectors, Hyderabad, India.	Nov. 17&18, 2006

Sl.No.	Name of the faculty	Title	Institution	Period
24.	B.V.S.S.S. Prasad, B.H.L. Gowda and S. Karthik	Effect of tip leakage on the formation and characteristics of Horse shoe vortex	SRM Engineering college, Chennai	14-16 December 2006
25.	N. Sitaram, J. M. Issac and M. Govardhan	Flow Measurements in Passages of Different Diffusers of a Centrifugal Compressor	Proceedings of Int. Conf. on Advances in Mech. Engg., pp. 407- 414, Chennai	Dec. 14-16, 2006
26.	Venkateswara Babu, Sitaram, N. and Govardhan, M	Effect of Tip Clearance on Three-dimensional Flow Field and Losses of an Annular Turbine Cascade: Part I- Experimental Investigations and Part II - Computational Investigations	DREAMS-2007, JFWTC, GE India, , Bangalore	March 12, 2007
27.	Kulasekharan N, Prasad B V S S S	Computational Heat Transfer Analysis in the Trailing Region of a Gas Turbine Vane With Cylindrical Pin Array	CFD Application in Power & Industry Sectors, BHEL R&D, Hyderabad, India.	17-18 November 2006,
28.	Shaligram Tiwari., Koichi Nishino	Numerical study flow and interfacial heat transfer for Marangoni flow in a liquid bridge to high Prandtl number fluid	ICCMS-2006, IIT Guwahati, India.	December 8-10, 2006
29.	Shaligram Tiwari., Pratish P. Patil, S. Jayavel and G. Biswas	Flow field characteristics near first transition for flow fast a circular tube confined in a narrow channel	NCFMFP-2006, IIT Bombay, Powai, Mumbai, India	Dec. 7-9, 2006
30.	Mani, A.,	Overview on Solar Energy National Workshop on Renewable Energy, Muthukumaran Institute of Engg. and Tech	Anna University, Chennai, 2006.	
31.	CH.R.Vikram kumar, P Kesavan Nair, B. Ramamoorthy	Influence of sputtering parameters on properties of Alumina Coatings	NITW, National Conference on Factory automation, Robotics & Soft Computing pp375-381	18-19 Jan 2007,
32.	Manesh. K.K., Ramamoorthy. B., Singaperumal. M	Effect of 3D surface parameters on friction in Precision Hydraulic Assemblies	NITW, National Conference on Factory automation, Robotics & Soft Computing, pp366-371	18-19 Jan 2007,
33.	T. Micha Prem Kumar & Dhiman Chatterjee	Numerical Simulation of flow over a S-shaped hydrofoil	33 rd National and 3 rd International Conference on Fluid Mechanics and Fluid Power	7-9, Dec 2006 IIT Bombay, Mumbai
34.	S Christopher & S Kumaraswamy	Effect of varying the inlet edge of the impeller on the performance of a radial flow pump	National Conference on CFD application in Power and Industry sectors	17 th to 18 th Nov. 2006, BHEL, Hyderabad
35.	Sharma, R.P	Use of CNG and Hydrogen in Engines	Proc. of the SAE Conference on Alternate Energy for Automobiles, Pune	April 27-28, 2006.

SI.No.	Name of the faculty	Title	Institution	Period
36.	Ganesan, S., Kishore Kumar, S., Venkataraman Shankar and Ganesan, V	CFD Studies on V-Gutter Configurations for Aero Gas Turbine Engine Afterburner	9 th Annual CFD Symposium-2006, Bangalore	Aug. 11-12, 2006
37.	Ganesan, S., Kishore Kumar, S., Venkataraman Shankar and Ganesan, V.	CFD Studies in a Gas Turbine Afterburner using STAR-CD	3 rd STAR-CD User Conference-2006, Le Meridean, Bangalore (Best Paper and Presentation Award)	July 4, 2006,
38.	Ganesan, S., Kishore Kumar, S., Venkataraman Shankar and Ganesan, V.	Prediction of Gas Turbine Afterburner Performance for Different Operating Pressures using CFD	8 th National Conference on Air Breathing Engines and Aerospace Propulsion (NCABE- 2006, Pune	Dec. 12-14, 2006
39.	Jyothishkumar, V. and Ganesan, V.	CFD Study Flow Inside an Aero Engine Annular Combustor	National Conference on CFD Applications in Power and Industry Sectors, BHEL R & D, Hyderabad	Nov. 17-18, 2006
40.	Subramanian, V., Mallikarjuna, J.M. and Ramesh, A.	Improvement of Combustion Stability and Thermal Efficiency of a Hydrogen Fuelled SI Engine at Low Loads by Throttling	1 st National Conference on Advances in Energy Research (AER 2006), IIT Bombay	Dec. 4-5, 2006,
41.	Achuthan, N., Porpatham, E., Ramesh, A. and Krishna Vasudevan	SI Engine Knock Detection by Non-intrusive Pressure Measurement and Advanced Signal Processing	National Conference on Advanced Electrical Systems, BARC, Mumbai	March 6-8, 2007

In Proceedings of International Conferences:

SI.No	Name of the faculty	Title	Institution	Period
1.	Sreekanth, M., Kolar, A.K. and Leckner, B.,	Effect of Shape and Size of Wood on Primary Fragmentation in a Laboratory Scale Fluidized Bed Combustor	Fluidized Bed Combustion (The 19 th FBC Conf.) Vienna, Austria (CD edition)	May 21-24, 2006
2.	Balaji, C., Candane, S.R., and Venkateshan, S.P.	Studies on an Active Cooling System for a Mach 2 Supersonic Nozzle	13 th International Heat Transfer Conference Sydney, Australia	13-18, Aug. 2006
3.	Das, S.K., . Anoop, K.B., Patel, H.E. and Sundararajan T	Numerical Study of Convective Laminar Heat Transfer in Nanofluids	- do -	13-18, Aug. 2006
4.	Das, S.K., Suresh, P.R. and Sundararajan, T	The Transition and Mixing Behaviours of Slightly Heated Plane Jets Issued from Nozzles of Different Inlet Geometries	- do -	13-18, Aug. 2006
5.	Reddy, K.S. and Sendhil Kumar, N.	Numerical Study of Natural Convection Heat Loss in Modified Cavity Receiver for Fuzzy Focal Solar Dish Concentrator	- do -	13-18, Aug. 2006
6.	Kolar, A.K. and Rajani, P.B.M.	Heat and Mass Transfer Characteristics in a Free Breathing Fuel Cell with a Ducted Cathode	- do -	13-18, Aug. 2006

Sl.No	Name of the faculty	Title	Institution	Period
7.	Deiveegan, M., Swaminathan, V., Balaji, C., Venkateshan, S.P. and Bayesian, A.	Algorithm for the Retrieval of Geophysical Parameters in the Atmosphere	- do -	13-18, Aug. 2006
8.	Suresh, M.V.J.J., Reddy, K.S., and Ajit Kumar Kolar	Energy and Exergy Based Thermodynamic Analysis of a 62.5 MW Coal-based Thermal Power Plant – A Case Study	Energy and Environment 2006, Universiti Tenaga Nasional, Kuala Lumpur, Malaysia (CD Edition)	Aug 28-30, 2006.
9.	Kathikeyan, P. and Reddy, K.S	Evaluation of Errors in Square Guarded Hot Plate Apparatus using Finite Element	17 th International Symposium on Transport Phenomena (ISTAP 17), Toyama, Japan,	Sept. 4-8, 2006.
10.	Sendhil Kumar, N and Reddy, K.S	Heat Loss Characteristics in a Modified Cavity Receiver	Global Conference on Renewable Energy approaches for Desert Region, Univ. of Jordan, Amman, Jordan	Sept. 18-22, 2006.
11.	K.S. Reddy	Thermal Analysis of Energy Efficient Receiver for Solar Parabolic Trough Collector System	- do -	Sept. 18-22, 2006.
12.	Karhikeyan, P. and Reddy, K.S.	Steady State Thermal Conductivity Measurement of Insulating Plates	Recent Advances in Heat Transfer, KITS, Coimbatore, P.337-342	Sept. 21-22, 2007
13.	Jayakrishna, D., Tanmay Basak and Sarit Kumar Das	Study on Non-orthogonal LID Driven Porous Cavity Flows by Generalized Non-Darcy Approach	- do -	Sept. 21-22, 2007
14.	Karhikeyan and Reddy, K.S.,	Modelling of Square Guarded Hot Plate Apparatus for the Measurement of Thermal Conductivity of Two Phase Systems, 3rd BSME-ASME	Thermal Engg., DSME, Dhaka, Bangladesh	20-22, Dec. 2006.
15.	Krishnaiah, T., Srinivasa, Rao, S., Madumurthy, K. and Reddy, K.S.	Solar Global Radiation Predictions for India using ANN Model,	Solar Radiation and Day Lighting (SOLARIS 2007), Vol. I, IIT Delhi	Feb. 7-9, 2007.
16.	Satyanarayana, G.V., Ravi Kumar, K. and Reddy, K.S	Numerical Study of Porous Enhanced Receiver for Solar Parabolic Trough Collector	Proc. of the 3rd International Conference on Solar Radiation and Day Lighting (SOLARIS 2007), Vol. II, IIT Delhi	Feb. 7-9, 2007
17.	Vidhya Venkat and M.S. Shunmugam	Extension of Support Vector Regression to evaluate parallelism and perpendicularity relations	Proceedings of First International and 22nd National AIMTDR, , Pages 749-754, 5.8	Dec. 21-23, 2006
18.	Raju Sethuraman	Fatigue	Atlanta, USA.	14-19, May 2006,
19.	Raghu Prakash V	Fatigue, Fracture & Durability (Invited Speaker, Organizing Committee Member)	IISC, Bangalore	26-28 June 2006

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20.	Raghu Prakash V	Translation of Fatigue Fundamentals to Engineering Problems Methods and Challenges	Intl. Seminar on Fatigue, Fracture & Durability	June 2006.
21.	S.Sandesh & K Shankar	Inverse problems in structural parameter estimation: Application of Hybrid Genetic Algorithm	Intl. Conference GMI 2006, Coimbatore	July 2006
22.	K Shankar & S Prashanthpillai	Neural Networks in Substructure system identification	Intl. Conference GMI 2006, Coimbatore	July 2006
23.	Krishnan Balasubramaniam	Materials Characterization	Conducted the International workshop at Portland, USA	July 28 th -30 th , 2006
24.	R Gnanamoorthy	Served as Chairperson for a Surface Engineering Session	Processing & Manufacturing of Advanced Materials, THERMEC 2006 held at Vancouver, Canada	July 2006
25.	R Gnanamoorthy	Surface Modification of Steel Using liquid Peening – Fatigue Performance	Processing & Manufacturing of Advanced Materials, THERMEC 2006 held at Vancouver, Canada	July 2006
26.	A Sahaya Grinspan and R Gnanamoorthy	Effect of Peening Duration on the Fatigue Behaviour of Oil Peened Medium Carbon Steel	International Seminar on the Fatigue, Fracture and Durability, Bangalore, India	26-28 June 2006
27.	A Sahaya Grinspan and R Gnanamoorthy	Finite Element Study on the Residual Stress Formation in Oil Jet Peening	International Seminar on the Fatigue, Fracture and Durability, Bangalore, India	26-28 June 2006.
28.	A S Sivaram and C Sujatha	Multi-objective optimization of suspensor parameters	13 th International Congress on sound & vibration, at Vienna Australia	July 2-6, 2006
29.	M K Ravishankar and C Sujatha	Dynamic analysis of a tracked vehicle with hydrogas suspension	13 th International Congress on sound & vibration, at Vienna Australia.	July 2-6, 2006
30.	S Shankar and M M Mayuram	Evaluation of Contact Parameters using Single Asperity Contact Model for the Normal Contact of Rough Surfaces	Proceedings of the STLE/ASME International Joint Tribology Conference, San Antonio, Texas, USA	Oct.2006
31.	R.Vasudevan and M.M.Mayuram	Simulation Of Thermoelastic Instability In Disc Brakes Through Finite Element Programing	Int. conf on Modeling and Simulation ICCMS-2006 IIT Guwahati	Dec 8-10 2006
32.	A Sahaya Grinspan and R Gnanamoorthy	Fatigue Behaviour of Oil Jet Peened Aluminium Alloy, AA 6063-T6 ASMP 2006,	Asian Symposium on Materials Bangkok , Thailand	9-10 November 2006, p. 103.
33.	R Gnanamoorthy and S Dhanasekaran	Effect of MoS2 Addition on the Performance of Sintered Spur Gears under Unlubricated Conditions ASMP 2006	Asian Symposium on Materials and Processing, Bangkok, Thailand,	9-10 November 2006, p. 84

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34.	S Dhanasekaran and R Gnanamoorthy	Wear Characteristics of Spur Gears made using Fe-C-Cu+MoS ₂ Sintered Alloys', MS&T 2006	Materials science and Technology 2006 Conference and Exhibition 2006 Cincinnati, Ohio, USA	15-19 October 2006
35.	A Sahaya Grinspan and R Gnanamoorthy	Cavitation Oil Jet Peening Process – A New Surface Modification Process: Studies on AA6063 T6	Int Symp for Research Scholars, IIT Madras , Chennai	18-20 Dec 2006, p. 60.
36.	Dharmendra Sharma and R Gnanamoorthy	Effect of Surface Roughness on the Fretting Wear Behaviour of Nylon 6 Clay Nanocomposites	Int Symp for Research Scholars, IIT Madras, Chennai	18-20 Dec 2006, p. 68.
37.	S Dhanasekaran and R Gnanamoorthy	A Novel Fe C CU Ni MoS ₂ Sintered Alloys for Gear Applications	Int Symp for Research Scholars, IIT Madras, Chennai	20 Dec 2006, p. 139.
38.	Aravind Vadiraj M Kamaraj and R Gnanamoorthy	Fretting Wear Studies of Surface Modified Biomedical Titanium Alloys	Int Symp on Tribo Corrosion 2006, Non Ferrous Materials Tech Dev Centre, Hyderabad	4-5 Dec 2006, p. 22
39.	N Govindarajan, R Gnanamoorthy, C Bhaskaran and B P Shastri	Fatigue Life Prediction of Porous Steels under Rolling / Sliding Contact Conditions by Fracture Mechanics Approach	Int Conf on Industrial Tribology, ICIT 2006, IISc, Bangalore,	30 November 2006, p. 93
40.	C Gurunathan and R Gnanamoorthy	Wear Characteristics of Nylon Polymer Clay Nanocomposite Gears	Int Conf on Industrial Tribology, ICIT 2006, IISc, Bangalore,	30 November 2006, p. 117
41.	M Dharmendra Sharma and R Gnanamoorthy	Fretting Wear Characteristics of Nylon 6 Clay Nanocomposite	Int Conf on Industrial Tribology, ICIT 2006, IISc, Bangalore	30 Nov 2006, p. 118.
42.	Shankar K	ICCMS 2006, "Time domain identification of plate bending rigidities using substructure approach	IIT Guwahati	8-10, Dec. 2006
43.	Narayanan S	Smart and tensegrity structures in Aerospace Applications. Invited paper presented in Aerospace Technologies: Challenges and opportunities	Aero India 2007 International Seminar , Bangalore	6 th February 2007,
44.	G.Satheesh Kumar Kuppan Chetty Parikshit Verma M. Babu, K.Rajesh	Design and Fabrication of Mobot – A Search and Rescue Report	1 st International and 22 nd All India Manufacturing Technology Design and Research	20-22, Dec.2006 IIT Roorkee
45.	Muralidhara C.Suryawanshi N.J.Vasa M.Singaperumal	Experimental Investigations of Micro-EDM on Silicon	1 st International and 22 nd All India Manufacturing Technology Design and Research	21-23, Dec.2006 IIT Roorkee
46.	S.S.Parthasarathy K.Viswamithra (Late) Y.G.Srinivasa	Application of D-step Prediction for the Development of Automotive Active Suspension systems	1 st International and 22 nd All India Manufacturing Technology Design and Research	21-23, Dec.2006 IIT Roorkee
47.	Parikshit verma (Late) Y.G.Srinivasa T.Nagarajan M.M.Nayak	Experimental Investigation of Real Time Valveless Micropump	1 st International and 22 nd All India Manufacturing Technology Design and Research	21-23, Dec.2006 IIT Roorkee

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48.	G.Satheesh kumar, T. Nagarajan, (Late) Y.G.Srinivasa	Stiffness Investigation A3-3 Stewart Platform for Spiral Contour	1 st International and 22 nd All India Manufacturing Technology Design and Research	21-23, Dec.2006 IIT Roorkee
49.	N.J.Vasa Y. Hata T. Yoshitake S.Yokoyama	Preparation of Ktiopo, Thin Films on Different Substrates by Pulsed Laser Deposition	1 st International and 22 nd All India Manufacturing Technology Design and Research	21-23 Dec.2006, IIT Roorkee
50.	A. Rajasekaran & V. Babu	Numerical simulation of kerosene combustion in a dual mode supersonic combustor	AIAA 2006- 5041,2006.	2006
51.	U. S. P. Shet and Omkar D. Vaidya	Stability of Swirled Fuel-Rich Multi-Jet Flames in A Tubular Burner", 31 st International Symposium on Combustion	The Combustion Institute, U.S.A, University of Heidelberg, Germany	6-11, Aug. 2006
52.	I. Awasthi and N. Sitaram	Design and Analysis of Centrifugal Impellers with Backward and Forward Curved Vaness	Proc. of International Conference on Advances in Mech. Engg., pp. 415-423, , Chennai	14-16, Dec. 2006
53.	S. Anish and N. Sitaram	Review: Impeller Diffuser Interaction in Centrifugal Compressors	Proc. of International Conference on Advances in Mech. Engg., pp. 424-432, Chennai, India.	Dec.14-16, 2006
54.	K. Goutham Kumar and N. Sitaram	Computational Investigations of Three Dimensional Flow in an Annular Turbine Rotor Impulse Cascade with and without Relative Motion	CD-ROM Proc. of International Conference on Computational Mechanics and Simulation (ICCMS- 06), Guhawati, India	8-10, Dec.2006,
55.	U. Muneeswara Babu, N. Sitaram and B. V. S. S. S. Prasad	Computational Investigation of Three Dimensional Rotor-Stator Interaction in a Single Stage Axial Turbine	CD-ROM Proc. of International Conference on Computational Mechanics and Simulation (ICCMS- 06),, Guhawati, India	Dec. 8-10, 2006
56.	M. Mahendran and N. Sitaram	Computational Study of Secondary Flows in a Linear Turbine Cascade in Incompressible and Compressible Flows	CD-ROM Proc. of International Conference on Computational Mechanics and Simulation (ICCMS- 06), Guhawati, India.	Dec. 8-10, 2006
57.	K. Goutham Kumar and N. Sitaram	Computational Investigations of of Three Dimensional Flow in an Annular Turbine Rotor Impulse Cascade with and without Tip Clearance	Proc. of International Conference on Computational Fluid Dynamics, Acoustics, Heat Transfer and Electromagnetics (CFEMATCON-06), pp. 49-56, Visakhapatnam, India	July 24&25, 2006
58.	B.V.S.S.S. Prasad and B.V.N. Ramakumar	Computational Investigation of Flow and Heat Transfer for a Row of Circular Jets Impinging on a Concave Surface accepted for ASME Turbo Expo 2006	Barcelona, Spain.	8-11 May 2006

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59.	B.V.S.S.S. Prasad and N.Kulasekharan	Influences of Rib Turbulators on Pin-Fin Heat Transrer in the Trailing Edge Region of Gas Turbine Vane – A Numerical Study”, accepted for ASME Turbo Expo 2006	Barcelona, Spain.	8-11 May 2006
60.	B.V.S.S.S. Prasad and B.V.N. Ramakumar	Computational studies of circular jets impinging on a concave surface	International conference on Computational Fluid Dynamics, Acoustics, Heat Transfer and Electromagnetics CFEMATCON-06, Andra University	July 2006 24-25,
61.	Prasad V Padwad and M. Govardhan	Flow Characteristics of S-Shaped Diffusers	11 th International Conference on Fluid Mechanics and Fluid Power, Kaula Lumpur, Malaysia ,	May 2006 22-25,
62.	Lim Chee Hong, M. Govardhan and Mohammed Kamel Wan Ibrahim	CFD Analysis on Passenger Car Model for Drag Reduction	National Seminar on Science, Technology and Social Sciences, Kuantan, Pahang, Malaysia	May 2006. 30-31,
63.	L.S. Kit, M. Govardhan and Mohammed Kamel Wan Ibrahim	Flow Around Cylindrical, Rectangular and Square Bluff Bodies	National Seminar on Science, Technology and Social Sciences, Kuantan, Pahang, Malaysia	May 2006 30-31,
64.	Saw Cheng Lee, M. Govardhan and Mohammed Kamel Wan Ibrahim	Aerodynamic Studies on Multistoried Building Model	National Seminar On Science, Technology and Social Sciences, Kuantan, Pahang, Malaysia	May 2006 30-31,
65.	Lee Chin Chun, M. Govardhan and Mohammed Kamel Wan Ibrahim	Aerodynamic Studies on Hovering Probe	National Seminar On Science, Technology And Social Sciences, Kuantan, Pahang, Malaysia	May 2006 30-31,
66.	Kulasekharan N, Prasad B V S S S	A CFD Study on the Effect of Rib Turbulators on Flow through Cambered and Non-Cambered Pin-Fin Channels	NCFMFP2006-1719, Proceedings of NCFMFP2006 33rd National and 3rd International Conference on Fluid Mechanics and Fluid Power, IIT Bombay, India	7-9 December, 2006
67.	Anish S, Sitaram N	Review: Impeller Diffuser Interaction in Centrifugal Compressors	D159, ICAME 2006, SRM Institute of Science and Technology, Chennai	14-16 December, 2006
68.	Ravindranatha Reddy V., Senthil Kumar P., Srinivasa Murthy S, Venkatarathnam.G	Performance of J-T Refrigerators with Nitrogen-Argon-Helium- Hydrocarbon and Neon-Nitrogen-Hydrocarbon Mixtures Paper No. CR06-249	International Cryogenic Engineering Conference, Prague	July 2006. 17-21,
69.	S.Srinivasa Murthy	Heat and mass transfer problems in solid state storage of hydrogen using metal hydrides	Proc. 5 th International Conference on Sustainable Energy Technologies (SET 2006), Vicenza, Italy	30 Aug.-1 Sept.2006, pp 33-42

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70.	L. Hima Kumar, B. Viswanathan and S. Srinivasa Murthy	Dehydrating behaviour of LiAlH ₄ – The catalytic role of carbon nanofibers	International Workshop on Hydrogen Energy Production, Storage and Application, Jaipur, India	November 5-9, 2006
71.	M.Sankaran, B. Viswanathan and S. Srinivasa Murthy	Hydrogen Storage in Boron Substituted Carbon Nanotubes	International Workshop on Hydrogen Energy Production, Storage and Application, Jaipur, India	November 5-9, 2006
72.	P. Muthukumar, M.P. Maiya and S. Srinivasa Murthy	Performance Tests on A Metal Hydride Based Single Stage Hydrogen Compressor	International Workshop on Hydrogen Energy Production, Storage and Application, Jaipur, India	November 5-9, 2006
73.	V.Ravindranatha Reddy, P. Senthil Kumar, S. Srinivasa Murthy and Venkatarathnam.G	Performance of j-t refrigerators with nitrogen-argon-helium- hydrocarbon and neon- nitrogen-hydrocarbon mixtures	Presented at the International Cryogenic Engineering Conference 21, Prague	July 17-21, 2006
74.	M. Siva Sankar and Venkatarathnam. G	Studies on a small mixed refrigerant cycle nitrogen gas cooler	Presented at the International Cryogenic Engineering Conference 21, Prague	July 17-21, 2006
75.	S.Sathish Kumar and A. Mani	Computational analysis of liquid concentrating spray tower	2 nd International conference from scientific computing to computational engineering, Athens, Greece, 2006.	2006
76.	S.Sathish Kumar and A. Mani	Experimentation on a desalination system using spray tower and vapour compression refrigeration system	Trombay Symposium on Desalination and Water Reuse (TSDWR 2006), Jaipur, India, 2006	2006
77.	Senthil Kumar, R., Mani, A and Kumaraswamy	Experimental investigation on two phase jet pump used in desalination	EUROMED 2006 - Desalination Stratergies in South Mediterranean Countries, France	2006.
78.	S.Sathish Kumar and A. Mani	Analysis of heat pump assisted desalination system	Trombay Symposium on Desalination and Water Reuse (TSDWR 2007), Mumbai, India	2007.
79.	B. Dhanasekar and B. Ramamoorthy	Texture measures for classification of Machined surface –Machine vision approach(2006)	34 th NAMRI/SME conference, Wisconsin, USA, Vol. 34	May 10-15, pp.429-436.
80.	B. Dhanasekar and B.Ramamoorthy	Surface roughness evaluation of cylindrical machined surfaces(2006)	XVIII IMEKO World Congress, Rio de Janeiro, Brazil	Sep. 17- 22.(Paper No.633)
81.	B. Dhanasekar and B. Ramamoorthy	Machine Vision approach for assessment of surface roughness using Fractal Geometry, CARs & FOF 2006	VIT	July 19-22, pp.696-703.

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82.	B. Dhanasekar and B. Ramamoorthy	Speckle Image analysis for surface roughness evaluation using Machine Vision, AIMTDR-2006	IITRoorkee	Dec.22-25, pp.17-22
83.	P. Priya and B. Ramamoorthy	Surface Roughness Analysis of Inclined Components Using Machine Vision	International Conference on Global Manufacturing and Innovation (GMI-2006), CIT Coimbatore	2006
84.	P. Priya and B. Ramamoorthy	Roughness Estimation of Inclined Surfaces Using Artificial Intelligence	18 th IMEKO World Congress, Metrology for Sustainable Development, Rio de Janeiro, Brazil (Proceedings in CD)	
85.	P. Priya and B. Ramamoorthy	Surface Roughness Assessment of Inclined Components Using Machine Vision and Adaptive Neuro Fuzzy Inference System	22 nd AIMTDR Conference, IIT Roorkee, INDIA	pp 163-168
86.	N. Arunachalam and B. Ramamoorthy	Vision based surface roughness assessment of ground components using wavelet transform and neural network	XVIII IMEKO World Congress, Rio de Janeiro, Brazil	Sep. 17-22. (Paper No.633)
87.	N. Arunachalam and B. Ramamoorthy	Characterization of Surface Quality of Ground Components using Machine Vision for Grinding Wheel Condition Monitoring	International conference on global manufacturing and innovation, GMI-2006, at CIT, Coimbatore	
88.	N. Arunachalam and B. Ramamoorthy	Fourier transform based texture measures for grinding wheel condition monitoring using machine vision	First International Conference on All India Machine tool Design and Research Conference, AIMTDR-2006, at IIT Roorkee	2006
89.	Santhosh Kumar. N and B. Ramamoorthy	Magnetic Field Assisted Cleaning Of Spark Gap Contaminants In Electrical Discharge Machining	International Conference on Manufacturing Science and Technology, , Melaka, Malaysia	August 2006
90.	Santhosh Kumar. N and B. Ramamoorthy	Experimental Investigation on Debris Eviction at Varying Magnetic Fields in EDM	First International & 22 nd All India Manufacturing Technology, Design and Research Conference, IIT Roorkee	December 2006
91.	Vikramkumar, B. Ramamoorthy	Performance of TiAlN coated cutting tool in machining hardened steel	Int conf on CAR & FOF, VIT Vellore	July 2006 pp362-369.
92.	Binu C. Yeldose and B. Ramamoorthy	An investigation into the high performance of TiN coated rollers in burnishing process	International conference on advances in materials processing and characterization (AMPC -2006); Anna University, Chennai,	page number 270-274
93.	Binu C. Yeldose and Dr.B. Ramamoorthy	Characterization of diamond like carbon (DLC) nano coatings by D.C. magnetron sputtering	1 st International and 22 nd AIMTDR conference, IIT Roorkee	2006

SI.No	Name of the faculty	Title	Institution	Period
94.	B. Anand Ronald, K. Sasikanth, L. Vijayaraghavan and R. Krishnamurthy	Effect of Grit Size on Performance During Grinding of Al/SiCp MMC With Diamond Wheel	International Conference on Manufacturing Science and Technology (ICOMAST) 2006, Melaka, MALAYSIA,	28-30 Aug. 2006, pp.59-62.
95.	B. Anand Ronald, L. Vijayaraghavan and R. Krishnamurthy	Performance Studies on Resin bonded and Plated Diamond Abrasive Wheels while Machining MMC'S	International conference on advances in Materials Processing and Characterization (AMPC), Anna University, INDIA,	28-30 Aug.2006, pp1047-1053
96.	B. Anand Ronald, L. Vijayaraghavan and R. Krishnamurthy	Online monitoring of acoustic emission and forces encountered during fine grooving of Al/SiCp Metal Matrix Composites	International Conference on Recent Advances in Materials Processing and Characterization (RAMP 2006) PSG College of Technology, INDIA	15 th -16 th December 2006,
97.	B.Anand Ronald, L. Vijayaraghavan and R.Krishnamurthy	An Investigation into Grinding of Metal Matrix Composites, with Silicon Carbide Wheel	International Conference on Advances in Mechanical Engineering (ICAME),SRM Institute of Science and Technology (University), Chennai	14-16 Dec.2006 pp.205-209.
98.	M Abdul Majeed, L. Vijayaraghavan, S.K. Malhotra and R. Krishnamurthy	Microstructure and mechanical properties of AL2O3/LaPO4 composites	22 nd International Conference on CAD/CAM, Robotics and Factories of the Future (CARS&FOF), Vellore, India	July 19-22, 2006 pp.326-333
99.	M.Abdul Majeed, L. Vijayaraghavan, S.K. Malhotra and R. Krishnamurthy	Microstructure and mechanical properties of AL2O3/LaPO4 composites	International Conference on Advances in Mechanical Engineering (ICAME), , SRM University, Chennai, India	14-16 December 2006
100.	M. Abdul Majeed, L. Vijayaraghavan, S.K. Malhotra and R.Krishnamurthy	Influence of rare-earth phosphates on the microstructure and hardness of alumina-based composites	International Conferences on Recent Advances in Materials and Processing (RAMP), PSG College of Technology, Coimbatore, India	15-16 December 2006
101.	M. Abdul Majeed, L. Vijayaraghavan, S.K. Malhotra and R. Krishnamurthy	Significance of CePO4 addition on the structure-property relationship of AL2O3/CePO4 composite	International Symposium for Research Scholars (ISRS), IIT Madras, India	18-20 December 2006
102.	R. Varatharajan, S.K. Malhotra, L. Vijayaraghavan and R. Krishnamurthy	Characteristics of fiber – reinforced thermoplastics composites: Influences of process parameters	Advances in Materials and Processing Technologies (AMPT'06), Las Vegas, Nevada, USA.	July 30-Aug 03, 2006

Sl.No	Name of the faculty	Title	Institution	Period
103.	R. Varatharajan, S.K. Malhotra, L. Vijayaraghavan and R. Krishnamurthy	Characteristics of carbon fiber reinforced thermoplastics composites	International conference on Manufacturing Science and Technology (ICOMAST2006), Melaka, Malaysia,	August 28-30, 2006 pp.250-253
104.	R. Varatharajan, L. Vijayaraghavan and S.K. Malhotra	Processing and Characterization Fabrication of Advanced Materials (PFAM XV)	International Conference on Materials Science and Technology 2006 (MS &T'06), Cincinnati, Ohio, USA	October 15-19, 2006, pp.577-589
105.	R. Varatharajan, L. Vijayaraghavan and S.K. Malhotra,	Processing and Characterization Fabrication of Advanced Materials (PFAM XV)	International Conference on Materials Science and Technology 2006 (MS &T'06), Cincinnati, Ohio, USA	October 15-19, 2006, pp.590-605
106.	Srinivasu, D.S and Ramesh Babu,N	A neuro- genetic strategy for control of abrasive waterjet cutting process with focusing nozzle size monitored by machine vision approach	First International Conference and 22 nd All India Manufacturing Technology Design Research Conference, Roorkee	21-23, December 2006
107.	Srinivas, S. and Ramesh Babu, N	An analytical model for predicting depth of cut in abrasive waterjet cutting of ductile materials	First International and 22 nd AIMTDR Conference, Roorkee	21-23, December 2006
108.	S. Denis Ashok and G.L. Samuel	Modeling and Simulation of spindle error motions for analyzing their effect on positioning accuracy	First International and 22 nd AIMTDR Conference, IIT Roorkee	21-23, December 2006, pp.181-186
109.	Mahendra K. Ram, T. Micha Prem Kumar & Dhiman Chatterjee	Numerical study of turbulent flow in a nozzle with sudden expansion	2 nd International Congress on Computational Mechanics & Simulations	8-10, Dec, 2006, IIT Guwahati
110.	R Senthil Kumar, S Kumaraswamy and A Mani	Experimental investigations on two-phase jet pump used in desalination system	Euromed 2006 – Desalination strategies in south Mediterranean countries	May 21 to 25, 2006 Montpellier, France
111.	S Christopher & S Kumaraswamy	Effect of change of leading edge on the flow in the impeller passage of a radial flow pump	Second International Congress on Computational Mechanics and Simulation, ICCMS-06	December 8-10, 2006, IIT Guwahati, Assam
112.	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	SAE World Congress and Exposition, Detroit, USA, (Paper No. 2006-1-0237)	April 3-6, 2006
113.	Murali Krishna, B. and Mallikarjuna, J.M	Renewable Bio-diesel from CSO – A Fuel Option for Diesel Engines	ASME International Solar Energy Conference, Denver, USA,	July 8-13, 2006
114.	Porpatham, E, Ramesh, A. and Nagalingam, B	Effect of Compression Ratio and Hydrogen Addition on Part Throttle Performance of a Biogas Fuelled Spark Ignition Engine	Proc. of the Int.Conference on Biofuel Vision-2015, Engg. College, Bikanar, Rajasthan	Oct. 13-15, 2006

SI.No	Name of the faculty	Title	Institution	Period
115.	Murali Krishna, B. and Mallikarjuna, J.M	The Use of Cotton Seed Oil in Direct Injection Diesel Engine as an Alternative Fuel	Proc. of the Int.Conference on Biofuel Vision-2015, Engg. College, Bikanar, Rajasthan	Oct. 13-15, 2006
116.	Jyothishkumar, V. and Ganesn, V	Flow Field Analysis Inside an Annular Combustor Using CFD	2006 ASME International Mechanical Engineering Congress and Exposition, Chicago, Illinois, IMECE 2006 – 14305	Nov. 5- 10, 2006
117.	Thundil Karuppa Raj, R. and Ganesan, V	Effect of Pitch to Chord Ratio and Side Wall Expansion Angle on Flow Through Vane Swirlers	2006 ASME International Mechanical Engineering Congress and Exposition, Chicago, Illinois, IMECE 2006-14310	Nov. 5-10, 2006
118.	Manohar Reddy, S., Mallikarjuna, J.M. and Ganesan, V	Flow and Heat Transfer Analysis through a Brake Disc – A CFD Approach	2006 ASME International Mechanical Engineering Congress and Exposition, Chicago, Illinois, IMECE 2006-14317	Nov. 5-10, 2006,
119.	Vijayashree, Jyothishkumar, V. and Ganesan, V.	GANESH – A GUI Approach to SI Engine Simulation	2006 ASME International Mechanical Engineering Congress and Exposition, Chicago, Illinois, IMECE 2006-14332	Nov. 5-10, 2006,
120.	Thundil Karuppa Raj, R. and Ganesan, V., Arun Raj, E. and Sujith, R.I	Experimental and Numerical Investigations of Swirling Flow in a Dump Combustor	3 rd BSME-ASME International Conference on Thermal Engineering, Dhaka, Bangladesh, BA- 058	Dec. 20-22, 2006
121.	Manohar Reddy, S., Mallikarjuna, J.M., and Ganesan, V.	Effect of Vane Shape on Flow and Heat Transfer Characteristics of a Brake Disc	3 rd BSME-ASME International Conference on Thermal Engineering, Dhaka, Bangladesh, BA-084	Dec. 20-22, 2006,
122.	Benny Paul and Ganesan, V	Effect of Inlet Port Configuration in Air Motion Inside a DI Diesel Engine: A CFD Approach	Int. Conf. on Trends in Product Life Cycle, Modeling, Simulation and Synthesis, I.I.Sc., Bangalore, PLMSS-2006	Dec. 18-20, 2006
123.	Niten Sheth and Ramesh, A	Design and Development of a Variable Valve Timing Systems for Improving the Performance of a Two-wheeler Engine	Small Engine Technology Conference, SAE, San Antonio, Texas, USA,	Nov. 13-16, 2006

Sl.No	Name of the faculty	Title	Institution	Period
124.	Asish Kumar Sarangi, Ramesh, A., and Pramod S. Mehta	Performance Evaluation of a Mini I.C. Engines	Small Engine Technology Conference, SAE, San Antonio, Texas, USA,	Nov. 13-16, 2006
125.	Srinivas, V.V.S. and Bakshi, S.	Assessment of Planar and Axisymmetric Assumptions in the Primary Break up Model for a Pressure Swirl Atomizer	International Congress on Computational Mechanics, Guwahati,	Dec. 2006.
126.	Bakshi, S., Roisman, I.V. and Tropea, C.	Axisymmetric Impact of a Drop onto a Solid Spherical Target	ILASS Americas 19 th Annual Conference on Liquid Atomization and Spray Systems, Toronto, Canada	May 2006.
127.	Jayashankara, B. and Ganesan, V.	Effect of Intake Port Bend Angle on Flow Field Inside the Cylinder of a DI Diesel Engine	2007 ASME/IEEE Joint Rail Congress and International Combustion Engine Spring Technical Congress, Colorado, USA,	March 13-16, 2007
128.	Ganesan, V., Anand Kumar, T. and Mallikarjuna, J.M	Effect of Injection Timing on Fuel: Air Mixing and Combustion in a Direct Injection Stratified Charge SI Engine	2007 ASME/IEEE Joint Rail Congress and International Combustion Engine Spring Technical Congress, Colorado, USA,.	March 13-16, 2007
129.	Ganesan, V. and Mallikarjuna, J.M	Mixture Preparation Strategies for a Four Valve Centrally Injected Flat Piston DISI Engine	2007 ASME/IEEE Joint Rail Congress and International Combustion Engine Spring Technical Congress, Colorado, USA,	March 13-16, 2007.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Representatives of M/s AREVA Energy Company, France & Madras	30.6.2006	Setting up of a Biomass Combustion Test Facility at IIT Madras
2.	Dr. Bo Leckner Professor, Dept. of Energy Conversion, Chalmers University of Technology, Sweden	6.12.2006 to 9.12.2006	For technical discussions for joint research project on "Biofuel Conversion"
3.	Mr.Wayne Edward Mozer Application Specialist Veeco Instruments Inc., Tucson, USA	09.03.2006	Presented a talk "Characterization of MEMS and Automotive Parts Using White Light Interferometry"
4.	Dr.Hiromichi Takebe Associate Professor Kyushu University, Japan	15.04.2006	Presented a talk "phosphate and Chalcogenide Glass Materials for Optical Fiber Devices"
5.	Mr.Priyanshu Agarwal, B.Tech 3 rd yr student Motilal Nehru National Institute of Technology, Allahabad	25.5.2006 to 14.7.2006	Under summer fellowship programme Title of research: Automatic balancing of a bicycle

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
6.	Mr. John McCarthy Metris (LK Ltd.,) UK Company Manufacturing Coordinate Alongwith Mr. Manu Sharma		Presented a talk on Different Robot Calibration Methods
7.	Mr. S.G. Kelshikar Head, Didactics and Training of Bosch Rexorth (India) Ltd., With Dr. G.L. Shekhar, Visvesvaraya Technological Univ. and Dr. N.V. Raghavendra National Institute of Engineering, Mysore	Sept. 5, 2006	To provide some Academic information for setting up a 'mechatronics and sensors center'
8.	Prof. Jean Thoma Adjunct Professor University of Waterloo, Canada	December 3-6, 2006	To deliver lectures
9.	Prof. Haruki Ueno National Institute of Informatics Japan	March 2, 2007	To deliver lecture and attend the Conference
10.	Mr. Stefan Seidel sales and Application Engineer Physik Instrument, Germany	21 st April 2006	A talk on "Micro and Nano Positioning Systems"
11.	Prof. Ranga Komanduri Regents Professor and A.H. Nelson, Jr. Endowed Chair in Engineering Oklahoma State University, Stillwater, OK, USA	14 th June 2006	A talk on "Microfabrication of Miniaturized Products : An Overview
12.	Mr. Burkhard K. Rother Managing Director Kern Microtechnic Germany	13 th July 2006	A talk on "Fascination in Machining Technology"
13.	Prof. Ranga Komanduri Regents Professor and A.H. Nelson, Jr. Endowed Chair in Engineering Mechanical & Aerospace Engineering Oklahoma State University, Stillwater, OK, USA	4 th January 2007	A talk on "Virtual Machining"
14.	Dr. Pierre Duret Director French Petroleum Institute (IFP)	20 th January 2007	A talk on "New Generation of Direct Injection Two Stroke Engines
15.	Prof. Heinz Muller Head of Communication, Institute for Business Engineering University of Applied Sciences, Northwestern Switzerland School of Engineering 5200 Brugg Switzerland	23 rd Feb 2007	A talk on "Demands from the Market on modern Machine Tools
16.	Dr. Ganesan Subramanian COREA France	24.3.2006 31.8.2006	To deliver lectures on "Advanced Modelling Techniques for Simulation of Diesel Engine Combustion", Part I and Part II, in the I.C. Engines Lab

Other Activities of the Department/Centre:

Prof. Ajit Kumar Kolar has been nominated to the Advisory Committee of the First National Conference on Advanced Energy, held at IIT Bombay in Dec. 2006

A novel nitrogen liquefaction system has been developed by Prof. G. Venkatarathnam and his Ph.D. student Shri M. Siva Sankar. The system uses conventional air conditioning compressor and other components. A mixture of gases is used instead of a pure refrigerant used in conventional refrigeration systems. Liquefaction of nitrogen has been achieved recently. A patent had already been filed on a process for the liquefaction of nitrogen two years ago.

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

M.S Work

Goutham Kumar & Sitaram investigated the effect of tip clearance and relative wall motion between the casing and blade. Vortex development and their associated losses in an annular turbine rotor cascade were investigated.

Ph.D Work

Usha Sri & Sitaram investigated the effects of chamfer on the impeller blade of centrifugal compressor. They found that, the impeller with the chamfer on suction surface shows improvement in performance.

Inter disciplinary group achievements of the Departments.

Socially relevant activities carried out by the Department

Design of Low bed tractor trailer - RuTAG-DST – Rs. 50,000/-
Automatic coir ratt - RuTAG-DST – Rs. 1.5 lakhs

International collaboration achievements by the Department

Student visit

1. R.M.Kuppan Chetty Short term research visit at PMAR, University of Genova, Italy - June 2006 to August 2006
2. M.Sreekumar Long term research visit at PMAR, University of Genova, Italy - April 2006 to May 2007
3. Mr. Sasikumar Tippabhatla
(ME05S004) DAAD Student Exchange Scheme
Mr. Parth Shah Navanitkumar
(ME05M059)

Faculty visit

1. Dr. C. Balaji has been selected for the "Visiting Fellowship" of the Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore for the summer of 2007. He will be working with Prof. Raddam Narasimha, JNCASR and Prof. J. Srinivasan, IISc., for a period of two months on "Development of an Operational Algorithm for the Estimation of Rainfall" for the proposed INDO-FRENCH Climate Research Mission MEGHA TROPICUES .
2. Dr. K.S. Reddy visited AIT, Bangkok to attend a programme on "Effective Energy Systems for Sustainable Development" during 21-29 Aug. 2006 as a part of AOTS-AIT-EBARA Japan Fellowship

Activities initiated

1. Prof. A. Ramesh has been nominated as an Expert Member of the re-constituted Board of Studies, Mechanical Stream of Madras Institute of Technology, Chennai
2. Prof. R.P. Sharma attended Core Group of Automotive Research (CAR) meeting at CIRT, Pune, for Developing consortia proposal on "Use of SVO/Biodiesel in Diesel Engines" on July 13, 2006
3. Prof. R.P. Sharma attended CAR Review Committee Meeting held at Delhi on 8th July, 2006.
4. Prof. R.P. Sharma Attended a Review Meeting of TIFAC was held at IIT Madras for the project "Development of EMS for a Small 4 stroke Motor Cycle Engine" on July 11, 2006.
5. Prof. R.P. Sharma attended the Annual Convention on "Safety for All" organized by Society for Automotive Fitness and Environment, SAFE (an initiative of SIAM) on Aug. 2, 2006.
6. Prof. A. Ramesh has been nominated as an expert member of the Core Group on Alternative Fuels by DST.
7. Prof. A. Ramesh has been nominated as the chairman for the evaluation of the Project on Gasoline Direct Injection Engine at VRDE, Ahmed Nagar.

Major infrastructure development made in the Department

1. Microcontroller debugging tool
2. Laser based Electric field Measurement System

4.14 DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

4.14.1 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.

- Materials Technology
- Metal Forming
- Metal Joining
- Metal Casting

4.14.2 Academic Programmes:

New Courses introduced:

MM 568 Smart Materials 3 0 0 3

Introduction to smart materials. Principles, mechanisms, synthesis and characterization, magnetorheological, electrorheological materials, smart gels, MEMS etc., Effect of composition, grain refinement, thermomechanical processing and other factors on microstructure and properties. Biomedical and engineering applications of smart materials: dental, orthopedic, surgical, aerospace, automotive, robotic, structural, biomimetic applications etc. Smart composites: methods of preparation, special properties and advantages.

MM559 Mathematical Methods in Materials Engineering 3 0 0 3

Vectors, Tensors, Differential Operators (Grad, Div, Curl), Different Co-ordinate Systems, Ordinary Differential Equations, Matrices, Spectral theory of Operators, Eigen value problems, Infinite series (convergence tests), Special functions, Fourier series, Non-homogeneous ODE: The Fredholm Alternative, Green's functions. Partial Differential Equations: Characteristics, Classification, Representation of some physical phenomena by PDEs (Vibrating String, Vibrating Membrane, Heat Conduction in castings, Potential Equation, Diffusion Equation), Integral Transformation Methods (Laplace, Fourier, Hankel). Approximate methods (Perturbation Methods, Weighted Residual – Galerkin, etc.). Dimensional Analysis and Scaling, Linear Stability Theory (Case study of planar – cellular transition during solidification).

Reference Books:

1. Mathematical Methods for Physicists – G. Arfken
2. Mathematical Methods in Chemical Engineering – S. Pushpavanam

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech	28	22	30	30		111
Dual Degree	9	8	10	5	8	40
M.A.	-	-	-	-	-	-
M.Sc.	-	-	-	-	-	-
M.Tech	16	12	-	-	-	28
M.S.	6	6	3	4	-	19
Ph.D.	14	19	10	12	17	72
Total	73	67	53	51	26	270

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

Sl. No.	Name of the Student/ Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia/ Workshop	Date and Venue	Financial Assistance from
India					
1	Basavaraj Patil	MM05D016	NMD-ATM-2006	November 2006, Jamshedpur	
2	G. Sreenivasulu	MT04D019	NSCE 2007	March 8-9, 2007, Trishur	
3	G. Sreenivasulu	MT04D019	NS & NT 2007	February 21-23, 2007, Hyderabad	
4	G. Sreenivasulu	MT04D019	Nano-2006	August 20-25, 2006, Bangalore	
5	Jatin Bhatt	MT04D008	NS & NT 2007	February 21-23, 2007, Hyderabad	
6	Jatin Bhatt	MT04D008	BMG-07	January 11-15, 2007, Bangalore	
7	Jatin Bhatt	MT04D008	AMN-2006	December 15-16, 2006, Mumbai	
8	Jatin Bhatt	MT04D008	Nano-2006	August 20-25, 2006, Bangalore	
9	K. Balachandar	MM05D007	NMD-ATM-2006	November 14-17, 2006, Jamshedpur	
10	R.V.S. Prasad	MM06D001	NMD-ATM-2006	November 14-17, 2006, Jamshedpur	
11	S. Kumar	MT04D017	ICSSP-2006	November 19-23, 2006, Jaipur	
12	S. Kumar	MT04D017	NMD-ATM-2006	November 14-17, 2006, Jamshedpur	
13	S. Varalakshmi	MT04D020	BMG-07	January 11-15, 2007, Bangalore	
14	S. Varalakshmi	MT04D020	AMN-2006	December 15-16, 2006, Mumbai	
15	S.Dhanalakshmi	MT01S009	Advanced materials for hostile environment	1-2 March, 2007, Thiruvananthapuram	CVRDE
16	T. Venugopal	MT02D010	Nano-2006	August 20-25, 2006, Bangalore	
17	A. Sivaraman	MT04D022	Nano-2006	August 20-25, 2006, Bangalore	
18	D.Baskar	MT04D004	Nano-2006	August 20-25, 2006, Bangalore	Dept
19	D.Baskar	MT04D004	BITE & RM, (Biomaterials, Implantable Devices and Tissue Engineering and Regenerative medicine) 2007	January 11-13, 2007, SCTIMST, Trivandrum.	Dept
20	A.Thirugnanam	MM05D005	Workshop on Biomaterials and Biomedical Devices	December 12-13, 2006, CGCRI, Kolkata.	Dept

Sl. No.	Name of the Student/ Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia/ Workshop	Date and Venue	Financial Assistance from
21	A.Thirugnanam	MM05D005	BITE & RM,(Biomaterials, Implantable Devices and Tissue Engineering and Regenerative medicine) 2007	January 11-13, 2007, SCTIMST, Trivandrum.	Dept
22	Sunita Prem Victor	MM06D005	BIND (International Conference on Design of Biomaterials) 2006	8- 11 December, 2006, IIT Kanpur	DST Project
23	Sunita Prem Victor	MM06D005	BITE & RM,(Biomaterials, Implantable Devices and Tissue Engineering and Regenerative medicine) 2007	January 11-13, 2007, SCTIMST, Trivandrum	DST Project
24	B. Lakshmi	MM06D002	BITE & RM,(Biomaterials, Implantable Devices and Tissue Engineering and Regenerative medicine) 2007	January 11-13, 2007, SCTIMST, Trivandrum	Dept
Abroad					
25	A. Krishnaiah	MT02D004	THERMEC 2006, Intl. Conf. on Processing and Manufacture of Advanced Materials, 4-8, July	04/07/2006, Vancouver, Canada	

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

Sl. No	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1	S.Dhanalakshmi	MT01S009	First prize for oral presentation	"Advanced materials for hostile environment" conference organisers
2	S. Varalakshmi	MT04D020	Best Poster Award	Organizers of AMN-2006, Mumbai
3	S. Varalakshmi	MT04D020	Best Poster Award	Organizers of ISRS-2006, Chennai
4	Sunita Prem Victor	MM06D005	Best oral presentation award	Organizers of ISRS-2006, Chenna
5	Sunita Prem Victor	MM06D005	Best oral presentation award (second prize)	Organisers of International Conference on Design of Biomaterials -2006,IIT Kanpur
6	Sunita Prem Victor	MM06D005	Best oral presentation award	In- house symposium,Dept of Met.and Mat Engg.IIT Madras

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

Sl. No	Name of the Student/Scholar	Roll No.	Name of Prize
1	A. Krishnaiah	MT02D004	Sudarshan Bhat Memorial Prize (jointly won)
2	R. Narayanan	MT00P02	Sudarshan Bhat Memorial Prize (jointly won)
3	M. Jayaprakash	MT03S007	Sudarshan Bhat Memorial Prize (jointly won)
4	Pratik Kumar Ray	MM04M010	Sudarshan Bhat Memorial prize
5	Krishna A. Iyengar	MT01B033	S. Anantharamakrishnan Memorial Prize
6	J. Karthik	MT02B011	Dr. Dhandapani Memorial Prize
7	Ashkar Ali A	MT03B009	Institute Merit Prize
8	Verma Divyanshu Brijmohan	MM04B030	Institute Merit Prize
9	Hemant Pareek	MM04M004	Institute Merit Prize
10	David Vijayanand V.	MM05M003	Institute Merit Prize

Total degrees awarded during the convocation of 2006:

Ph.D.	MS	M.Tech.	Dual Degree	B.Tech	Total
8	9	15	5	24	61

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)

Physical Metallurgy, X-ray Diffraction, Materials Science and Technology

Murty, B.S.
Ph.D. (IISc Bangalore)

Nanomaterials by Mechanical Alloying and Rapid Solidification, Grain refinement, Bulk Metallic glasses, High entropy alloys

Paramanand Singh
Ph.D. (IIT Bombay)

Powder Metallurgy, Ceramics, Composites and Materials Science

Pathak, S.D. [Head]
Ph.D. (IIT Madras)

Materials Science and Technology, Mechanical Behaviour, Mechanical Metallurgy, Mechanical Testing, Fatigue, Fracture Mechanics

Prasad Rao, K.
Ph.D. (IIT Madras)

welding technology, Surface technology including wear and corrosion

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

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

Retired on 31.05.2006

Associate Professors

Bhattacharya, S.S.
Ph.D. (IIT Madras)

Superplasticity and High Temperature Behaviour, Metal Forming

Harikumar, K.C.
Ph.D. (IIT Delhi)

Computational Thermochemistry, Phase Diagrams, CALPHAD

Kamaraj, M.
Ph.D. (IIT Madras)

Mechanical Behaviour, Creep, High Temperature Materials, Life Assessment, Surface Engineering

Balasubramanian, M.
Ph.D. (IIT Madras)

Processing and Characterization of Composite Materials, Ceramic Processing

Ganesh Sundara Raman, S.
Ph.D. (IIT Madras)

Mechanical Behaviour, Fatigue, Fracture Mechanics

Sampath, V.
Ph.D. (IISc, Bangalore)

Materials Technology & Science, Composite Materials, Physical Metallurgy, Surface Modification

Sampath Kumar, T.S.
Ph.D. (IISc, Bangalore)

Nanostructured Materials for Medical Applications, 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, Microstructure characterization, Computational Modeling and Simulation

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

Name and Qualification Major area of specialization

Newly joined Assistant Professors

Gandhi, A.S.
PhD (IISc Bangalore)
joined on 01-05-2006
Ceramic Materials, Precursor Synthesis; High Performance Protective Coatings, Materials for Energy System, Phase Stability & Transformations; Metastable Effects; Thermally Driven Interactions in Layered Systems; Surface Engineering.

Ravi Kumar, N.V.
PhD (U. Stuttgart, Germany)
joined on 14-03-2007
Polymer Derived Ceramics, Silicon Carbide/Silicon Nitride Ceramics, Nanostructured Materials, High Temperature Mechanical Properties, Object Oriented Finite Element Programming-for prediction of macroscopic properties.

Sankaran, S.
PhD (IIT Kanpur)
joined on 02-04-2007
Mechanical Behaviour of Materials, Electron Microscopy, Structure Property Correlations

Ranjit Bauri
PhD (IISc Bangalore)
joined on 16-04-2007
Metal matrix composites, Solid Oxide Fuel Cells

Emeritus Professor

Seshadri, S.K.
Ph.D., (Imperial College, London)
Chemical Metallurgy, Surface Technology, Corrosion

Visiting Faculty

Rodriguez, P.
AICTE-INAE Visiting Faculty
Nuclear Metallurgy, Mechanical Metallurgy

Scientific Officers:

Jothinathan, G.
M.Tech. (IIT Madras)
Retired on 31-05-2006
NDT, Metal Casting, Electro Met., Corrosion, Ceramics

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

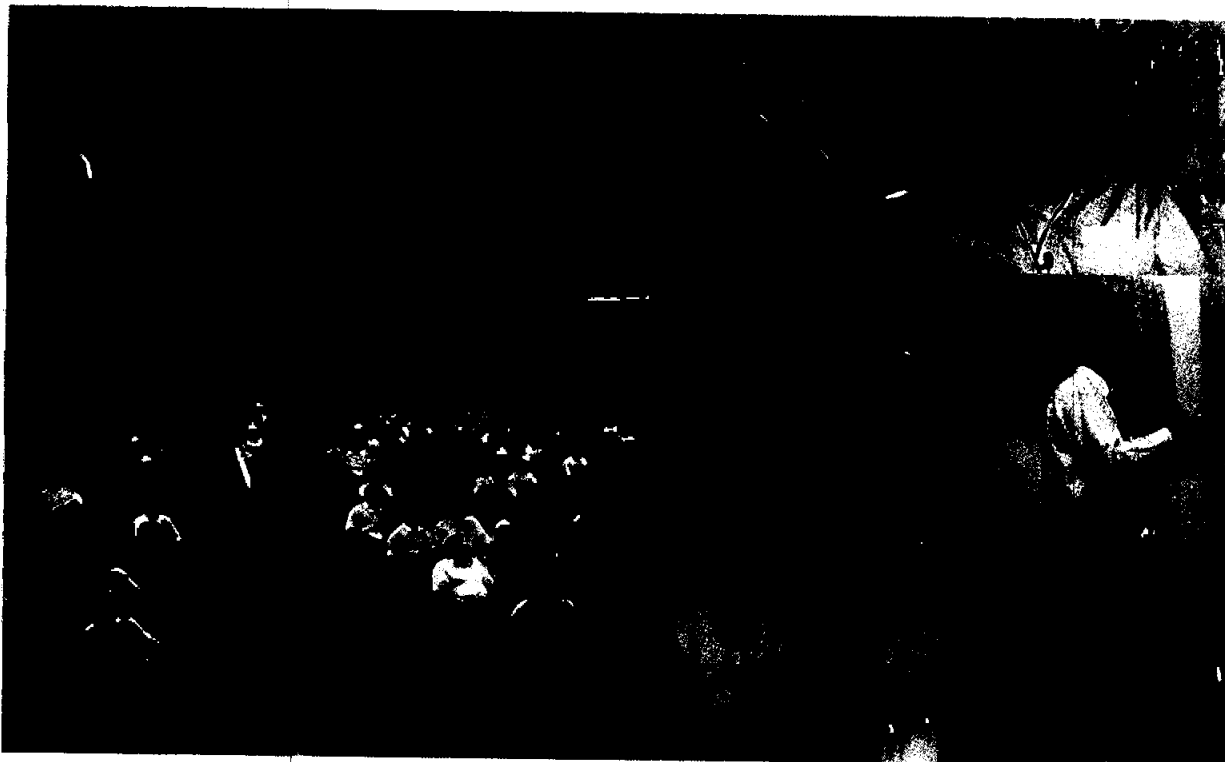
Sl.No.	Co-ordinator(s)	Title	Period
1	Prof. S.D. Pathak	Chairman International Symposium of Research Scholars(ISRS-2006), Chennai	December 18-20, 2006
2	Prof. B.S. Murty	Organizing Committee Bulk Metallic Glasses-2007, Bangalore	January 11-15, 2006
3	Dr. M. Balasubramanian	Co-ordinator Fibre Reinforced Thermoset Plastics	October 9-14, 2006
4	Prof. B.S. Murty	Co-ordinator Two day course on "Metallurgy for non-metallurgists", Bangalore	December 1-2, 2006
5	Prof. B.S. Murty	Co-ordinator One day course on "Al and Mg for automobiles", Chennai	December 16, 2006
6	Prof. B.S. Murty	Convener International conference on solidification science and processing, Jaipur	November 2006
7	Prof. B.S. Murty	Organizing committee Nano-2006, Bangalore	August, 2006
8	Prof. K. Prasad Rao, Dr. M. Kamaraj and Mr. G. Jothinathan	Welding Technology & Inspection	Nov. 3-4, 2006, Chennai
9	Prof. K. Prasad Rao, Dr. M. Kamaraj and Mr. G. Jothinathan	Failure Analysis of Industrial Components	March 9-10, 2007, Chennai
10	Prof. D.R.G. Achar	ONGC	2006

A brief report on ISRS 2006:

International Symposium for Research Scholars 2007 on Metallurgy, Materials Science and Engineering, is the second in the series of international symposia organized by the Department exclusively for Research Scholars in the country and abroad. The symposium was chaired by Prof.S.D. Pathak and the convener is Dr.S.S. Bhattacharya. The entire faculty of the Department took part in the organization. The symposium has attracted over 250 participants. The oral and poster presentations were organized in thirteen sessions spanning all important areas of metallurgy, materials science and engineering. Best oral and poster presentations were judged by a team from academic and research organizations in and around Chennai.

Guest lectures were delivered by eminent personalities in the field of metallurgy and materials science and engineering. The speakers include Prof. M.S. Ananth, Prof. S. Ranganathan, Dr. Placid Rodriguez, Dr. Baldev Raj, Sri B. Muthuraman and Dr. G. Sundararajan.

Some glimpses of the conference can be seen in the picture below.



Certification programme under IITM – BHEL MoU

Under IITM BHEL MoU, one year certification programme in Welding Engineering was offered to engineering graduates after a selection process involving test and oral examination. Prof.D.R.G.Achar, Dept. Metallurgical and Materials Engg. Will coordinate this programme. The selection process was held on 4 and 5 th August, 2006. The programme consisted of various courses for which instructors were drawn from the faculty of the Department of Metallurgical and Materials Engineering as well as BHEL Tiruchirappalli.

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

Sl.No.	Name of Faculty	Title	Institution	Period
1	Dr. G. Phanikumar	ICSSP-3	Jaipur	Nov 23-27, 2006
2	Dr. M. Kamaraj	International conference of Industrial Tribology	IISc, Bangalore	Nov 30, 2006
3	Dr. M.Balasubramanian	International Seminar on Ceramics	Andhra University, Visakhapatnam	Jan 8-10, 2007

Sl.No.	Name of Faculty	Title	Institution	Period
4	Dr. P. Rodriguez	EMSI NC -2006 : National Conference on Electron Microscopy and 28 th Annual Meeting of Electron Microscope Society of India , 19	Regional Research Laboratory, Thiruvananthapuram	Apr 21, 2006
5	Dr. P. Rodriguez	EMSI NC -2006 : National Conference on Electron Microscopy and 28 th Annual Meeting of Electron Microscope Society of India ,	Regional Research Laboratory Thiruvananthapuram	Apr 21, 2006
6	Dr. P. Rodriguez	Meeting of the monitoring committee	National Metallurgical Laboratory	May 23, 2006
7	Dr. P. Rodriguez	NANO-2006 Eighth International Conference on Nanostructured Materials	IISc BANGALORE	Aug 22, 2006
8	Dr. P. Rodriguez	Int Conf Nano Structures	U of Madras	Aug 27, 2006
9	Dr. P. Rodriguez	Diamond Jubilee Celebrations of the Indian Institute of Metals, International Trade Fair on Metals Minerals and Materials and In	Pragati Maidan, New Delhi	Sep 11, 2006
10	Dr. S.S. Bhattacharya	8 th International Conference on Nanostructured Materials, NANO-2006	Indian Institute of Science, Bangalore – 560 012, India	Aug 20, 2006
11	Dr. T.S. Sampath Kumar	44 th Nat.. Metallurgists' Day & 60 th ATM	Jamshedpur	Nov 16, 2006
12	Dr. V.S. Sarma	8 th International Conference on Nanostructured Materials – Nano-2006,	Indian Institute of Science, Bangalore,	Aug 20, 2006
13	Dr. V.S. Sarma	Ultra Fine Grained Materials (UFG) – 2006	Kloster Irsee, Germany	Sep 25, 2006
14	Prof. B.S. Murty	ICSSP-3	Jaipur	Nov 23-27, 2006
15	Prof. B.S. Murty	MMD-06	Salem	Mar, 2006
16	Prof. B.S. Murty	Mettle-06	Tiruchirappalli	May, 2006
17	Prof. B.S. Murty	Tatva-2007	Nagpur	Jan 21, 2007
18	Prof. B.S. Murty	Bulk Metallic Glasses-2007	Bangalore	Jan 11-15, 2007
19	Prof. B.S. Murty	Nano-2006	Bangalore	Aug 20-25, 2006
20	Prof. B.S. Murty	NST	Chennai	Aug 26-28, 2006
21	Prof. B.S. Murty	Die casting seminar	Chennai	Sep 28-29, 2006
22	Prof. S.D. Pathak	National Metallurgists' Day & Annual Technical Meet, Indian Institute of Metals	TATA STEEL, JAMSHEDPUR	Nov 14, 2006

Sl.No.	Name of Faculty	Title	Institution	Period
23	Prof. D.R.G.Achar	International Conference on Processing and Manufacturing of Advanced Materials (THERMECH'06)	Vancouver, Canada	Jul 03, 2006
24	Prof. S.D. Pathak	ICAME- Prediction Of Crack Growth	SRM University, SRM Nagar, Kattankulathur-603203 Chennai	Dec 16, 2006

Special Lectures delivered by faculty in other institutions:

Sl. No	Name of faculty	Topic of Lecture	Institution	Date
1	Dr. M. Balasubramanian	Manufacturing methods of fibre reinforced plastics	National Institute of Technology, Trichy	29.9.2006
2	Dr. M. Balasubramanian	Carbon-carbon composites	National Institute of Technology, Trichy	29.9.2006
3	Dr. M. Balasubramanian	Polymer-clay nanocomposites	National Institute of Technology, Trichy	2.12.2006
4	Dr. M. Kamaraj	Fretting fatigue studies of surface modified biomedical titanium alloys	Malvia National Institute of Technology (MNIT), Jaipur	27/09/2006
5	Dr. P. Rodriguez	From three decades of nuclear isolation to global leadership in nuclear technology in three decades	Officers club, Uranium Corporation of India Ltd Jadaguda	02/05/2006
6	Dr. P. Rodriguez	Developments in technology and future energy supply in India 2050	Tata Steel Jamshedpur	04/05/2006
7	Dr. P. Rodriguez	Flow stress/strain rate/grain size coupling for fcc nanopolycrystals	Tata Steel Jamshedpur	05/05/2006
8	Dr.A.S. Gandhi	Scanning Electron Microscopy: Fundamentals, Applications and Nanomaterials	Visvesvaraya National Institute of Technology Nagpur	30/09/2006
9	Dr.A.S. Gandhi	Scanning Electron Microscopy: Fundamentals, Applications and Nanomaterials	Kamla Nehru College, Nagpur	30/09/2006
10	Dr.M. Kamaraj	Programme on "Welding and Inspection" for ONGC engineers	MSB 105 Seminar Hall, Dept of Metallurgical and Materials Engg	21/11/2006
11	Dr.M. Kamaraj	Weld overlaying and Surface coatings	BHEL, Trichy	23/11/2006
12	Dr.S.S. Bhattacharya	Superplasticity and Superplastic Forming	Dept. of Mechanical Engineering, Malnad College of Engineering, Hassan - 573 201, Karnataka	24/08/2006

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
13	Dr.V.S. Sarma	Principles and applications of Energy Dispersive Spectroscopy and Electron Back Scatter Diffraction	IGCAR, Kalpakkam	22/03/2007
14	Prof. B.S. Murty	Electron microscopy of the nanomaterials	IGCAR, Kalpakkam	22/03/2007
14	Prof. B.S. Murty	Nano-technology	Mettle-06, Tiruchirappalli	March-2006
15	Prof. B.S. Murty	Nano science and nano technology	MMD-06, Salem	May, 2006
16	Prof. B.S. Murty	Nanotechnology and its applications	Bagalkot	August, 2006
17	Prof. B.S. Murty	"Nanocomposites by mechanical alloying" and five other oral/poster presentations	Nano-2006, Bangalore	20-25/08/2006
18	Prof. B.S. Murty	Nanocrystalline Materials by High Energy Ball Milling	NST, Chennai	26-28/08/2006
19	Prof. B.S. Murty	Grain refinement and In-situ composites	Nagpur	09/09/2006
20	Prof. B.S. Murty	In-situ composites	Die casting Seminar, Chennai	28-29/09/2006
21	Prof. B.S. Murty	Bulk Metallic Glasses by mechanical alloying	BMG-07, Bangalore	11-15/01/2007
22	Prof. T.S. Prasanna Kumar	Solidification Modeling	NIT Karnataka, Surathkal	25/09/2006
23	Prof.D.R.G. Achar	Computational Heat Flow Modelling of Pulsed GTA Weldments	Ryerson and Toronto university, Toronto, Canada	11/07/2006
24	Prof.D.R.G. Achar	Improvement in Fatigue Behaviour of Austenitic Stainless Welds through Deep Cryogenic Treatment	Ryerson university and University of Toronto, Toronto, Canada	12/07/2006
25	Prof.D.R.G. Achar	Welding in Aerospace Industries	Hotel Ashoka Grand, Bangalore	27/01/2007
26	Prof.D.R.G. Achar	Current Advances in Underwater Welding	Naval Materials Research Laboratory, Ambemath, Mumbai	20/02/2007
27	Prof.D.R.G.Achar	Improvement in Fatigue Behaviour of Austenitic Stainless Welds through Deep Cryogenic Treatment	Institut fuer Werkstofftechnologie, GKSS Forschungszentrum, Geesthacht, Germany	13/06/2006
28	Prof.T.S. Prasanna Kumar	Thermal Design of GDC/PDC Dies	Chennai	29/09/2006
29	S D Pathak	Destructive Testing and Mechanical Behaviour	BHEL, Tiruchirappally	28/10/2006
30	Dr. T.S. Sampath Kumar	Local Delivery of Antibiotics by Nanophase Ceramics and was a selection committee member for best poster awards.	Indo-US Symp. On Nanotechnology in Advanced Drug Delivery, NIPER, Chandigarh	6/10/2006
31	Dr. T.S. Sampath Kumar	Nanobiomaterials	NIT, Tiruchirappally	2/12/2006
32	Dr. T.S. Sampath Kumar	Novel Synthesis Routes for Mono & Nano Phase Intermetallic Powders	VRS Murthy Memorial Symposium, IIT Kanpur	8/12/2006

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
33	Dr. T.S. Sampath Kumar	Innovative Bioceramics from Egg Shell Waste	Int. Conf. on Design of Biomaterials, IIT Kanpur	9/12/2006
34	Dr. T.S. Sampath Kumar	Nanotech Approaches to Ceramic Implants for Bone Infections	Indo-Australian Conference "Biomaterials, Implants, Tissue Engineering & Regenerative Medicine", SCTIMST, Trivandrum	11/01/2007
35	Dr. T.S. Sampath Kumar	Nanophase Biomaterials – Future Medicine ?	Nat. Symp. Nanoscience and Nanotechnology, Vel's College of Science, Chennai	7/2/2007

Visits Abroad

Name of Faculty	Country Visited	Date	Purpose of Visit
Prof. D.R.G.Achar	Germany	24/04/2006 to 01/05/2006	
Prof. D.R.G.Achar	Germany	08/05/2006 to 03/07/2006	On invitation as Guest Scientist engaged in short term research activity at the Institut fuer Energy systems-Werkstoffforschung und Characterisierung, Forschungszentrum Juelich, Germany, in the area of high temperature phase stability predictions of super alloys.
Prof. D.R.G. Achar	Germany	09/05/2006 to 02/07/2006	On invitation visiting the Research Centre Juelich, Germany to carry out brief research on simulation and modelling of phase stabilities in high temperature super alloys on long term exposures.
Dr. V.S. Sarma	Germany	15/05/2006 to 14/07/2006	Visited the Otto-von-Guericke University on Alexander von Humboldt Fellowship for research work on the development of ultra fine grained Cu alloys with Prof. Martin Heilmaier
Prof. B.S. Murty	Germany	22/05/2006 to 20/07/2006	Hahn Meitner Institute, Berlin
Dr. S. Ganesh Sundara Raman	Germany	28/05/2006 to 20/07/2006	Awarded a scholarship for Study Visit to Germany for two months (May 28 – July 20, 2006) by DAAD, Germany. Institute of Nanotechnology, Research Centre, Karlsruhe & University of Ulm, Germany. Purpose: To produce bulk nanocrystalline Ni and do nanoscale fatigue studies
Prof.D.R.G. Achar	Canada	03/07/2006 to 10/07/2006	Presented an Invited paper and Chaired a Technical Session at the International Conference on processing and Manufacturing of Advanced Materials – THERMEC '06.
Prof. D.R.G.Achar	Canada	10/07/2006 to 13/07/2006	On invitation from Prof.Ravi Ravindran, visited the Ryerson University and University of Toronto to deliver special lectures and to have discussions for possible collaborative projects in the areas of Solidification and Welding.

Name of Faculty	Country Visited	Date	Purpose of Visit
Dr. M. Kamaraj	Germany	11/07/2006 to 14/07/2006	Technical visit to Ruhr-Universitat Bochum Institute for Materials Prof. G. Eggeler Seminar talk : Stress rupture behavior of transition joints between modified 9Cr-1Mo steel and 316LN Academic interaction: Discussed on-going projects Attended Material colloquium on Superalloys
Dr. T.S. Sampath Kumar	Thailand	06/11/2006 to 11/11/2007	Delivered a keynote lecture at the 6th Asian Bioceramics Conference, Bangkok, and was a selection committee member for best poster awards.
Dr. M. Kamaraj	Thailand	07/11/2006 to 12/11/2006	Attended Asian Symposium on Materials and Processing 2006 November 9-10, 2006 Presented a paper on " INFLUENCE OF Fe ₃ Al INTERMETALLIC PARTICLES ON WEAR BEHAVIOR OF PM Fe-BASED COMPOSITE MATERIALS" K. Venkateswaran, M. Kamaraj and K. Prasad Rao Also Cochaired a session : Thermal Fatigue/creep on Nov.9, 2006
Dr. S.S. Bhattacharya	USA	25/02/2007 to 01/03/2007	Participated in the TMS 2007 conference at Orlando, Florida USA and presented a paper titled, "Development of Superplasticity in an Al-Mg-Sc Alloy" by V. Jaya Prasad and S.S. Bhattacharya in the "Aluminium Alloys for Packaging, Aerospace and Transportation Applications" Symposium. The paper appears in the Proceedings of the Light Metals Symposia section.
Dr. T.S. Sampath Kumar	Singapore	09/01/2006 to 16/7/2007	Visiting Research Scientist, Nat. Univ. Singapore, Singapore
Dr. T.S. Sampath Kumar	Singapore	10/11/2007 to 12/11/2007	Nat. Univ. Singapore, Singapore

Honors and Awards obtained by faculty

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of Award
1	Dr.M.Balasubramanian	Ganpule Award	Indian Ceramic Society	Best paper published on Whitewares, Tiles, Sanitarywares and related subjects in the Transactions of the Indian Ceramic Society during 2000-2004	8.1.2007
2	Prof.P. Venugopal	FIE foundation award	FIE FOUNDATION OF ICHALKARACHI, Kolhapur, Maharashtra	In recognition of Education and Technology for the year, 2005.	09/04/2006
3	Dr. P. Rodriguez	Lifetime achievement award	Indian Institute of Welding	For more than three decades of sustained contributions to welding research and technology and construction of fast breeder reactors.	24/11/2006

Prof. S.D. Pathak was elected as a member of the 12- member Board of Directors of the Engineering Council of India for a two-year term (June-2006). (November-2006) He is also a member for a two year term, of Library Committee of The Indian Inst.of Metals, Kolkata.

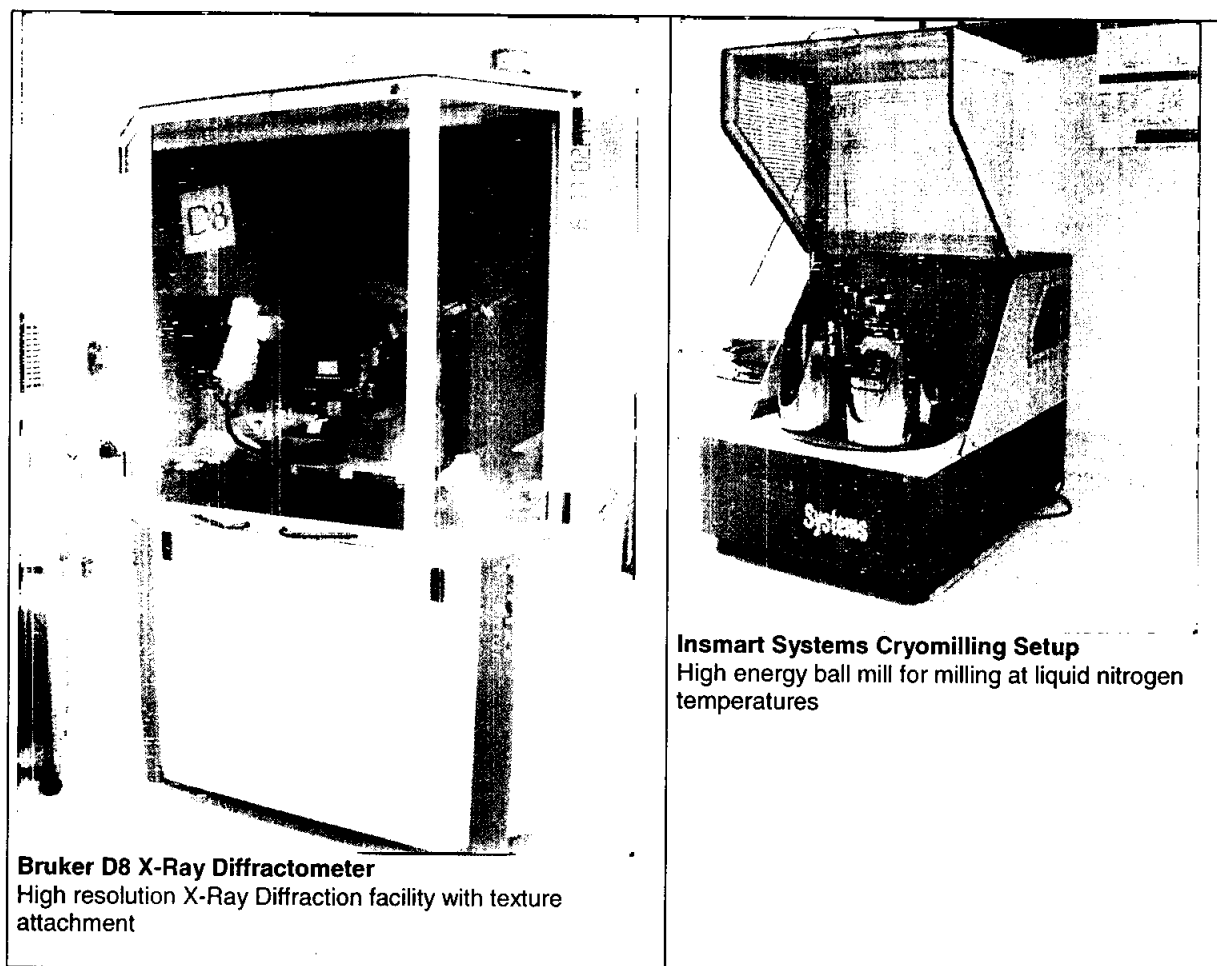
Prof. B.S. Murty was elected as a council member, Indian Institute of Metals, 2006-2007. He is also a Member, Board of Sciences, Dept. of Met. Eng., NIT, Tiruchirapalli (2006-2009); Member, National Committee on Nanotechnology, Bureau of Indian Standards (2007); Member, Executive Committee of Centre for Nanotechnology, Anna University (2007); Member, Board of Studies in Nanotechnology, Bharathiar University, Coimbatore (2007-2009)

Dr. T.S. Sampath Kumar is on the Board of Studies Member, Faculty of Science and Humanities, College of Engineering, Anna University, (2006-2008). He is also Guest Editor, Trends in Biomaterials and Artificial Organs, V20, No1, July 2006; Editorial Board Member, Trends in Biomaterials & Artificial Organs - India ; Member, Society for Biomaterials and Artificial Organs-India, (2005-2008)

4 Design and Development Activities

4.1 Brief and specific details of process / instruments / equipment / software designed and developed:

4.2 New facilities added or major equipment procured



Patents:

Patents filed:

An Indian patent (Application No. 848/CHE/2006) was filed for "A composition containing nanophase calcium deficient hydroxyapatite with Mg, Sr and Si synthesized from egg shell by microwave processing" with Dr.T.S.Sampath Kumar as the Principle Investigator and Prof.S.K.Seshadri and Mr. A.Siddharthan as Investigators.

Patents awarded:

An Indian patent was granted on 16th Nov., 2006 (No.D-CHE/1752), for "A process for the preparation of calcium phosphate from egg shell waste" (Application No. 203490 dt. 21/11/2003) with Dr.T.S.Sampath Kumar as the Principle Investigator and Prof.S.K. Seshadri and Mr. D. Siva Rama Krishna as Investigators.

Research and Consultancy

Sponsored Research Projects

Sponsored projects going on during the period 2006-07 involving faculty from the Department are as follows:

Sl. No	Coordinators	Title	Agency	Start Date	Close Date	Value In Rs. (Lacs)
1	Prasad Rao K	Protection of H-15 and H-20 Aluminium alloys from corrosion	Defence Research and Development Lab	11/08/2004	30/06/2007	10
2	Prof. K. Prasad Rao Dr. Prathap Haridoss	Microscopy & Microanalysis of Modern Materials	Department of Science & Technology	31/08/2004	30/08/2009	150
3	Prof. K. Prasad Rao	Effect of Planishing on Mechanical Properties of AA2219 Welds	Defence Research and Development Lab	16/09/2004	30/06/2007	10
4	Prof. K. Prasad Rao	Improvement of Mechanical Properties of H2O (AA6061) Welds	Defence Research and Development Laboratory	16/09/2004	30/06/2007	10
5	Dr. M. Kamaraj Prof. K. Prasad Rao	Life Enhancement of Hydroturbine Components by Surface Coatings	Department of Science & Technology	02/12/2004	01/12/2007	13.83
6	Dr. M. Kamaraj	Surface Modification on 316 LN Austenitic Stainless Steel and Wear Characterisation of Hardfacing Alloys	Boards of Research in Nuclear Sciences	09/03/2005	08/03/2008	23.45
7	Prof. T.S. Prasanna Kumar	Parameter Estimation and Inverse Solution of Non-Linear Heat Conducting Problems	Indian Space Research Organisation	11/03/2005	10/03/2008	11.08
8	Prof. S.D. Pathak	Performance Evaluation of Diamond-like Carbon Coated Ti-6Al-4V for Biomedical Applications	Ministry of Human Resource and Development	01/04/2005	30/09/2008	10
9	Dr. V. Sampath	Development of Ni-Ti Shape Memory Alloys for Actuators through Powder Metallurgy Route and their Characterization	Ministry of Human Resource and Development	01/04/2005	30/09/2008	10
10	Dr. S.S. Bhattacharya	Nanocrystalline Titania: Superplastic Deformation and Diffusion Bonding Studies	Ministry of Human Resource and Development	01/04/2005	30/09/2008	11
11	Dr. M. Kamaraj	High Performance Evaluation of Advanced High Temperature Materials for Aerospace Engg	Ministry of Human Resource and Development	01/04/2005	30/09/2008	11
12	Dr. V. Subramanya Sarma Prof. B.S. Murty	Development of High Strength Ultra Fine Grained Al-alloys Through Cryo Rolling	Indian Space Research Organisation	09/09/2005	08/09/2007	6.36
13	Dr G. Phanikumar Dr. V. Subramanya Sarma Prof. S.D. Pathak Dr. M. Nageswara Rao (NITW) Dr. Bhanu Pant (VSSC)	Investigation of Microstructure and Mechanical Properties of Beta Titanium Alloy (15-3) Weldments	Indian Space Research Organisation	12/09/2005	11/09/2008	9.9

Sl. No	Coordinators	Title	Agency	Start Date	Close Date	Value In Rs. (Lacs)
14	Dr. T.S. Sampath Kumar	Porous Injectable Ceramic Bone Cements	Department of Science & Technology	17/11/2005	16/11/2008	23.95
15	Dr. V. Subramanya Sarma Prof. B.S. Murty	Development of High Strength Ultra Fine Grained Alloys through Cryorolling	Department of Science & Technology	20/02/2006	19/02/2009	22.32
16	Prof. B.S. Murty Dr. M. Nageswara Rao(NITW)	Improvement of Notch Creep-Rupture Life of 718 Superalloy	Aeronautics Research & Development Board	20/03/2006	19/03/2009	15.5
17	Dr. Prathap Haridoss	Improving Reactant Distribution in a PEMFC	Indian Space Research Organisation	21/03/2006	20/03/2008	15
18	Dr. V. Sampath	Development and Characterization of Super-Elastic Ni-Ti Shape Memory Alloys for Biomedical and Dental Applications	Department of Science & Technology	27/03/2006	26/03/2009	27.12
19	Dr. V. Subramanya Sarma Prof. B.S. Murty	Development of Ultrafine Grained High Strength A1 Alloys	Naval Research Board	22/05/2006	21/05/2008	23.88
20	Prof. B.S. Murty	Wear Behaviour of A1-TiB ₂ and A1-TiC in-situ Reinforced Composites	Naval Research Board	23/05/2006	22/05/2008	23.89
21	Dr. Prathap Haridoss Prof. P. Kesava Nair	Production of Carbon Nanotube Based Composites	Naval Research Board	25/05/2006	24/05/2008	24.84
22	Prof. B.S. Murty Prof. V.R.K. Murty (PHY)	Development of lead free nano ferroelectric and dielectric materials by mechanically activated synthesis	Department of Science & Technology	06/06/2006	05/06/2009	71.98
23	Dr. V. Subramanya Sarma Dr. N. Harish Kumar (PHY)	Correlation between texture, microstructure and superconducting properties in RABIT based coated conductors	Department of Science & Technology	29/06/2006	31/05/2008	2.3
24	Dr. M. Kamaraj Dr. R. Gnanamoorthy (ME)	Development and performance of boron carbide based coatings on 304L stainless steel	Indira Gandhi Centre for Atomic Research	10/08/2006	09/08/2008	10.2
25	Prof. B.S. Murty	Synthesis of biocompatible ferro fluids and investigation of their stability in Biological media	Department of Science & Technology	14/08/2006	13/08/2009	19.26
26	Dr. G. Phanikumar	National Electro-magnetic Levitation Facility at IIT Madras	ISRO (Respond)	04/12/2006	04/11/2009	46.81
27	Prof. K. Prasad Rao Dr. G. Phanikumar	Studies on friction surfaced coatings for wear and corrosion resistance	Naval Research Board	18/12/2006	17/12/2008	37.51
28	Dr. Uday Chakkingal Dr. S.S. Bhattacharya	Development of a severe plastic deformation process for producing ultra fine grained high strength aluminium alloys	Naval Research Board	15/02/2007	14/02/2009	12.24

Industrial Consultancy Projects

Sl. No.	Name of the Faculty	Consolidated Amount in Lacs of Rs.
1	Prof. D.R.G. Achar	0.50
2	Dr. S.S. Bhattacharya	0.33
3	Prof. B. Guha	1.00
4	Dr. Prathap Haridoss	1.0
5	Dr. M. Kamaraj	21.74
6	Prof. P. Kesavan Nair	12.40
7	Prof. B.S. Murty	7.89
8	Prof. S.D. Pathak	4.82
9	Prof. K. Prasad Rao	1.10
10	Dr. V. Subramanya Sarma	2.28

Total consultancy amount for the year 2006-07 is Rs. **53.07 Lacs**.

Publications

Total No. of paper published in refereed national journals	...	2
Total No. of paper published in refereed international journals	...	67
Total No. of paper presented in national conferences	...	4
Total No. of paper presented in international conferences	...	20

In Refereed National Journals

1. S.Sakthivelu, P.Manohar, V.Ramamurthi and M.Balasubramanian, Effect of grinding on de-hydroxylation behaviour of diaspore, *Transactions of the Indian Ceramic Society*, **65** (4) (2006) 211-214.
2. S.Sakthivelu, P.Manohar, V.Ramamurthi and M.Balasubramanian, Deflocculating effect of sodium polymethacrylates on aqueous clay suspensions, *Transactions of the Indian Ceramic Society*, **65** (2006) 165-167.

In Refereed International Journals

1. A. Krishnaiah, Uday Chakkingal and P. Venugopal, Microstructure and Mechanical Properties of Commercial Purity Copper Resulting from Repeated Groove Pressing followed by Cold Rolling, *Materials Science Forum*, **539-543**, 2198-2203 (2007)
2. A. Mondal, M. Chakraborty and B.S. Murty, Effect of TiB₂ particles on sliding wear behavior of Al-4Cu alloy, *Wear*, **262** (2007) 160-166.
3. A.K. Prasada Rao, K. Das, B.S. Murty and M. Chakraborty, Microstructural and wear behavior of hypoeutectic Al-Si Alloy (LM25) grain refined and modified with Al-Ti-C-Sr master alloy, *Wear*, **261** (2006) 133-139.
4. A. Siddharthan, T.S.Sampath Kumar and S.K.Seshadri, Bioceramics coating on Ti-6Al-4V alloy by microwave processing, *Surf. Engg.* (in press, 2007)
5. A.V. Nagasekhar, Uday Chakkingal and P. Venugopal, Candidature of Equal Channel Angular Extrusion for Processing of Tubular Commercial Purity Titanium, *J. Materials Processing Technology*, **173**, 1, (2006) 53-60.
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Distinguished visitors to the Department

Visitor	Date	Details
Dr G Sundararajan Director ,ARCI Hyderabad Distinguished Alumnus of IITM (2006)	17/04/2006	Prof Pathak formally welcomed and introduced Dr Sunderarajan to the department faculty and students on the occasion of 47th Institute Day.He interacted with students and faculty. Dr Sunderarajan subsequently received from Prof Ananth,Director IIT Madras , Distinguished Alumnus Award for 2006 in the evening at CLT.

Visitor	Date	Details
Prof. Vaughan Voller Professor, Dept. of Civil Engineering, U. of Minnesota, USA	23/06/2006	Prof. Voller presented a talk titled "An enthalpy based scheme for simulating dendrite growth" at 15:00 Hrs on 23-06-06 in MSB 104. He had discussions with the colleagues of the Department of MME and Mechanical Engg.
Dr. Rajan Ambat Associate Professor, Technical University of Denmark, Denmark	13/07/2006	Dr. Ambat visited the department and had discussions with the faculty. He also delivered a talk on "Corrosion reliability challenges in electronic devices and material combinations".
Prof. Dr.-Ing Horst Hahn Director, Institut fuer Nanotechnologie, Forschungszentrum Karlsruhe & Professor, Joint Nanomaterials Laboratory, TU Darmstadt	13/08/2006	Prof. Hahn visited IIT Madras to have discussions with different faculty during the period 13th to 16th and also from 26th to 30 th
Dr. Aravind Agarwal Assistant Professor, Dept. of Mechanical and Materials Engg., Florida International University, Miami, USA	08/01/2007	Interaction with Faculty and a talk.
Dr. Ruben Huehne Staff Scientist	31/01/2007	Dr. Ruben Huehne from the Leibniz Institute for Solid State and Materials Research visited the Department of MME for a week (31-1-2007 to 7-2-2007) under an ongoing Indo-German project under the co-ordinatorship of Dr. V. Subramanya Sarma
Mr. Sebastian Engel Ph.D. Student	31/01/2007	Mr. Sebastian Engel, Ph.D. student at the Leibniz Institute for Solid State and Materials Research visited the Department of MME for carrying out experiments as part of an ongoing Indo-German project under the co-ordinatorship of Dr. V. Subramanya Sarma
Delegation from GIFT, POSTECH, Korea	23/03/2007	Prof. Henri Gaye, Director of Clean Steel Production Laboratory, GIFT Research Coordinator [(Pohang University of Science & Technology (POSTECH), Graduate Institute of Ferrous Technology (GIFT) Korea)] along with Prof. Kyoo Young Kim and two members visited our Department. An interaction meeting with the faculty members was arranged on 23 March 2007.
Dr. Srinivas T.R. Rao CTO & VP, Flextronics, USA Distinguished Alumnus of IITM (2007)	13/04/2007	Prof Pathak formally welcomed and introduced Dr Srinivas T.R. Rao to the department faculty and students on the occasion of 48th Institute Day. He interacted with students and faculty. Dr Srinivas Rao subsequently received from Prof Ananth, Director IIT Madras, Distinguished Alumnus Award for 2007 in the evening at IC & SR Auditorium.

Talks organized by visitors to the Department:

Speaker	Title	Date
Prof. Vaughan R. Voller University of Minnesota, Minneapolis, USA	An enthalpy based scheme for simulating dendritic growth	23/06/2006
Dr. Rajan Ambat Division of Materials Science and Engineering, Department of Manufacturing and Management, Technical University of Denmark, Denmark.	Corrosion reliability challenges in electronic devices and material combinations	13/07/2006
Dr. Arun Rajagopalan Rensselaer Polytechnic Institute, Troy, NY, USA	Informatics based development of crystallographic descriptors for framework structures	09/08/2006
Speaker	Title	Date

Prof. Hideyuki Okumura Graduate School of Energy Science, Kyoto University, Japan	Energy social engineering and environmental materials approach	18/08/2006
Prof. H.-J. Fecht University of Ulm, Ulm, Germany	Synthesis, properties and applications of nanocrystalline HF-CVD-grown Diamond	29/08/2006
Prof. Joerg J. Schneider Darmstadt University of Technology, Germany	Synthetic chemistry on the nanoscale	30/08/2006
Prof. Gerhard Wilde FZ-Karlsruhe, Karlsruhe, Germany	Nanocrystalline composite materials - synthesis, stability and phase transformations	31/08/2006
Dr. Kallol Mondal NIMS, Japan	Bulk Zr-based metallic glasses with high glass forming ability and their mechanical properties	12/10/2006
D. Kenji Miwa AIST, Nagoya, Japan	New creation process of metallic glasses by electromagnetic vibrations	16/11/2006
Dr. Sudarsanam Suresh Babu Edison Welding Institute, Columbus, Ohio, USA	Integrated process modelling of welded structures	05/12/2006
Dr. Michael J. Kaufman Department of Materials Science and Engineering, University of North Texas, Denton, TX.	Trends in Atomic-scale Metrology at the University of North Texas	12/12/2006
Prof. Henning Zoz Zoz GmbH, D-57482 Wenden, Germany	Synthesis and Application by High Kinetic Processing-a review of principle, process and application	14/12/2006
Prof. K. Linga Murty North Carolina State University	Mechanical Behavior of Nanostructured Metals Processed through Severe Plastic Deformation (Ball Milling)	21/12/2006
Dr. Anandh Subramaniam Assistant Professor, Dept. of Applied Mechanics, IIT Delhi	INTERGRANULAR GLASSY FILMS	22/12/2006
Dr. R.V. Koteswara Rao Postdoctoral research fellow, U. Michigan Ann Arbor, USA	Synthesis and mechanical properties of two phase nanostructured aluminumbased composites	09/01/2007
Dr. Masakazu Okazaki Dept of Mechanical Engg., Nagaoka University of Technology, Tamioka, Nagaoka, Japan	Hybrid composite model to predict LCF and TMF lives of single crystal Ni-base superalloys	11/01/2007
Dr. Akira Takeuchi Institute for Materials Research, Tohoku University, Japan	Computational analysis of features of bulk metallic glasses	17/01/2007
Dr. L. Chandrasekaran Trusted Expert, QinetiQ Ltd, UK	Shape memory alloy reinforced carbon fibre reinforced plastics for improved impact strength	18/01/2007
Dr. Nidhi Singh NML Unit, CSIR Madras Complex, Taramani, Chennai	Influence of heat treatment on microstructure and low cycle fatigue behaviour of titanium alloy TIMETAL 834	19/01/2007
Dr. Ruben Huehne Scientist, Leibniz Institute for Solid State and Materials Research Dresden, Germany	Development of textured templates for conductors based on high-temperature superconductors	02/02/2007
Dr. Suresh Sundarraj GM R&D, India Science Lab, Bangalore	GM light weight materials research with emphasis on modeling casting processes	19/02/2007
Dr. Ravi Nadella NIMR / Light Metals Processing Group, Dept of Materials Science and Engg., Delft University of Technology, Delft, The Netherlands	Structure evolution and defect formation during direct chill (DC) casting of Al alloys	16/03/2007
Dr. Asim Tewari GM R&D, India Science Lab, Bangalore	Advanced computational stereology	19/03/2007

Prof. C. (Ravi) Ravindran Dept. of Mechanical and Industrial Engineering, Faculty of Engineering and Applied Science, Ryerson University, Canada	Effect of EPS bead fusion on the fillability of AZ91D Mg alloy in lost foam casting	26/03/200 7
Dr. Srinivas T.R. Rao Flextronics, USA Distinguished Alumnus of IITM (2007)	Nanotechnology opportunity – a technologist's perspective	13/04/200 7

Other activities of the Department

Socially relevant activities carried out by the Department



About 70 school children (class 11) from KV, IIT and Vanavani Matriculation High School, IIT Madras visited the various material characterisation facilities in the Dept of MME. This is organised by the Material Advantage Chapter of IIT Madras in co-operation with the Dept. of MME. Dr. V. Subramanya Sarma, Faculty Advisor of the Material Advantage Chapter of IIT Madras welcomed the students and briefed them about the importance of materials characterisation. Dr. G. Phanikumar, gave brief overview of the Optical Microscopy principles to the school children. Dr. Ashutosh Gandhi explained the principles of Electron microscopy (SEM and TEM). Dr. V.S. Sarma explained the principles of Scanning Probe Microscopy. These lectures were followed by visit to the Metallography lab, AFM lab, SEM lab and TEM lab. Student volunteers (Mr. Kumar, Mr. Logavenkatesh, Mr. Prasad, Ms.

Niranjani, Mr. Arun kumar and Ms. Udhayabanu) and staff members (Mr. Murugesan, Mrs. Shanthi and Mrs. Kanchanamala) helped in organising the lab visits of the school children. There was a feed back session after the visit to the labs. The students enjoyed their visit to the laboratories and wanted us to continue this event every year. (February-2007)

6.6 Miscellaneous activities

Faculty of the Department have taken part in several professional activities such as being expert members of committees in various organizations, examination boards, review committees etc.,

The statistics of summer internships taken by the third year students of B.Tech & Dual Degree of the Department during the summer of 2006 are as follows.

- Industry: 21
- Abroad: 3 (U. of Finland; POSTECH, Korea; ALSTOM, Germany)
- R & D institutions: 6
- Indian academic institutions: 1 (IISc Bangalore)

Miscellaneous Activities

Academic festival "Amalgam 2007" by the students of the Department

The Department of Metallurgical and Materials Engineering, IIT Madras, organized its annual technical festival, Amalgam, from March 9th to 11th, 2007. This festival, which is being organized for the third time in a row, was a grand success this year, with a total outstanding participation of 250 students from across the country, well-designed events, lectures by eminent professors and several other occurrences that marked this special occasion.

The inaugural talk was by Prof. P. Rodriguez. Special lectures were given by Dr.S.K.Das, Department of Mechanical Engineering, IITM Dr. S.S. Bhattacharya, Department of Metallurgical and Materials Engineering, IITM, Mr. G. Dayananda, National Aerospace Laboratories, Bangalore, Dr. Vidyasagar, General Motors, Bangalore.

Around twenty papers each for oral and poster sessions were selected from a total of 105 submissions. Both the oral and poster presentations were judged and the top three were awarded prizes. A debate on " Should research in a nascent field like Nanotechnology be dictated more by the industry or the academia ? " was held. The annual event "All India Material Quiz" was conducted in two rounds. Mr. Santonu Bhattacharya from Tata Steel was the Quiz master for the final round. Lab visits were arranged to two labs, Atomic force Microscopy and SEM labs for the Nanotech workshop registrants. Workshops on Smart Materials and Nano technology were organized.



Glimpses of Amalgam 2007

4.15 DEPARTMENT OF OCEAN ENGINEERING

4.15.1 Introduction:

The Department of Ocean Engineering 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

4.15.2 Academic programmes:

New courses introduced:

Sl. No.	Course No.	Title
1.	OE 523	Foundation for Offshore Structures
2.	OE 504	Marine Survey
3.	OE 506	Geo Informatics
4.	OE 508	Marine Instrumentation
5.	OE 517	Ocean Acoustics
6.	OE 519	Shipboard Training

Students on roll :

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech	20	16	21	17	02	76
Dual Degree	05	04	06	03	04	22
M.Tech	08	05	-	-	-	13
M.S.	04	04	06	08	-	22
Ph.D	02	07	06	09	09	33
Total	39	36	39	37	15	166

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

Sl. No	Name of the Student	Programme	Name of the Conference/ Seminar/Symposia	Date & venue
(i) Conference:				
1	R. Balaji	Ph.D	Attended and presented a paper in the 25 th International Conf. on Offshore Mechanics and Arctic Engineering	04.06.2006 to 10.06.2006 Hamburg Germany
2	Mr. R. Balaji	Ph.D	15 th Congress of Asia and Pacific Division of International Association of Hydraulic Engineering and Research and Symposium on "Maritime Hydraulics"	August 7-10, 2006 IIT Madras
3	Mr. M.G. Goldstein	MS	- do -	- do -
4	Mr. C. Krishnakumar	Ph.D	- do -	- do -
5	Mr. M.R. Behera	Ph.D	- do -	- do -
6	Mr. T. Nasar	Ph.D	- do -	- do -

Sl. No	Name of the Student	Programme	Name of the Conference/ Seminar/Symposia	Date & venue
7	Mr. C. Rajasekaran	Ph.D	- do -	- do -
8	Mr. Sankar Babu Karnam	Ph.D	- do -	- do -
9	Mr. V. Sriram	Ph.D	- do -	- do -
10	Mr. Parandhamaiah Gorre	M.S.	- do -	- do -
11	Mr. P. Jagadeesh	Ph.D	- do -	- do -
12	Mr. Sunny Kumar	M.Tech	Attended the demonstration of Solar Powered Boat by the Student of Delft University of Technologie	8.9.2006 Chennai Port Trust
13	Mr. N. Sulficker Ali	M.S.	Attended and Presented the paper at the RINA Conference held at London, UK	31 st October & 1 st November 2006.
14	Mr.Nanda Kishore Yadla	Ph.D	Indian Geotechnical Conference 2006	14-16th December 2006 IIT Madras
15	Mr. M.N. Senthil Prakash Ms. U.S. Sajini	Ph.D. Ph.D.	Fatigue Design and Analysis of Ships and Offshore Structures organized by Ocean Engineering Department	Feb.19-21, 2007 IIT Madras
16	Mr. Y. Nanda Kishore	Ph.D.	International Course on Computational Geotechnics organized by Ram Caddsys Pvt. Ltd. , Chennai	Feb.21-23, 2007 IIT Madras

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

Sl. No.	Name of the Student /Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Mr. Deep Ghosh Mr. Bhagatwala Ankit. Vijay	NA01B006 NA00428	Class NK	Nippon Kaiji Kyokai

Names of students /Scholars who won Institute Convocation/Institute Day Prize

Sl. No.	Name of the Student /Scholar	Roll No.	Name of Prize	Prize awarded by
1.	Mr. Vaidyanathan Gopala Krishnan	OE04M010	American Bureau of Shipping Prize	American Bureau of Shipping
2.	Mr. Goutam Roul	NA01B025	Institute Merit Prize	IIT Madras
3.	Ms. Swati Khandelwal	NA02B019	American Bureau of Shipping Prize	American Bureau of Shipping

4.15.3. Faculty and their activities:

Faculty:

Name and Qualifications

Major Area of Specialization

Professors:

V. Anantha Subramanian, Ph.D.,
(IIT, Madras)

Computer aided ship design, Ship Hydrodynamics and CFD applications

S.K. Bhattacharyya, Ph.D.
(IIT, Madras)

Computer aided structural analysis, Analysis of motion characteristics of floating bodies, Model studies

K. Ganesh Babu, Ph.D. (IIT, Madras)

Analysis and design of ocean structures, Behaviour of materials in Ocean Environment

Name and Qualifications	Major Area of Specialization
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) R. Natarajan, Ph.D. (IIT, Madras)	Coastal Engineering and Wave Hydrodynamics Ship Hydrodynamics, Design of small crafts, Model testing of launches, tugs, trawlers etc., Mooring analysis of floating structures
V. Sundar, Ph.D.(IIT, Madras)	Wave Structure Interaction, Coastal Protection, Port & harbour structures, Fluid Flow Problems
SP.Subramanian, Ph.D. Madras University	Geological oceanography, Engineering geology
R. Sundaravadivelu, Ph.D. Head - (IIT, Madras)	Computer aided analysis, Design and experimental studies of coastal and offshore structures, Port and Harbour Structure.
C.P. Vendhan, Ph.D., (IIT, Kanpur)	Structural dynamics, Offshore structures, Finite element methods
Associate Professors:	
P. Krishnankutty, Ph.D (IIT Madras)	Numerical Marine Hydrodynamics, Ship Motions, Wave Wash and Passenger Comfort
K. Murali (IIT Madras)	Coastal and Ocean Hydrodynamics, Fluid-Structure interaction, Multiphase flow simulations, General free-surface flow
S. Nallayarasu, Ph.D	Analysis and Design of Offshore Structures, Wave-Structure interaction, Reliability in Offshore Structural Design
S.A. Sannasiraj, Ph.D (IIT Madras)	Wave-structure interaction; Numerical ocean wave modeling and assimilation; Dynamics of breaking waves
S. Surendran, Ph.D. (Yokohama National Univ., Japan)	Naval Architecture, Ship motion control and Ship Structures
Assistant Professor	
R. Panneer Selvam	System Identification, Simulation, Non-linear dynamics
Emeritus Professor	
S. Narasimha Rao, Ph.D.(IISc.) (upto September 2006)	Marine Geo-technical Engineering , Dredging

Short-term courses/Workshops/ Seminars/ Symposia/ Conferences Organized by the Faculty Members

Sl. No.	Name of Faculty	Title	Period
Conference			
1	Prof. V. Sundar Prof. R Sundaravadivelu	15 th Congress of Asia and Pacific Division of International Association of Hydraulic Engineering and Research and Symposium on "Maritime Hydraulics" Total Participants – 220 from 23 Countries Total papers – 209 Total papers from DOE – 11	August 7-10, 2006
2.	Prof. SP. Subramanian Prof. R. Sundaravadivelu Prof. J.S. Mani	Conference on Rehabilitation Measures for the Tsunami affected Coasts of Tamilnadu, Andhra Pradesh, Kerala, Pondicherry and Andaman & Nicobar Islands held at Chennai	11-12th December 2006
Workshop / Short term Course			
1	Prof. R Sundaravadivelu Prof. J.S. Mani	Coastal Protection Measures	August 11, 2006
2	Prof. R. Sundaravadivelu Prof. SP. Subramanian	Planning, Design and Construction of Breakwaters	September 16, 2006
3	Prof. R. Sundaravadivelu Prof. SP. Subramanian	Rehabilitation for the Tsunami affected Coast of Tamil Nadu, Andhra Pradesh, Kerala,	25 th October 2006

Sl. No.	Name of Faculty	Title	Period
		Pondicherry and Andaman Nicobar Islands	
4	Prof.R. Sundaravadivelu Prof.SP.Subramanian	Pre-conference meeting – Workshop on “Rehabilitation measures for the Tsunami affected coast of Tamilnadu, Andra Pradesh, Kerala, Pondichery & Andaman Nicobar” held at Trivandrum	26-27 th November 2006
5	Prof. R. Sundaravadivelu Prof. SP. Subramanian Prof. V. Sundar Dr. K. Murali Dr. S.A. Sannasiraj	Pre-conference meeting – Workshop on Rehabilitation for the Tsunami affected Coasts of Tamil Nadu, Andhra Pradesh, Kerala, Pondicherry and Andaman Nicobar Islands held at Port Blair	2nd December 2006
6	Prof. SP. Subramanian Prof. V. Sundar Prof. J.S. Mani	Pre-conference meeting – Workshop on Rehabilitation for the Tsunami affected Coasts of Tamil Nadu, Andhra Pradesh, Kerala, Pondicherry and Andaman Nicobar Islands held at Hyderabad	4 th December 2006
7	Dr. S. Nallayarasu	Offshore Structures Analysis and Design (Using SACS) at SAIPEM India Projects Ltd., Chennai	11-15th December 2006
8	Dr. S. Nallayarasu	CCE Course on Offshore Structures Analysis and Design (Using SACS) for S.B. Marine, Thane held at Mumbai	22 nd to 24 th Jan. 07
9	Dr. S. Nallayarasu	CCE Course on Offshore Structures Analysis and Design (Using SACS) for S.B. Marine, Thane at Mumbai	Feb. 9-10, 2007
10	Prof. S.K. Bhattacharyya Prof. C.P. Vendhan	Short Term Course on Fatigue Design and Analysis of Ships and Offshore Structures at IIT Madras	Feb.19-21, 2007

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
(i)	Conference			
1	Prof. C.P. Vendhan	151st Meeting of the Acoustical Society of America	Acoustical Society of America	June 5-9, 2006
2	Prof. R.Sundaravadivelu Prof. V. Sundar Prof. SP Subramanian Prof. J.S. Mani Prof. R. Natarajan Prof. V. Anantha Subramanian Dr. S.A. Sannasiraj Dr. K. Murali Dr. P. Krishnankutty	15 th Congress of Asia and Pacific Division of International Association of Hydraulic Engineering and Research and Symposium on “Maritime Hydraulics”	IIT Madras	August 7-10, 2006
3	Prof. V. Sundar	Digital Video Conference with officials of National Oceanic and Atmospheric Administration (NOAA) on “Early Warning System for Natural Disaster”	American Centre	August 23, 2006
4	Prof. V.G.Idichandy	NIOT Board Meeting	Port Blair	September 9-10, 2006
5	Prof. R. Natarajan	MOEF Expert Committee Meeting	IOM, Anna University	September 29-30, 2006
6	Dr. S.A. Sannasiraj Dr. K. Murali	Training Programme on Remote Sensing	Dehra Dun Uttaranchal	September 19-22, 2006

Sl. No.	Name of Faculty	Title	Institution	Period
7	Dr. R. Panneer Selvam	A Proficiency course "Modern Practices in Petroleum Exploration"	Dehra Dun	September 18-23, 2006
8	Dr. R. Panneer Selvam	Member of ICMAM Selection Committee meeting	NIOT Campus, Chennai	4 th October, 2006.
9	Prof. V. Anantha Subramanian	Discussion	Indian Register of Shipping at Mumbai	5th October, 2006
10	Prof. R. Sundaravadivelu	Meeting with Mr. B.V. Selvaraj, I.A.S., Commissioner cum Secretary, Relief and Rehabilitation Commissioner in connection with preparation of DPR for Fishing Harbour modernization at Pondicherry	U.T. of Pondcherry	10 th October, 2006
	Prof. SP. Subramanian			
	Prof. V. Anantha Subramanian			
11	Prof. V. Sundar	Attended the 40 th Meeting of the Tamil Nadu State Coastal Zone Management Authority in Chennai	Tamil Nadu State Coastal Zone Management Authority in Chennai	14 th November 2006
12	Prof. V. Sundar	Attended as invited speaker in the Asia Link Symposium on "Joint Study Programme"	DAAD, New Delhi	24 th November 2006
13	Prof. V. Sundar Prof. J.S. Mani	Attended the pre-conference meeting – workshop on "Rehabilitation measures for the Tsunami affected coasts of Tamilnadu, Andra Pradesh, Kerala, Pondicherry & Andaman Nicobar"	Trivandrum	26-27 th November 2006
14	Prof. S.K. Bhattacharyya	Attended the Committee meeting at NIOT Chennai for Ocean Acoustics activities	NIOT, Chennai	5th December 2006
15	Prof. R. Sundaravadivelu Prof. V. Sundar Prof. J.S. Mani	Conference on Rehabilitation measures for the Tsunami affected coast of Tamilnadu, Andhra Pradesh, Kerala, Pondicherry and Andaman Nicobar Islands	IIT Madras, Chennai	11 – 12 Dec' 06
16	Prof. R. Sundaravadivelu	Attended the Indian Geotechnical Conference 2006 held at	IIT Madras, Chennai	14-16th December 2006
17	Prof. V.G. Idichandy	Attended the National Conference on Condition Monitoring,	NSTL Visakapatnam (Condition Monitoring Society of India)	15-16th December 2006
18	Dr. S. Nallayarasu	Attended the Preliminary discussion on Curriculum and syllabus	Kalasalingam University, Virudhunagar District	16th December 2006
19	Dr. R. Panneer Selvam	Attended as a Member of ICMAM Selection Committee meeting	NIOT Campus, Chennai	18th December 2006
20	Prof. R. Sundaravadivelu Prof. SP Subramanian Dr. S. Surendran Dr. S. Nallayarasu Dr. S.A. Sannasiraj Dr. P. Krishnankutty Dr. R. Panneer Selvam	International Conference on Infrastructure Development in the Ports & Shipping Sector and its Management (IDPM)	Chennai Port Trust	18-20, Jan 2007
21	Prof. V. Sundar	Expert Committee to review the Shoreline Management Plans	ICMAM, Ministry of Earth Sciences, Govt. of India	24 th Jan.07

Sl. No.	Name of Faculty	Title	Institution	Period
22	Prof. S.K. Bhattacharyya	Accreditation visit to Engg College at Kilakarai, Ramnad District on behalf of AICTE	Engg College at Kilakarai, Ramnad District	29 th Jan.07
23	Prof. V. Sundar	Selection Committee meeting	IIT Kharagpur	Feb. 22, 2007
Symposia				
1	Prof. V. Sundar	Asia Link Symposium on "Joint Study Programmes"	DAAD German Academic Exchange Service, New Delhi	24.11.2006
2	Dr. P. Krishnankutty	International Symposium on Maritime Hydraulics (ISMH)	The Asia and Pacific Division of the International Association of Hydraulic Engineering and Research (IAHR)	6-10, August 2006
Workshop				
1	Prof. R. Sundaravadivelu Prof. V. Sundar	Workshop on Coastal Protection Measures	IIT Madras, Chennai	11 August 2006
2	Dr. S. Nallayarasu	Offshore Structures analysis and design	Saipem India Project Services Limited	11 th to 15 th December 2006
3	Prof. V. Sundar	International Workshop on Capacity Building in ICM	Anna University, Chennai	29.01.2007
4	Dr. S. Nallayarasu	Analysis and Design using software SACS	ONGC Office at 11, High, Sion-Bandra Link Road, Mumbai	22 nd to 24 th January 2007
5	Dr. S. Nallayarasu	Fatigue analysis of offshore platforms	Dept. of Ocean Engineering, IIT Madras	Feb 19-21, 2007

Special Lectures Delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1	Dr. K. Murali	Ocean Wave Hydrodynamics	ICMAM, Chennai, 6 Mar. 2006
2	Dr.S.A. Sannasiraj	Hard options for coastal protection.	Workshop on Post Tsunami Coastal Protection Projects, Chennai, 12th June.
3	Prof. V. Sundar	Effects on Tsunami and Coastal Protection	University of Waterloo, Canada 23.06.2006
4	Dr. K. Murali	CFD and Its Applications	NOPL, Kochin, 19 Jul. 2006
5	Dr. V.Anantha Subramanian	Keynote lecture on CFD applications in ship design	NAL Bangalore, July 2006, National Symposium on CFD applications
6	Prof. V. Sundar	"Coastal Erosion and Coastal Protection Structures"	Anna University, Chennai 1.08.2006
7	Dr.S.A. Sannasiraj	Tsunami hazards along Tamilnadu coast.	Workshop on Coastal Protection Structures, IIT Madras, Chennai, 11th Aug.

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
8	Dr.S.A. Sannasiraj	Design of breakwaters. Training program for engineers from Tamilnadu Maritime Board	IIT Madras, 20 Aug.
9	Prof. R. Natarajan	Key Note Address on "Education and learning"	Vel's Srinivasa College of Engineering & Technology Chennai September 6, 2006
10	Prof. S.K. Bhattacharyya	Ship Safety in Accident Scenarios: Inspection, Prevention and control	NIPM, Chennai September 26 AN & 28 (AN), 2006
11	Prof. VG Idichandy	Sensors	NSTL, Vizag 21-22, Aug 2006
12	Dr. K. Murali	CFD Applied to Underwater Hydrodynamics	NPOL August 2006
13	Prof. S.K. Bhattacharyya	Ship safety in Accident Scenarios: Inspection, Prevention and control	NIPM, Chennai October 12 (AN), 2006
14	Prof.S.K. Bhattacharyya	Ship Safety in Accident Scenarios: Inspection, Prevention and Control	NIPM, Chennai 24 th November 2006
15	Dr.S.A. Sannasiraj	Wave modelling and data assimilation scheme for wave forecasting, Workshop on Geophysical Fluid Dynamics	National University of Singapore, 27-28 Nov.
16	Prof. R. Sundaravadivelu	Rehabilitation measures for the Tsunami affected coast of Tamilnadu, Andhra Pradesh, Kerala, Pondicherry and Andaman Nicobar Islands	Trivandrum, 27.11.2006
17	Dr. S.A. Sannasiraj	Damage assessment of coast guard jetty at Port Blair.	Port Blair, 2 Dec., 2007
18	Dr. K. Murali	Post Tsunami Survey in Andaman-Nicobar Islands	ALHW, A&N Islands, 02 Dec. 2006
19	Prof. R. Sundaravadivelu	Rehabilitation measures for the Tsunami affected coast of Tamilnadu, Andhra Pradesh, Kerala, Pondicherry and Andaman Nicobar Islands	Port Blair, 02.12.2006
20	Prof. S.K. Bhattacharyya	Ship safety in Accident Scenarios: Inspection, Prevention and control	NIPM, Chennai 6th December 2006
21	Prof. V.G. Idichandy		NSTL, Visakapatnam 11-12th December 2006
22	Dr. S.A. Sannasiraj	Post-tsunami survey to evaluate the damages along Indian coast.	University of Madras, 18-20 Jan., 2007
23	Prof. V. Sundar	Coastal Protection Measures with special reference to Tamil Nadu Coast	ICM, Anna University 29 th Jan.07
24	Prof. S.K. Bhattacharyya	Ship safety in Accident Scenarios: Inspection, Prevention and control	NIPM, Chennai 16 th 22 nd & 23 rd January 2007
25	Prof. V. Sundar	Workshop on "After Tsunami; Lessons Learnt and Future Strategies" at Pondicherry Delivered a Lecture on Tsunami – generation, propagation and effects.	Pondicherry Feb. 24, 2007

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
26	Prof.S.K.Bhattacharyya	Ship safety in accident scenarios: Inspection, prevention and control	NIPM, Chennai March 8-9 & 12, 2007
27	Dr. K. Murali	National Program for Capacity-building of Architects/Engineers in Earthquake Risk Management (NPCBEERM)	TKM College of Engineering, Kollam, Kerala March 29-30, 2007

Visits abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
1	Prof. V. Sundar	Canada	08.04.06 to 16.04.06	Visited University of Waterloo, Canada for technical discussion
2	Prof. J.S. Mani	Portugal	08.05.2006 to 10.05.2006 & 11.05.2006	a) Presented papers in the 1st Int. conference on the "Application of Physical Modelling to Port and Coastal Protection" b) Visited Coastal sites and Coastal protective Structures
3	Prof. V. Sundar	Germany Canada Spain Italy	10.05.2006 to 26.06.2006	a) Offered a few courses in the field of Coastal and Ocean Engineering at the University of Wuppertal, Germany sponsored by DAAD b) Visited University of Kiel & University of Cottbus, University of Waterloo & Toronto in Canada and University of Barcelona in Spain under Professional Visit c) Participated in the 2 nd International short course and workshop on Coastal processes and Port Engineering held in Italy.
4	Dr. S.A. Sannasiraj	Germany Italy	10.05.2006 to 09.06.2006	a) Visited to University of Kiel, Germany and University of Wuppertal under Special DAAD Scholarship Scheme for research work b) Attended and presented paper at the 2 nd International short course and workshop on Coastal processes and port engineering held in Italy
5	Prof. C.P. Vendhan	USA UK	15.05.2006 to 28.07.2006	(a) Attend and presented paper in the 151 st meeting of the Acoustical Society of America (ASA) in Providence, Rhode Island, USA (b) Visited the School of Engineering Sciences, University of Southampton, UK
6	Prof. V. Anantha Subramanian	Germany	01.06.2006 To 02.07.2006	Visit to Germany under DAAD – IIT Exchange Program
	Prof. V. Anantha Subramanian	Hamburg	01.06.2006 to 05.06.2006	Attended the OMAE 2006
7	Dr. K. Murali	Germany	04.06.2006 to	Presented paper in the OMAE 2006, 25 th International

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
			10.06.2006	Conference on Offshore Mechanics and Arctic Engg., held at Hamburg
8	Dr. K.Murali	Germany	11.06.2006 to 14.06.2006	Visit to Bremen under academy exchange program
9	Prof. V. Sundar	Canada	23.6.2006	Delivered lecture on "Effects on Tsunami and Coastal Protection", Univ. of Waterloo
10	Dr. S A Sannasiraj	Singapore	14.07.2006 to 19.07.2006	Attend and presented papers at the AOGS 2006
11	Dr. K. Murali	Thailand	28.08.06 to 31.08.06	Attend Regional Technical Workshop on "Coastal Protection in the aftermath of the Indian Ocean Tsunami: what role for forests and trees"
12	Prof. SP.Subramanian	Egypt	4-6 th November 2006	Attended the meeting of the Committee of Directors of International Ocean Institute and Governing Board
13	Prof. V. Sundar	Hong Kong Japan Singapore	5-6 th November 2006 7-9 th November 2006 10-11 th Nov' 2006	Visited University of Hong Kong and discussion with Prof. Lee, Chairman, APD IAHR. Attended as invited speaker in the Inaugural Meeting of Port City University League (PUL). Visited the National University of Singapore
14	Prof. R.Sundaravadivelu	Japan	7-9 th November 2006	Attend the Inaugural Meeting of Port City University League
15	Dr. S. Surendran	Australia	8-11 th November 2006	Attend and present a paper at the 5 th International Conference on High Performance Marine Vehicles (HIPER 2006)
16	Dr. S.A.Sannasiraj	Singapore	26-28 th November 2006	Attended and delivered a Lecture in a Workshop on "Geophysical Fluid Dynamics and Scalar Transport in the Tropics" at IMS, National University of Singapore
17	Prof. V. Anatha Subramanian	Germany	27 th Nov. to 19 th Dec. 2006	Visited the University of Applied Science Bremen under DAAD Fellowship
18	Dr. K. Murali	Australia Thailand	13-15 th December 2006 16-18 th December 2006 20-21 th December 2006	Attended and presented paper at the 5 th International Conference on Computational Fluid Dynamics in the Process Industries. Visited the CSIRO Research Center at Sydney. Visited the United Nations Centre for Disaster Reduction, Bangkok
19	Prof. R. Sundaravadivelu	Dubai UAE	17-24 th December 2006	Visited the facility of J.Ray McDermott Middle East Inc. Jebel , Ali, Dubai

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
20	Dr. S. Nallayarasu	Malaysia	16-25 th December 2006	Visited the Vasai Field Development Project
21	Prof. V. Sundar	Hong Kong	18-19 th January 2007	Launching Symposium for Journal of Hydro-environment Research held at University of Hong Kong.
		Thailand	20-21 st Jan'07	Visited the Asian Institute of Technology, Bangkok.
22	Dr. K. Murali	Hong Kong	18-19 th Jan '07	Attended the Launching Symposium for Journal of Hydro-environment Research held at University of Hong Kong.
		Thailand	20-21 st Jan'07	Visited the Asian Institute of Technology, Bangkok.
23.	Dr. S. Nallayarasu	Malaysia	26 th to 29 th Jan'07	Attended the meeting with client (ONGC) & Consultant to the owner (Engineers India Limited) of the Project at Kuala Lumpur
24	Prof. R. Sundaravadivelu	United Kingdom	Mar.15, 2007 Mar.16-19, 2007	Presented the paper in the ECOR 2007 at University of Strathclyde, UK. Visited M/s. Gantry Railing Ltd., Gloucester, UK.
25	Dr. K. Murali	France	Mar. 1-4, 2007	Intensive Programme Hydro-Europe 2007 France

Honours and Awards obtained:

Sl. No	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1	Dr.S.A. Sannasiraj	Special DAAD fellowship	DAAD, Germany	Tsunami related activities	10 May to 11 June, 2006
2	Dr.S.A. Sannasiraj	Indian Maritime Award	Ministry of Surface Transport, Govt. of India	For the work on 'Prediction of Tsunami wave using Data Buoys'	May 2006
3.	Prof. V. Sundar	Honorary Doctor	University of Wuppertal, Germany	Outstanding educator and researcher through collaborative projects	1 st June 2006
4.	Dr. K Murali	Best Paper Award for the paper titled "Front tracking approach to liquid-air interface"	15 th Congress of APD IAHR held at IIT Madras	Paper titled "Front tracking approach to liquid-air interface"	August 2006
5.	Dr. V. Sundar Dr. S.A. Sannasiraj	Best Paper Award for the paper titled "Simulation of nonlinear free surface waves"	15 th Congress of APD IAHR held at IIT Madras	Paper titled "Simulation of nonlinear free surface waves"	Aug' 2006

Sl. No	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
6.	Prof SP. Subramanian	2006 South-South Partnership Award	United Nations, New York	South-South Grants Facility to retrain women in alternate and sustainable occupations after being so adversely affected by the Tsunami of 2004.	December 19, 2006
7.	Dr. S.A. Sannasiraj	Endeavour India Executive Award	Department of Education, Science and Training, Australian Government	Indian professionals to share the working experience with the Australian counterparts.	March 2007

Books, Monographs authored / co-authored

Sundar, V. " Protection Measures Against Tsunami-type Hazards for the Coast of Tamilnadu, India", published in the book "The Indian Ocean Tsunami" edited by Tad.S.Murty, U.Aswathanarayana and N.Nirupama, published by Taylor & Francis/Balkema, The Netherlands, 2006, pp 411-421

Fellowships of Academics and Members in Professional Societies

Sl. No.	Name of the Faculty	Name of the Academy	Level	Year of Admission
1	R. Sundaravadivelu	FNAE	The Indian National Academy of Engineering	
2	Prof. V. Sundar	APD-IAHR	Vice Chairman of the APD IAHR by the IAHR Council	2006
4	Dr. S. Surendran	Society of Naval Architects and Marine Engineers, New Jersey, USA	Member	2007
5.	Prof. R. Sundaravadivelu Prof. V. Sundar Prof. SP Subramanian Prof. S.K. Bhattacharyya Prof. C.P. Vendhan Prof. V. Anantha Subramanian Prof. R. Natarajan Dr. S. Surendran Dr. S. Nallayarasu Dr. P. Krishnankutty Dr. S.A. Sannasiraj Dr. K. Murali Dr. R. Paneer Selvam	Royal Institute of Naval Architects, London, UK	Member	2007
8.	Prof.R.Sundaravadivelu	Engineering Committee of Oceanic Resources (ECOR) Oil and Gas panel, UK	Member	2007
9.	Prof. V. Sundar Dr. S.A. Sannasiraj	Bureau of Indian Standard Committee for Draft code on "Criteria for design at Tsunami Resistant Structures"	Member	2007

Journal Editorial Boards

Sl. No.	Name of faculty	Position (Editor / Member)	Journal Name
1	Prof. V. Sundar	Member	Indian Journal of Marine Sciences for the period 2005-07
		Associate Editor	IAHR-APD Journal
		Associate Editor	Ocean Engineering journal (International) by Elsevier Publishing Co.
		Member of the Guest Editorial Board	Special Issue of International Journal of Ecology and Development on Coastal and Estuarine Environment, 2007
2	Prof. S. Narasimha Rao	Member	Geotechnical Testing Journal, ASTM International
3.	Prof. V. Sundar	Member	Journal of Coastal Research
4.	Dr. S. Surendran	Member	Far East Journal of Ocean Research
5.	Dr. S. Surendran	Member	International Journal of Ships and Offshore Structures
6.	Prof. S.K. Bhattacharyya	Member, Editorial Board	Journal of Ship Technology

4.15.4. Design and Development Activities

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

- a. Void Fraction Probe – to measure air volume in water using air-water conductance principle

New facilities added or major equipment procured through project funds:

S.No.	Name of Equipment	Value (in Rs.)
1.	HP Workstation XW4400	110255
2.	Sony Laptop	65000

1. Purchased and implemented under NFS, the software for Finite Element Analysis of tubular connections called "STRAND7" from Strand7 Pte Ltd, Australia
2. Purchased and implemented SACS software (Structural Analysis Computer System). This software is useful for analysis and design of Offshore structures.
3. Purchased and implemented SESAM software from NIC, (Coordinator for licencing in India). The software is developed by Det Norske Veritas and is a special purpose software for analysis of Offshore structures, ships and hulls.
4. Purchased and implemented OPTIMOOR software, from Tension Technology International for the use of mooring analysis of vessels and ships.
5. Design of Wave absorbers
6. Design of current generation facility

4.15.5 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	Department 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	26.09	Dr. V. Anantha Subramanian Dr. K. Murali
4.	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
5.	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
6.	System Identification for Non-linear Maneuvering and Sea-keeping of Ships	March '05 March '08	Naval Research Board	28.40	Dr. S.K. Bhattacharyya
7.	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
8.	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
9.	Co-ordinated action on Ocean Energy	Feb'07 Dec'07	European Commission	8.45	Dr. S.A. Sannasiraj
10.	Rehabilitation and reorientation of women's livelihood in the Tsunami affected dalit village of Madasamipuram in South India	Feb'07 Dec'07	United Nations Development	8.86	Prof. SP Subramanian

Industrial Consultancy:

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
1.	Prof. R Sundaravadivelu Prof. S.R. Gandhi Dr. P Alagusundaramoorthy	Design of IT Park	M/s Vishranthi Homes Pvt Ltd., Chennai – 18	9.00
2.	Prof. R Sundaravadivelu Prof. V Sundar Dr. S.A. Sannasiraj	Protection of Coast	Irrigation and Public Health Department	22.00
3.	Prof. R Sundaravadivelu Dr. S.A. Sannasiraj	Temporary jetty at Cuddalore	International Freight Services Ltd., Mumbai	1.00

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
4.	Prof. R Sundaravadivelu Dr. S. Nallayrasu	Design of LNG/ LPG facilities at Angola	M/s Afcons House Mumbai	10.10
5.	Prof. R Sundaravadivelu	Design of jetty at Naval Base at Vishakapatnam Port	Naval Project Naval Base Vishakapatnam	0.77
6.	Prof. S Narasimha Rao Prof. V Sundar	Preparation of report for Offshore Geotech, investigations for ADB site	VPC Concrete & Geotechnologies Vishakapatnam	0.15
7.	Dr. R. Sundaravadivelu	Design of Retaining wall in Yanam	The Executive Engineer, PWD Pondicherry UT	2.75
8.	Dr. R. Sundaravadivelu Dr. K. Murali	Development of Port at Rodi, Maharashtra	I-Maritime Consultancy Pvt Ltd., Navi Mumbai 400 614	1.68
9.	Dr. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	Coastal Protection works – Construction of groyne at Enayam – Puthenthurai in Kanyakumari district Bathymetry Survey	Executive Engineer WRO, PWD. Anti Sea Erosion Division, Nagercoil	4.82
10.	Dr. V. Sundar Dr. S.A.Sannasiraj Dr. K.Murali	Coastal Protection works – Extension of Groyne at Periyakadu in Kanyakumari District (155m) Bathymetry Survey	Executive Engineer WRP. PWD, Anti Sea Erosion Division, Nagercoil	4.77
11.	Dr. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	Coastal Protection works – Construction of Groyne at Manakudi Village in Kanyakumari District Bathymetry Survey	Executive Engineer WRO PWD Anti Sea Erosion Division, Nagercoil	4.93
12.	Dr. V. Sundar Dr. S.A.Sannasiraj	TTDC Ltd. Engineering Wing – Inspection of HT (Beach, Resorts, Complex) Mamallapuram	Tamilnadu Tourism Development Corporation Ltd, Chennai-2	0.67
13.	Dr. V.Ananthasubramanian	Resistance and stability test for House Boat	Samudra Shipyard Pvt. Ltd., Aroor, Kerala	0.35
14.	Dr. V.Ananthasubramanian	Resistance and Propulsion test for 500T Water barge	Vipul Shipyard Surat 395 007	3.00
15.	Prof. R Sundaravadivelu	Design of jetty at Okha Port	M/s Maritime Ltd., Mumbai	1.68
16.	Prof. S Narasimha Rao	Irrigation projects – 3 rd party inspection	M/s GHERZI Eastern Ltd., Hyderabad	0.60
17.	Prof. R Sundaravadivelu Prof. S R Gandhi	Strengthening of coal jetty – II at Tuticorin Port	Tuticorin Port Trust	6.06
18.	Prof. R Sundaravadivelu Prof. S R Gandhi	Deepening of Mattancherry wharf of Cochin Port	Cochin Port Trust Cochin	11.02
19.	Prof. R Sundaravadivelu Prof. S R Gandhi	Deepening of Ernakulam wharf of Cochin Port	Cochin Port Trust Cochin	8.81
20.	Prof. R Sundaravadivelu	Training works and piled jetty at Pudukkuppam	P.W.D Pondicherry	6.61
21.	Prof. R Sundaravadivelu Dr. S Nallayarasu	Upgradation of wharf	Karwar Port Karwar	3.36
22.	Prof. V. Sundar Dr. S A Sannasiraj Dr. K. Murali	Development of Fisheries Harbour at Arala Taluka, Thana	West Bengal Fisheries Corp. Ltd., Kolkatta	4.88

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
23.	Prof. R Sundaravadivelu Prof. S.R. Gandhi	Design jetty for inter island vessels and tourist yachats	Ministry of Shipping Road Transport and Highways Port Blair 744101	10.10
24.	Prof. R Sundaravadivelu Prof. V Sundar Dr. S A Sannasiraj Prof. S R Gandhi	Design of break water and diaphragm wall at Nagai Port	Tamilnadu Maritime Board Chennai – 17	2.24
25.	Prof. S Narasimha Rao	Soil investigation for the construction of HO building at OTA	Garrison Engineers Chennai – 16	0.25
26.	Prof. R Sundaravadivelu Dr. P Alagusundaramoorthy	Rehabilitation of fender beam at 8 th berth of Tuticorin	Tuticorin Port Trust Tuticorin	1.12
27.	Prof. R Sundaravadivelu Prof. V Sundar Dr. S.A. Sannasiraj	Monitoring rehabilitation of Cuddalore and Nagapattinam Port	Tamilnadu Maritime Board Chennai	1.80
28.	Prof.R.Sundaravadivelu Dr. S. Nallayarasu	Deepening of berths	Vishakapatnam Port Trust	10.10
29.	Prof.R.Sundaravadivelu Dr.K.Ananthanarayanan	Dredging in Chilika Lake	Chilika Development Authority	16.83
30.	Prof.R.Sundaravadivelu Prof. R. Natarajan	Crawl cat dredgers	Chilika Development Authority	2.24
31.	Prof.R.Sundaravadivelu	Sethu Samudram Project	RDS Project Ltd.	1.12
32.	Prof.V Ananthasubramanian	High speed planning vessel	Valeth Hightech Composites (P) Ltd.	3.03
33.	Prof. J.S. Mani	Karaikal Port Development	MARG., Karaikal Port Pvt Ltd., Chennai	13.00
34.	Prof. R Sundaravadivelu Prof. SP Subramanian	Preliminary project report for Inland water transport from Sonapur to Mercaunam	Good Earth Maritime Chennai	1.00
35.	Prof. R Sundaravadivelu	Rehabilitation of Berths at New Mangalore Port	New Mangalore Port	1.12
36.	Prof. R Sundaravadivelu	Vetting soil investigation of MRPL project	Mangalore Refinery and Petrochemicals Ltd., Mangalore	2.02
37.	Prof. R Sundaravadivelu	Construction of Rock Revetment in Pondicherry	PWD Pondicherry	16.53
38.	Prof. R Sundaravadivelu Dr. K. Ananthanarayaan Dr. S.A. Sannasiraj	Dredging in Cuddalore Port	Tamilnadu Maritime Board Chennai	2.24
39.	Prof. R Sundaravadivelu Dr. K. Ananthanarayaan Dr. S.A. Sannasiraj	Dredging in Nagapattinam Port	Tamilnadu Maritime Board Chennai	2.24
40.	Dr. S. Nallayarasu	Marine terminal facilities near Cuddalore	Afcons Infrastructure Ltd.	1.50
41.	Prof.R.Sundaravadivelu	Rehabilitation of Mooring Dolphin at Chennai Port	Chennai Port Trust	4.40
42.	Prof.R.Sundaravadivelu	Rehabilitation of existing RCC Trestle	Gopalpur Port Ltd	1.12
43.	Prof. R.Sundaravadivelu	Salt unloading jetty in Vasai Creek in Bassein Port	M/s.Good Earth Maritime Ltd.,	2.20
44.	Prof. R.Sundaravadivelu	Reconstruction of damaged portion of Fisheries jetty at Phoenix bay complex	Andaman Lakshadweep Harbour Works, Port Blair	6.73

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
45.	Prof. R. Sundaravadivelu	Dredging in rivers Daya, Bhorgari, Luna & Makara	Dept. of Water Resources, Govt. of Orissa	23.57
46.	Prof. V. Anantha Subramanian	Resistance, Propulsion and flows lines for a work boat cum supply vessel	Adcock Ash Down (Gujarat) Ltd., Bhavnagar	3.00
47.	Prof. R. Natarajan Prof.R.Sundaravadivelu	Proof checking of the design and drawings, inspection and commissioning of one self propelled barges for ferrying in Chilika Lagoon.	Chilika Development Authority Bhubaneshwar	2.24
48.	Prof. R. Natarajan Prof.R.Sundaravadivelu	Technical advice during the course of carrying out repairs to the self propelled barges pontoons and Ro Ro bridges	Chilika Development Authority Bhubaneshwar	1.12
49.	Prof. V. Sundar Dr. S.A. Sannasiraj	Krishnapatnam Port Project Tranquility and 2D model studies	Krishnapatnam Port Company Ltd, Hyderabad	12.90
50.	Prof. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	Expert advisory report of Mangrove debris and siltation at Tajong Bin intake basin	M/s.TNSC (Inida) Pvt. Ltd., Hyderabad	5.05
51.	Prof. SP. Subramanian Prof. R.Sundaravadivelu	Construction of revetment for control of erosion of East quay and sand filled the enclosed area	Chennai Port Trust, Chennai	1.12
52.	Prof. R. Sundaravadivelu	Design of foundation for bridge at Chelari Ghat	M/s. Navayaga Engineering, Hyderabad	1.12
53.	Prof. R. Sundaravadivelu	Design of landing jetty at Jawaharlal Nehru Port	Jawaharlal Nehru Port Trust, Navi Mumbai	3.92
54.	Prof. R. Sundaravadivelu Prof. V. Sundar Prof. S.R. Gandhi Dr. S.A. Sannasiraj Dr. S. Nallayarasu	EIA and EMP for Gopalpur Port	Gopalpur Port Ltd., Orissa	22.44
55.	Prof. R. Sundaravadivelu	Protective Structure to the landing jetty at Jawaharlal Port	Jawaharlal Nehru Port Trust, Navi Mumbai	3.92
56.	Prof.V. Anantha Subramanian Dr. P. Krishnan Kutty	Hydro dynamic design evaluation of AHT/Supply vessel	TERO Maines Pvt Ltd, Singapore	3.00
57.	Prof.V. Anantha Subramanian Dr. P. Krishnan Kutty	Sea going coastal vessel model testing and vessel design	Master shipyard (Pvt) Ltd, Kochi	12.00
58.	Prof. R. Sundaravadivelu	Development of Chudamani Minor Port	Essel Mining & Industries Ltd., Kolkota	6.73
59.	Prof.R.Sundaravadivelu Prof. R. Natarajan Dr. S. Surendran Dr.P.Alagusundaramoorthy	Ship yard at Cuddalore	M/s. Good Earth Maritime Ltd., Chennai	0.80
60.	Prof. R Sundaravadivelu Prof. SR Gandhi	Jetty at Junglighat Harbour in Port Blair	Dept. of Shipping Port Blair	4.40
61.	Dr. S. Nallayarasu	Fatigue analysis of Jacket platform	Aker Kvaerner Engineering, Malaysia	1.80
62.	Prof. V. Sundar Dr. S.A. Sannasiraj	Fishing harbour at Chethi in Alappuzha District	Harbour Engineering Department, Trivandrum	2.91

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
63.	Prof.R.Sundaravadivelu	Widening of south approach bridge at JN Port	Jawaharlal Nehru Port Trust, Mumbai	6.73
64.	Prof.R.Sundaravadivelu	Shore based facilities at Rameshwaram	Sethusamudram Corporation Ltd., Chennai	18.80
65.	Prof.V. Anantha Subramanian Dr. P. Krishnankutty	Powering and flow lines estimation of pilot vessel	Henderson Intl. LLC UAE	1.60
66.	Prof. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	WRO – Construction of two groynes of 400 m length (each) at Thirupuram in Thoothukudi	PWD Thoothukudi	4.88
67.	Dr. K. Murali Dr. S.A. Sannasiraj	CED study for Mangrove debris barrier	TPSC (India) Pvt. Ltd., Hyderabad	1.50
68.	Prof. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	Numerical model studies for Offshore Terminal off Tetra with dredge pit at -9.4 m	Kandla Port Trust Gandhidhum	3.25
69.	Prof. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	Study on Coastal protection on the entire coast of the state	Disaster Management Department, Thiruvanantha-puram	7.29
70.	Prof.V. Anantha Subramanian	Resistance and flow dynamics of 49 m product tanker	Modest Infrastructure Pvt. Ltd., Mumbai	1.79
71.	Prof. R. Sundaravadivelu	Experimental study on FPSU in waves tank	Interfield Deep water Inc. Houston	4.50
72.	Prof. R. Sundaravadivelu	Design of Diaphragm wall and pile foundation	Navayuga Engg. Co. Chennai-8	1.12
73.	Prof. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	WRO – Construction of groynes at Idinthakarai, Tirunelveli	PWD Tenkasi	4.88
74.	Prof.V. Anantha Subramanian	Design and analysis of passenger launch	Vignesh Marine Technical Services	1.50
75.	Dr. S. Nallayarasu Dr. S.A. Sannasiraj	Jetty at Cuddalore for M/s. Sanmar Chemplast,	Afcons Infrastructure Ltd., Chennai	33.67
76.	Prof. R. Sundaravadivelu	LPG Bottling plant for IOTL at Manali	Engg consultants & Contractor, Chennai	1.12
77.	Prof. V. Sundar Dr. S.A. Sannasiraj	Vetting of design of Breakwater at Pawas Bay, Ratnagiri, Maharashtra	Afcons Infrastructure Ltd., Mumbai	1.68
78.	Prof. V. Anantha Subramanian Dr. P. Krishnan Kutty	Motion Studies on work boat cum supply vessel	M/s.Alcock Ashdown Gurajat Ltd., Bhavnagar	3.00
79.	Prof. J.S. Mani	KALPASAR – Fresh water storage reservoir project	NWWK Dept., Gujarat Govt.	6.00
80.	Dr. S. Nallayarasu	Checking of design of Canopy	MMC Doortech Services Pvt. Ltd., Chennai	0.28
81.	Dr. S. Nallayarasu	Structural design verificatin for MOQ Block 5 package 14 facilities	Aker Kvaesner Power Gas Pvt. Ltd., Mumbai	11.22
82.	Prof. R. Sundaravadivelu	Open sea coal handling berth at Cuddalore	Cuddalore Power Company, Chennai	1.12
83.	Dr. S. Nallayarasu	Structural Design Review of ONGC Heera project for SEMPEC, Jakarta, Indonesia	PT. SEMPEC Indonesia	9.00

RBIC Projects

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.inlakhs)
1.	Prof. V.G. Idichandy	Design and Development of Pressure Measurement system	D.R.D.L. Hyderabad	9.90

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

Prof. V. Anantha Subramanian and Dr. S.S. Sannasiraj visited Germany under DAAD Exchange programme

Research Publications:

No. of papers published in Refereed National Journals	...	06
No. of papers published in Refereed International Journals	...	34
No. of papers presented in National Conferences	...	05
No. of papers presented in International Conferences	...	47

In Refereed National Journals:

1. M. Suneel Kumar, P. Alagusundaramoorthy and R. Sundaravadivelu. "Stability of Stiffened Plates under Axial and Out-of-plane Loading, Part II – Finite Element Analysis. Journal of Construction Steel Research (Paper No.JCSR-D-06-00112).
2. A.Srinivas, C.P.Vendhan and S.K.Bhattacharyya, 'Dynamic analysis of articulated floating bridges', Journal of Ship Technology, Vol. 2, pp. 1-21, 2006.
3. Balaji, R., Sannasiraj, S.A. and Sundar, V., "Physical model studies on discus buoy in regular, random and double peak spectral waves", *Indian Journal of Marine Science* vol, 36 (1),2007
4. Subramanian V.A., Sulficker Ali, K.Murali "On the computation of resistance of planing crafts using RANS models" Journal of Ship Technology, Vol.2, no.2, July 2006 pages 1-14.
5. **T.Rajesh Kannah and R. Natarajan, "Hydrodynamics of external turret moored FPSO system", *Indian Journal of Marine Sciences*, Vol.36(1), pp.27-34, March 2007**
6. A. Boominathan, P. Alagusundaramoorthy and R. Sundaravadivelu, Rehabilitation and retrofitting for vibration of the supporting structure of dehydrating centrifuge machine, Journal of Structural Engineering, Vol.33, No.1, April-May 2006 pp.57-62

In Refereed International Journals

1. Madhuri, S., Sannasiraj, S.A and Sundaravadivelu, R. (2006)" Effect of soil structure interaction analysis methods on the estimation of natural period of berthing structures, Indian geotechnical conference, Dec 10-14.2006
2. M. Suneel Kumar, P. Alagusundaramoorthy and R. Sundaravadivelu. "Stability of Stiffened Plates under Axial and Out-of-plane Loading, Part I – Experimental Study. Journal of Constructional Steel Research (Paper No. JCSR-D-06-00097).
3. K. Laju, V. Sundar and R. Sundaravadivelu. "Studies on Pile supported Double Skirt Breakwater Models". (Accepted for publication (OEI 121) in Journal of ocean Technology)
4. M. Suneel Kumar, P. Alagusundaramoorthy and R. Sundaravadivelu.(2006) Ultimate Strength of Ship Plating under Axial Compression. *Ocean Engineering*, 33 (8-9), 1249-1259.
5. Sriram V., Sannasiraj S.A., and Sundar V., "Numerical simulation of 2D sloshing waves due to horizontal and vertical random excitations", *Applied ocean Research* *jl*, 28,2006, pp 19-32.
6. Sriram, V., Sannasiraj, S.A. & Sundar, V. "Simulation of 2-D nonlinear waves using finite element method with cubic spline approximation", *Journal of fluid and structures*, Vol. 22, No 5, 2006, pp 663-681
7. Sriram V., Sannasiraj S.A. and Sundar V. " NWF: Propagation of tsunami and its interaction with continental shelf and vertical wall". Accepted Special issue of Marine geodesy on tsunamis, vol. 29,No. 3, July-Sept 2006
8. Balaji, R., Sannasiraj, S.A and Sundar, V. " Tsunami Wave Interaction with Data Buoys" *Marine Geodesy Journal* (Special Issue on Tsunamis, Part II), Vol. 29, NO: 4, Oct-Dec 2006, pp 235-253

- 9 R. Panneer Selvam, S.K. Bhattacharyya, System Identification of a Coupled Two DOF Moored Floating Body in Random Ocean Waves, *Journal of Offshore Mechanics and Arctic Engineering*, August 2006 – Volume 128, Issue 3, pp. 191-202.
10. Bhattacharyya, S.K., Haddara, M.R., Parametric Identification for Nonlinear Ship Maneuvering, *Journal of Ship Research*, Volume 50, Number 3, September 2006, pp. 197-207.
11. Sannasiraj, S.A., Babovic, V. and Chan, E.S. 2006. Wave data assimilation using ensemble error covariances for operational wave forecast. *Ocean Modelling*. 14, 102-121.
12. Munireddy, M.G., Sannasiraj, S.A. and Natarajan, R. 2007. Numerical investigation on the dynamics of a vertical wall defended by a submerged breakwater. *Ocean Engineering*. 34, 790-798.
13. Varyani, K.S., Krishnankutty, P., "Influence of Mooring Rope Characteristics on the Horizontal Drift Oscillation of a Moored Ship", *International Shipbuilding Progress*, 2006, Volume 53, Number 1, pp55-71.
14. Varyani, K.S., Krishnankutty, P., "Modification of Ship Hydrodynamic Interaction Forces and Moment by Underwater Ship Geometry", *Ocean Engineering*, 2006, 33, 1090-1104.
15. 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.
16. S. Narasimha Rao, K. Hema Latha, B. Pallavi and S. Surendran, "Studies on pullout capacity of anchors in marine clays for mooring systems", *Applied Ocean Research*, Volume 28, 2006 Pages 103-111.
- 17 Subramanian V.A., G.Asokumar, V.Jagadeesh Kumar, "Active fin control for yacht using virtual instrumentation", *Journal of Ocean Engineering*, Vol.34 (2007) pages 390-402.
- 18 Manoj Kumar and V. Anantha Subramanian "A numerical and experimental study on tank wall influences in drag estimation", published in *International journal of Ocean Engineering Vol.34 (2007) pp 192-205*.
- 19 Subramanian V.A., Dhinesh G., Deepti J.M., (2006) "Resistance optimization of hard chine high speed catamarans", *The Journal of Ocean Technology*, Vol.1, No.1, 69-82.
- 20 S. Surendran, S K Lee and Y Kim "Studies on an algorithm to control the roll motion using active fins", *Ocean Engineering*, Vol.34, 2007.
21. S. Surendran, S K Lee and KH Sohn, "Simplified model for predicting the onset of parametric rolling", *Ocean Engineering*, Vol.34, 2007. pp542-551..
22. S. Surendran and Kiran Vijayan, "Studies on the feasibilities of ship control using fins", *Intenational Journal of ships and offshore Structures Vol.1 No.4 Woodhead Publishers*, 2006.
23. S. Surendran and Kiran Vijayan, "Control of ship roll motion by active fins using fuzzy-logic", *International Journal of ships and offshore Structures Vol.1 No.5 Woodhead Publishers*, 2006.
24. S. Surendran and T. P Pramod. Non-linear analysis of a dynamically positionede platform in a stochastic seaway. *Ocean Engineering*, 2006, 878-894.
25. S. K. Lee, H. Choi and S. Surendran . 'Experimental Studies on the Slowly Varying Drift Motion of a Berthed Container Ship Model', *Ocean engineering*.2006, pp2455-2465
26. Vijayalakshmi, K., Sundaravadivelu, R., Neelamani, S. and Murali, K. (2007), Wave runup on a concentric twin perforated circular cylinder system, *Ocean Engineering*, 34(2), 327-336.
27. Vijayakumari, P.L., K.Murali and V.Sundar. (2006) "Wave Forces on Tandem Submarine Pipelines in the proximity of a sloping boundary", *The Journal of Ocean Technology*, 1(2), 68-89.
28. Jagadeesh, P and Murali,K. (2006) "Investigations on Alternative Turbulence Closure Models for Axisymmetric Underwater Hullforms", *The Journal of Ocean Technology*, 1(2), 36-57.
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2. Sundaravadivelu R., "Rehabilitation measures for Thengaithittu Lagoon", Conference on Rehabilitation measures for the Tsunami affected coast of Tamilnadu, Andhra Pradesh, Kerala, Pondicherry and Andaman Nicobar Islands, 11 – 12 Dec' 2006.
3. Sundar V., "Planning of Coastal Protection considering the effects of Tsunami coast", Conference on Rehabilitation measures for the Tsunami affected coast of Tamilnadu, Andhra Pradesh, Kerala, Pondicherry and Andaman Nicobar Islands, 11 – 12 Dec' 2006.
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4. Sundaravadivelu R., Sannasiraj, S.A., Murali, K. and Sundar, V., "Run-up and Inundation along the Indian Peninsula including Andaman Islands due to Great Indian Ocean Tsunami", International Conference on Infrastructure Development in the Port and Shipping Sector and its Management, 18 – 20 Jan' 2007.
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7. V. Sundar, S.A.Sannasiraj, K.Murali and R.Sundaravadivelu,"Run-Up and Inundation along the Indian Peninsula Including Andaman Islands due to Great Indian Ocean Tsunami, 18-20 Jan' 2007.
8. R.Sundaravadivelu, Capt. Sainath and V. Sathish Kumar,"Rehabilitation and Modernization of Cuddalore and Nagapattinam, 18-20 Jan' 2007.
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29. Sulficker, N., Murali, K., Subramanian, V. A., "On the Prediction of Hydrodynamic Forces Acting on a Ship Moving at Constant Drift", *Proceedings of the 25th International Conference on Offshore Mechanics and Arctic Engineering*, Hamburg, Germany, 4-9 June 2006.
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47. Prof. R. Sundaravadivelu, Dr. S. Nallayarasu, Mr. K. Ramachandran Rao, and Mr. A. Ramasubramanian, Deepening of Existing Berth in North Arm Inner Harbour at Visakhapatnam Port Trust, Port of Chennai celebrates 125 years of maritime service to the nation on 18-20th January 2007, University of Madras, Chennai

Visitors to the Department:

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
1.	Dr. M.A. Atmanand Scientist, NIOT	06.04.2006	Delivered an Industrial Lecture on "Towards Mining of Polymetallic Nodules from Central Indian Ocean Basin"
2.	Dr. P. Chandramohan Indomer Coastal Hydraulics (P) Ltd., Chennai	24.04.2006	Delivered an Industrial Lecture on "Planning and Management of Coastal Engineering Projects"
3.	Mr. HE BERND MUTZELBURG Ambassador to India, FRG	04.07.2006	Department visit
4.	Prof. Harry Yeh Oregon State University USA	06.07.2006	Delivered a seminar talk on 06.07.2006
5.	Prof. Lussault, The President University of Francois-Rabelais France	August 7, 2006	Department visit

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
6.	Mr. David Czap and Mr. Nils Beers Students of Naval Architecture Division Delft University of Technologie	9.9.2006	Department visit for discussion on Solar Powered Boat with DOE students
7.	Students of Govt. High School, Agatti, Lakshadweep	21.9.2006	Educational Visit
8.	A 3-member delegation from Norwegian University of Science & Technology (NTNU)	27 th November 2006	They discussed possible co- operation in the form of student exchange at Master & Ph.D level between IITM & NT NU
9.	Mr. R. Karthik, CEO, Acharya, Chennai – 24	13 th December 2006	Department visit
10.	Mr. Tetsuya Hiraishi Dr. Eng. Head, Wave Division Port and Airport Research Institute, Japan	13 th December 2006	Department visit
11.	Mr. Janaka Wijetunge Senior Lecturer in Coastal & Ocean Engineering Department of Civil Engineering University of Peradeniya, Sri Lanka	13 th December 2006	Department visit
12.	Prof. P.K. Das Prof. D. Vasalos Head, Dept. of NA University of Strathclyde and Glasgow, UK	20 th December 2006	Academic Co-operation at the PG level
13.	Dr. Sankar Subbayya Applied Science Associates, USA	2nd January 2007	Delivered a Seminar Talk on Numerical models to study hydrodynamic circulation patterns in some US estuaries and bays
14.	Mr. P.N. Ananth Sr. Coastal and Hydraulic Engineer COWI A/S. Doha, Qatar	3rd January 2007	Delivered seminar talks on (a) Marine and Coastal Engineering in COWI, with services offered in various disciplines (b) The Pearl – Qatar Project, Design and Construction of a large Man made Island in Qatar
15.	Dr. Nagan Srinivasan Houston, Texas, USA	8th January 2007	Delivered a seminar talk on “Environmental and Design Challenges in an Arctic Environment for a Production Facility
16.	The Vice-Chancellor of University of Kustem, Malaysia	10th January 2007	Department Visit
17.	Mr. Bharath Neravetla, General Manager, Sea Engineering India Private Ltd., Hyderabad	17th January 2007	Discussion with B.Tech & M.Tech Students
18.	Mr. N.D. Sarkar Executive Director Modest Infrastructure (Bhavnagar new shipyard) & Principal Officer of Mercantile Marine Department Government of India	19th January 2007	Interacted with B.Tech & M.Tech Students

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
19.	Prof. Dr. Ing. K.P. Holz Visiting Professor University of Cottbus, Germany	Feb.15, 2007	Delivered a Seminar talks on (a) Web – Based Inundation Risk Management at River Floods (b) Use of Artificial Neural Networks for Modeling Coastal Engineering Problems
20.	Prof. Dr. Mohd Lokman Husain Dean – Research and Foundation University College of Science and Technology Malaysia	Feb 28, 2007	Department visit
21.	17 Marine Engineers National Institute of Port Management Chennai	Mar.14, 2007	Departmental visit
22.	Dr. Theresa Maldonado Associate Vice Chancellor for Engineering Texas A&M University System	Mar.22, 2007	Departmental visit
23.	Mr. M.R. Sugumaran, President & 45 Students Nehru Children's Cultural Association Chennai	Mar.27, 2007	Departmental visit as part of their Science Field Trip

Socially relevant activities carried out by the Department.

Prof. V. Anantha Subramanian was member of Technical Experts Committee on Ship Breaking at Alang, constituted by the Supreme Court. The Committee deliberated in meeting during 10 sessions and submitted detailed Technical Report to the Supreme Court in the end of August 2006.

International collaboration achievements by the Department.

Dept. of Ocean Engineering, IIT Madras is one of the partners for the Euro-Aquae Euro Hydro-Informatics and Ware Management being coordinated by University of Nice, France under the Action 3 under the ERASMUS MUNDUS programme.

Students Summer Internship

1. Mr. Animesh Panda (Roll No. NA03B001) has been selected in the "Coordinated Action on Ocean Energy "(CA-OE) programme conducted by the Wave Energy Centre, Lisbon, Portugal for 20 days.
2. Mr. J. Vinay Kumar [NA04B032] has been selected to undergo Internship at Computing and Mathematics at the University of Western Australia.
3. Mr. Ashutosh Thanvi [NA03B021] has been selected to undergo Internship in Centre for Ships and Ocean Structures, NTNU, Norway.
4. Eighteen students have been selected to undergo Internship in MECH Marine Engineers Pvt., Ltd., Mumbai and Good Earth Maritime Ltd., Vishakapatnam.
5. Ankita Jain has been offered two months Internships at the Hochschule Bremen
6. Mr. Mrinal Iyer, Krishna Chaitanya have been offered two months internship at International University of Bremen.

Practical Training

The Third year B.Tech students have undergone Practical training in Goa Shipyard Limited.

Placement

Our students are well placed in reputed organizations (Salary from Rs.2.30 to 8.13 lakhs pa.) like L&T, Reflexis Systems Inc., Deloitte, Grail Research, Fair Issac, Technip India, Cemer Pangea3, Future First, ZS Associates, Sabre Travel, Indian Navy, Morgan Stanley, Techspan, Manhattan, ITC, IBM, Info Tech, GE JFWTC, Sogreah, Gulf.

4.15.6 Other Activities:

Prof. V. Sundar - Reviewer / Examiner

1. Examiner for the Ph.D thesis entitled "*Analytical and Physical Model Study on the Reflection Behaviour of Slotted Quay Wall With Wave Chamber*" Anna University, INDIA (Oct 2006).
2. Examiner for the Ph.D thesis entitled "*Applicability of Artificial Neural Networks For Investigating Short-Term Developments Of Near-shore Morphology*" University of Cottbus, Germany (Oct 2005)
3. Reviewer of papers submitted to American Society of the Civil Engineering JI and JI. Of Hydraulic Research of IAHR
 - (a) Co-guide for V. Kannaya Setti awarded M.S. for his thesis "Wave induced pressures and forces on the deck of offshore structures"
 - (c) M.S. thesis by Abdul Sharuk "Numerical Analysis of Diffuser Augmented Wind Turbine For Ocean/Marine Platforms"
 - (d) M.S. thesis by ASOKUMAR G., "Roll Motion Stabilization By Active Fins Using Virtual Instrumentation "
 - (e) **M.S. thesis by Amminikutty V., "A Numerical Study on The Performance Of Marine Propulsors".**

4.16 DEPARTMENT OF PHYSICS

4.16.1 Introduction:

The Department of physics was established in the year 1959 and now has Ph.D. and M.Sc. programmes in physics as well as an M.Tech programme in Solid state technology and B.Tech (Engg. Physics) programme. In addition, the department teaches various core and elective courses in physics to B.Tech. Students. The department also undertakes a large number of sponsored research and consultancy projects.

4.16.2 Academic Programmes:

Engg. Physics (B.Tech), M.Sc., M.Tech, (Solid State Technology) and Ph.D.

New Courses introduced:

Sl. No.	Course No.	Title
01	PH 352	Classical Physics

Students on roll as of September 2006+M.S. & Ph.D admission in Jan. 2007:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	11	10	07	11	01	40
M.Sc.	26	31	-	-	-	57
M.Tech.	06	05	-	-	-	11
Ph.D.	26	17	10	15	33	101
Total	69	63	17	26	34	209

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
01	V. Hari Babu	Ph.D.	Workshop on measurements of characterization of magnetic materials	April 18-21, 2006 Saha Institute of Nuclear Physics , Kolkatta
02	V.Satyanarayana Murthy	Ph.D.	-do-	-do-
03	K.Kamala Bharathi	Ph.D.	-do-	-do-
04	Anuj Chopra	Ph.D.	-do-	-do-
05	Sanoop Ramachandran	Ph.D.	To attend the workshop on Driven States in soft and Biological Matter To work as a visiting scientist on collaborative research project related to computer simulations of act in networks and biomembranes in the Laboratory of Physics, Helsinki University of Technology	April 18-28, 2006, Trieste, Italy Helsinki, Finland
06	A. Leela Mohana Reddy	Ph.D	4 th International ASME Conference on Fuel Cell Science, Engineering and Technology	June 19-21, 06 Irvine, California USA

Sl.No.	Name of the Student/Scholar	Programme	Name of the Conference/Seminar/ Symposia	Period/ Venue
07	Amrtha Bhide	Ph.D	7 th National Conference on Solid State Ionics 10 th Asian Conference on solid state ionics	June 6-8, 06 Bharathiar Univ. Coimbatore June 12-16, 06 Kandy, Sri Lanka
08	Benson K.Money	Ph.D	7 th National Conference on Solid State Ionics	June 6-8, 06 Bharathiar Univ. Coimbatore
09	G.Santhosh Babu	Ph.D	International Conference on Microwave Materials and their Applications National Conference on Ferroics 2006 .	June 12-15, 06 Oulu, Finland 30.06.06 –01.07.06 CVR College of Engg. Hyderabad
10	T.Vishwam	Ph.D	National Conference on Ferroics 2006	30.06.06 –01.07.06 CVR College of Engg. Hyderabad
11	T.Subeesh	Ph.D.	To attend and present Poster in the International symposium on Quantum Optics – 2006	24.07.06 to 27.07.06 Physics Research Lab, Ahmedabad
12	A.Basherrudin Mahmud Ahmed	Ph.D.	-do-	-do-
13	K.P.Biju	Ph.D.	International Symposium on Frontiers in Nano scale sciences	16 / 08 – 18 / 08 Cochin
14	M.Krishna Kumar	Ph.D.	Symposium on Nano Science Technology & Education	14 / 8 – 19 / 8 Cochin
15	V.Satyanarayana Murty	Ph.D.	International Conference on Magnetism	20 / 8 – 25 / 8 Kyoto, Japan
16	R.Venkatesh	Ph.D.	International Conference on Magnetism	20 / 8 – 25 / 8 Kyoto, Japan
17	Sanjit Kumar Debnath	Ph.D.	International Conference on Optics & Photonics-06	13 / 8 – 17 / 8 San Diego, USA
18	K.P.Biju	Ph.D.	VIII International Conference on Nanostructured Materials (Nano – 2006)	20 / 08 – 25 / 08 IISc., Bangalore
19	M.Krishna Kumar	Ph.D.	VIII International Conference on Nanostructured Materials (Nano – 2006)	20 / 08 – 26 / 08 IISc., Bangalore
20	J.Suryanarayana	Ph.D.	VIII International Conference on Nanostructured Materials	19 / 8 - 26 / 8 IISc., Bangalore
21	A.Leela Mohana Reddy	Ph.D.	VIII International Conference on Nanostructured Materials	20 / 8 – 25 / 8 IISc., Bangalore
22	V.Jagadeesh Babu	Ph.D.	VIII International Conference on Nanostructured Materials	20 / 8 – 25 / 8 IISc., Bangalore

Sl.No.	Name of the Student/Scholar	Programme	Name of the Conference/Seminar/Symposia	Period/ Venue
23	Pushpa Ann Kurian	Ph.D.	VIII International Conference on Nanostructured Materials	19 / 8 – 26 / 8 IISc., Bangalore
24	V.Krishna	Ph.D.	VIII International Conference on Nanostructured Materials	22 / 8 – 25 / 8 IISc., Bangalore
25	Anuj Chopra	Ph.D.	To carry out a part of Ph.D research work under DST-DAAD Indo German Project	01 / 09 – 15 / 11 Leibniz-Institut for Festkorper-und Werkstofforschung Dresend, Germany
26	P.Thiagarajan	Ph.D.	The 9 th Asian Symposium on Information displays	8 / 10 – 12 / 10 IIT Kanpur
27	K.Satyamoorthy	Ph.D.	National Symposium on Instrumentation	12 / 10 - 15 / 10 IISc. Bangalore
28	R.B.Rakhi	Ph.D.	International workshop on Hydrogen Energy : Production Storage and Application, 2006	05/11 -09 / 11 University of Rajasthan, Jaipur
29	Neetu Jha	Ph.D	-do-	-do-
30	Singdha Thakur	Ph.D.	International Conference on Liquid Crystals 2006	05 / 12 – 08 / 12 Univ. of Mumbai
31	Kailash Chandra Jena	Ph.D.	International Conference on Recent Trends in Nanoscience & Technology	07 / 12 – 09 / 12 Jadavpur Univ. Kolkata
32	D.Rajasekhar	Ph.D.	MST 11 th International Workshop	11 / 12 – 15 / 12 SV Univ. Tirupathi
33	Sanjit Kumar Debnath	Ph.D.	Photonics 2006	12 / 12 – 17 / 12 Univ. of Hyderabad
34	Basanta Bhaduri	Ph.D.	International Commission for Optics (ISO) Indo-US Science & Technology forum (SPIE)	13 / 12 – 16 / 12 University of Hyderabad
35	K.Sathiyamoorthy	Ph.D.	RAMP 2006 – PSGCT	14 / 12 – 17 / 12
36	Savitha Pillai	Ph.D.	International Symposium for Research scholars (ISRS 2006) on Metallurgy Material Science & Engineering	18 / 12 – 20 / 12 IIT Madras
37	G.Srinivas	Ph.D.	-do-	-do-
38	K.Mohan Kant	Ph.D.	-do-	-do-
39	P.Thiagarajan	Ph.D.	-do-	-do-
40	R.Venkatesh	Ph.D.	-do-	-do-
41	S.Narayana Jamaladataka	Ph.D.	-do-	-do-
42	Neetu Jha	Ph.D.	-do-	-do-
43	B.Ramachandran	Ph.D.	-do-	-do-
44	S.Venkatesh	Ph.D.	-do-	-do-
45	K.Ajaya Kumar	M.Tech.	XIV National Seminar on ferro electrics & Dielectrics (NSFDXW06)	18 / 12 – 22 / 12 IIT, Kharagpur
46	Benson K.Money	Ph.D.	51 st DAE-Solid State Symposium	26 / 12 – 30 / 12 Baskotullah Univ. Bhopal
47	Lakshminarayana Patro	Ph.D.	-do-	-do-

Sl.No.	Name of the Student/Scholar	Programme	Name of the Conference/Seminar/Symposia	Period/ Venue
48	K.Ramesh Kumar	Ph.D.	-do-	-do-
49	S.Sunil Kumar	Ph.D.	XVI National Conference on Atomic, Molecular & Optical Physics	08 / 01 – 14 / 01 TIFR, Mumbai
50	Gopal Dixit	Ph.D.	- do -	- do -
51	Ummal Momeen	Ph.D.	- do -	08 / 01 – 11 / 01 TIFR, Mumbai
52	Zahera Jabeen	Ph.D.	Statphys-VI	Kolkata 04 / 01 – 09 / 01
53	R.B.Rakhi	Ph.D.	Advanced Nano Materials ANM – 2007	IIT Bombay 08 / 01 – 10 / 01
54	V.Jagadeesh Babu	Ph.D.	-do -	- do -
55	S. Begam Elavarasi	Ph.D.	National Magnetic Resonance Society – NMRS 2007	05 / 02 – 08 / 02 NCL, Pune
56	Satyam Mukherjee	Ph.D.	Assembly, Organisation & Propulsion in complex systems (AOPCS 07 Conf)	22 / 02 – 24 / 02
57	Zahera Zabeen	Ph.D.	-do-	-do-
58	N.Nirmal Thyagu	Ph.D.	-do-	-do-
59	Snigda Thakur	Ph.D.	-do-	-do-
60	Sanoop Ramachandran	Ph.D.	-do-	-do-
61	N.Ramakrishnan	Ph.D.	-do-	-do-
62	K.Jayasree	Ph.D.	-do -	-do-

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

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
1	K.Sathyamurthy	PHD01010	Best Paper Award	National Symposium on Instrumentation (NSI-31) organized at the Institute of Technology and Management, Gwalior during October 12-15, 2006
2	Basanta Bhaduri	PH05D006	2 nd prize in the National Instrument's VI Mantra contest 2006	Conference on Virtual Instrumentation in Engg. Education on November 8, 2006

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prize	Prize awarded by
3	T.Vishwam		Best Paper Award	14 th National Seminar on Ferroelectrics & Dielectrics (NSFD-XVI) held at IIT-Kharagpur (Dec.18-21, 2006)
4	R.B.Rakhi		Best Paper Award	International Symposium for Research scholars (ISRS 2006) was held during December 18-20, 2006 in IIT Madras
5	A. Leela Mohana Reddy		Best Paper Award	International Symposium for Research scholars (ISRS 2006) was held during December 18-20, 2006 in IIT Madras

4.16.3 Faculty and their activities:

Faculty:

Emeritus Professor:

V.Balakrishnan, Ph.D.
Brandeis Univ.,

Professors

V.Damodara Das, Ph.D
(SPU,Vidyanagar)
P.C.Deshmukh, Ph.D (**Head**)
(Nagpur Univ., Nagpur)
K.Hariharan, Ph.D
(IIT, Madras)
M.P.Kothiyal, Ph.D
(IIT, Madras)
(Mrs) S.Lakshmi Bala, Ph.D
(Madras Univ.)
G.Markandeyulu, Ph.D
(IIT, Madras)
V.R.K.Murthy, Ph.D
(IIT, Madras)
V.S.Murty, Ph.D
(IIT, Madras)
T.S.Natarajan, Ph.D
(IIT, Madras)
(Mrs) Neelima M. Gupte, Ph.D
(SUNY, Stony Brook, USA)
M.S.Ramachandra Rao Ph.D
(IIT, Kharagpur)
S.Ramaprabhu, Ph.D
(IIT, Madras)

Major area of specialization

Dynamical Systems , Quantum Dynamics and Stochastics

Thin film science and technology

Atomic and Molecular Physics

Solid state ionics

Applied optics

Theoretical Physics with specialization in gauge theories, dynamical systems and chaos

Magnetism and magnetic materials

Microwaves and Dielectrics

Resonance spectroscopy

Conducting polymers, Instrumentation Electronics

Dynamical systems, Statistical Physics

Experimental Solid State Physics (Electronic and Management Materials - Thin films and bulk): Spintronics and Nanostructures

Hydrogen Production, Hydrogen Storage in Materials and Nonomaterials

V.Sankaranarayanan, Ph.D. (IIT, Madras)	Low Temperature Physics, Cryogenics, Thermal and Electrical Properties
A.Subrahmanyam, Ph.D. (IIT, Kharagpur)	Semiconductor Devices, photovoltaics Transparent conducting thin films
P.B. Sunil Kumar, Ph.D. (IISc, Bangalore)	Soft condensed matter, Complex Fluids
C.Vijayan, Ph.D. (IIT, Madras)	Photonics, Nonlinear Optics
Associate Professors	
Arul Lakshminarayan, Ph.D. SUNY Stony Brook	Quantum Chaos, Quantum Information theory, Chaos and Transport, Mathematical Physics
A.R.Ganesan, Ph.D. IIT, Madras.	Adaptive Optics, Vision Science, Laser Instrumentation, Interferometry, Holography and Optical metrology
S.Kasiviswanathan, Ph.D. (IIT, Madras)	Thin Films
Prem B. Bisht, Ph.D. (Kumaun Univ., Nainital)	Ultrafast laser optics and spectroscopy
M.V.Satyanarayana, Ph.D. (Madras Univ.)	Quantum optics
K.Sethupathi, Ph.D. (Moscow State Univ., Russia)	Low temperature physics, Superconductivity and Magnetic Materials
V.Subramanian, Ph.D. (IIT, Madras)	Microwaves, Semiconductors, Ferroelectrics
Govindarajan Suresh, Ph.D. (Pennsylvania Univ., USA)	Theoretical Physics, Quantum Field Theory String Theory, Solitons and D-branes
Assistant Professors	
Arvind, Ph.D. IISc., Bangalore	Quantum Information Theory
N.Harish Kumar, Ph.D. University of Hyderabad,	Superconductivity, Novel magnetic materials, Instrumentation and automation
Kavita Dorai, Ph.D. IISc., Bangalore	NMR technique development, Application to Biomolecular structure and dynamics and Quantum Computing
Mahaveer Kumar Jain, Ph.D. IIT Delhi,	Ceramics Sensors
P.Murugavel, Ph.D. IISc., Bangalore	Physics of dielectric, ferroelectric and magnetoelectric oxide materials in Bulk, Film and Nanocrystalline forms.
M.Pattabiraman, Ph.D. IIT Madras	Laser cooling and trapping of atoms; Low Temperature Physics; Magnetism
Prasanta Kumar Tripathy, Ph.D. Utkal University	String Theory
Rajesh Narayanan, Ph.D. Univ. of Oregon	Condensed Matter Theory
P.N.Santhosh, Ph.D. National Chemical Lab.	Magnetism in Condensed Matter Physics, Electroceramics, Magnetic Materials Low Temperature Characterization of Advanced Materials
Visiting Assistant Professor	
Sonjoy Majumder, Ph.D. Indian Institute of Astrophysics, Koramangala	Study of Many-Body theory in Atoms and Molecules

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

Sl.No.	Coordinator(s)	Title	Period
01	Dr.P.C.Deshmukh Professor & Head, Dept. of Physics IIT, Madras & Dr. P. Chakraborty, Saha Institute of Nuclear Physics, Kolkata	The 7 th Asian International Seminar on Atomic and Molecular Physics	December 4 – 7, 2006.
02	Dr.Prem B.Bisht	Progress on Tunable Lasers for Ultrafast Processes and Applications (ptlupa6)”	Dec. 21,22 - 2006.
03	Dr.P.B.Sunil Kumar (Convener) Dr.Abhijit Deshpande (Chem.Engg.) Co-convener	National Conference on Assembly, Organization and Propulsion in Complex Systems - 2007	Feb. 22 – 24.2007

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
01	Dr.T.S.Natarajan	International conference in Physics Education 2006 (ICAE)	Bangalore	August 21-24 /06
02	Dr.S.Ramaprabhu	International Symposium on Frontier in nanoscale Sciences	Cochin	August 16 – 18 / 06
03	Dr.N.Krishna Mohan Scientific Officer Gr.I	INDO-UK workshop on Fiber Optics & its Applications	Cochin	August 29 – 31 / 06
04	Sri S.Sainathan Scientific Officer Gr.II	Workshop on “Laboratory Innovations in Physics and 4 th Annual Convention of Rajasthan Physics Association	Govt. College, Ajmer	August 08 - 15 / 06
05	Dr.Prem B.Bisht Assoc. Professor	Indo-UK workshop on Recent Advances in Fiber Optics and photonics	IIT Roorkee	August 25-27 / 06
06	Dr.Arvind	Resource generation camp for Physics Olympiad	Homi Bhabha Centre for Science Education , Mumbai	September 23-26/06
07	Dr.C.Vijayan	Brain storming session in Photonics	Govt. of India, Vigyan Bhavan Annexure New Delhi	Sept. 29/ 06
08	Dr.V.S.Murty	National conference on emerging trends in Physics Electronics and Engineering Sciences	J.S.S.Mahavidya Peetha Mysore	25 / 09 – 26 / 09
09	Dr.V.S.Murty	To deliver a invited talk on Optical remote sensing in the National Seminar on Physics Education ETPEE 2006	TENALI AP	27 / 10

Sl.No.	Name of the Faculty	Title	Institution	Period
10	Dr.S.Ramaprabhu	International workshop on Hydrogen Energy : Production Storage and Application, 2006.	University of Rajasthan, Jaipur	05 / 11 – 09 / 11
		Conference on Science and Applications of Nanostructured Materials	Sri Satya Sai Institute of Higher Learning, Ananthapur	28 / 11 – 01 / 12
11	Dr.V.S.Murty	National Symposium on Annual Convention of Indian Association of Physics Teachers (IAPT)	Jabalpur , MP.	31 / 10 – 06 / 11
		Asia-Pacific Remote Sensing Conference – SPIE	Goa	13 / 11 – 17 / 11
12	Dr.V.Subramanian	Plasma Science Society of India – International Thermo Nuclear Experimental Research (PSSI-ITER) workshop on National Fusion Program	Institute for Plasma Research Ahmedabad	08 / 11 – 10 / 11
13	Dr.N.Harish Kumar	Plasma Science Society of India – International Thermo Nuclear Experimental Research (PSSI-ITER) workshop on National Fusion Program	Institute for Plasma Research Ahmedabad	08 / 11 – 10 / 11
14	Dr.Neelima M.Gupte	One day conference on Dynamics Day Delhi	University of Delhi, Delhi.	25 / 11
15	Dr.K.Hariharan	8 th International Symposium on Advances in Electrochemical Science and Technology	National Institute of Oceanography, Goa	28 / 11 - 30 / 11
16	Dr.V.S.Murty	International workshop on MST radar	Tirupathi	11 / 12- 15 / 12
17	Dr.P.K.Tripathy	International Conference on Indian String Meeting	Puri, West Bengal	12 / 12 – 19 / 12
18	Dr.Suresh Govindarajan	International Conference on Indian String Meeting	Puri, West Bengal	12 / 12 – 19 / 12
19	Dr.A.Subrahmanyam	Indo-Japan workshop on Zinc oxide Materials & Devices and delivered a invited talk on “In present status of P-type zinc oxide”	New Delhi	17 / 12 – 2 / 12
20	Dr.V.R.K.Murthy	XIV National Seminar on Ferro Electronics and Dielectrics	IIT Kharagpur	18 / 12 – 22 / 12
21	Dr.V.Subramanian	XIV National Seminar on Ferro Electronics and Dielectrics	IIT Kharagpur	18 / 12 – 20 / 12
22	Dr.Neelima M.Gupte	SERC School on Non-Linear Dynamics	Univ. of Calcutta	19 / 12 - 22 / 12
23	Dr.M.P.Kothiyal	SERC – DST workshop on “Optical Metrology and Diffractive Optics”	Univ. of Calcutta	26 / 12 – 28 / 12

Sl.No.	Name of the Faculty	Title	Institution	Period
24	Dr.N.Krishna Mohan	International Conference on Optoelectronics, Fibres Optics and Photonics SERC – DST workshop on Optical Metrology and Diffractive Optics	Hyderabad Univ. of Calcutta	12 / 12 – 16 / 12 25 / 12 – 27 / 12
25	Dr.P.C.Deshmukh	XI National Conference on Atomic & Molecular Physics	TIFR, Mumbai	08 / 01 – 11 / 01
26	Dr.T.S.Natarajan	Advanced Nano Material ANM 2007	IIT Bombay, IIT Mumbai	08 / 01 – 10 / 01
27	Dr.Prem B.Bisht	National Symposium on Radiation and Photochemistry	University of Madras Chennai.	29 / 01 – 31 / 01
28	Dr.P.B.Sunil Kumar	National workshop on NPTEL, Trivandrum	Trivandrum	04 / 01 – 06 / 01
29	Dr.Sonjoy Majumder	XVI National Conference on Atomic, Molecular & Optical Physics	TIFR, Mumbai	09 / 01 – 10 / 01
30	Dr.V.R.K.Murthy	National Conference on current trends in Material Research and Advanced Tech. 2007	Aurangabad	26 / 01 – 03 / 02
31	Dr.Kavita Dorai	National Magnetic Resonance Society (NMRS 2007)	NCL Pune.	05 / 02 – 08 / 02
32	Dr.K.Hariharan	UGC National Conference on Development of Materials of Energy sources	Vellalar College for Women , Erode, Affiliated to Bharathiar University, Coimbatore.	15 / 02 – 16 / 02
33	Dr.V.R.K.Murthy	National Conference on Smart Materials and Recent Technologies (SMART 2007)	Sri Venkateswara University Tripati	22 / 02 – 23 / 02
34	Dr.K.Hariharan	National Conference on Nano materials	SFR College, Sivakasi	07 / 03
35	Dr.V.R.K.Murthy	National Conference on Smart Electroceramics	Centre for Materials for Electronics Thrissur	08 / 03 – 09 / 03
36	Dr.S.Ramaprabhu	Workshop on Nanoscience and Technology	Annamalai University	09 / 03 – 10 / 03
37	Dr.P.B.Bisht	National Symposium	Anna University, Chennai	27 / 03
38	Dr.Suresh Govindarajan	International workshop on Theoretical High Energy Physics	IIT Roorkee	15 / 03 – 20 / 03
39	Dr.Arvind	National Symposium on Quantum Information	School of Physical Sciences Jawaharlal Nehru Univ.	16 / 03 – 17 / 03
40	Dr.Sonjoy Majumder	National seminar on Recent Trends in Physics Research	Saha Institute of Nuclear Physics, Kolkata.	30 / 03 – 01 / 04

Special Lectures delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
01.	Dr.M.S.Ramachandra Rao	To deliver a lecture on transparent ceramics for armours in the Indo-Israel workshop on advanced Materials	April 3-4, 2006 Defence Metallurgical Research Laboratories Hyderabad
02	Dr.V.S.Murty	To present the paper in the User Scientist meeting - "First Lidar results from IIT Madras".	19.06.06 to 22.06.06 NARL, Tirupathi
03	Dr.V.R.K.Murthy	National Conference on Ferroics 2006 - "Role of Ferroics in Microwave range of frequencies ."	29.06.06 to 02.07.06 CVR College of Engg. Hyderabad
04	Dr.S.Lakshmi Bala	"Quantum Optics and quantum information.	International Symposium on "Quantum Optics 2006" at Physics Research Lab. Ahmedabad 24.07.06 to 27.07.06
05	Dr.V.S.Murty	Physics in Industry Medicine and in applied sciences"	TI Matriculation Higher Secondary School, Ambattur. 29.07.06
06	Dr.V.S.Murty	Optical Remote Sensing Atmospheric Studies using LIDAR	Konark Institute of Science & Technology, Bhubaneshwar 18 / 08 Academy of Technocrats, Berhampur, Orissa. 19 / 08
07	Dr.T.S.Natarajan	Electrospinning of nano fibres for membrane applications	25 / 09 – 26 / 09 Central Salt and Marine Chemicals Research Institute (CSIR Lab.) Bhava Nagar, Gujarat
08	Dr.V.S.Murty	Invited talk on (i) quantum mechanics- laser technology –application to atmospheric sciences (ii) Role of physics in engineering and medicine	26 / 10 A.G & S.G.S degree college VUYURU AP Florence school Vuyyuru, AP
09	Dr.C.Vijayan	Invited talk on "A 100 years of photons"	12 / 10 Pondicherry University
10	Dr.C.Vijayan	Advances in Raman Spectroscopy	07 / 11 International School of Photonics, Cochin University
11	Dr.V.Balakrishnan	Colloquium lecture on Brownian Motion & Diffusion	17 / 11 Indian Institute of Science, Bangalore
12	Dr.Kavita Dorai	Quantum Fourier Transform: NMR Implementations & Implications	23 / 11 Indian Institute of Science Bangalore
13	Dr.V.S.Murty	Lecture on Optical remote sensing	Dhanalakshmi Engineering College , Chennai. 28 / 12
14	Dr.C.Vijayan	Lecture on (i) Introduction to non linear optical processes (ii) Non linear optical Materials and (iii)Optical properties of nanomaterials	26 / 02 – 27 / 02 Refresher course for Physics Teachers. Academic Staff College of Engg. Trivandrum
15	Dr.V.S.Murty	Modern Trends in Physics	19 / 02 Bapatla College of Arts & Science, Bapatla, AP.

Visits Abroad by Faculty:

Sl.No	Name of Faculty	Country visited	Date	Purpose of Visit
01.	Dr.S.Kasiviswanathan	Germany	26.04.2006 – 25.06.2006	To visit Germany under DAAD-IIT Exchange programme to work on the research project "Investigation of semiconductors with novel switching phenomena for non-volatile memories"
02	Dr.A.Subrahmanyam	Boston USA	07.05.06 to 11.05.06	To attend and present the paper in the NSTI – Nanotechnology Conference and Trade Show
		USA, Paris & Switzerland	13.05.06 to 14.06.06	Visit Universities under short visit
03	Dr.P.C.Deshmukh	Atlanta USA	01.06.06 to 16.07.06	Research collaboration sponsored by DST-NSF (India-USA) project under short visit
04	Dr.M.P.Kothiyal	UK	05.05.06 to 03.07.06	To visit countries in Europe on a personal visit under Private visit
05	Dr.V.Balakrishnan	Trieste, Italy	07.05.06 to 10.06.06	To visit the International Centre for Theoretical Physics for Research collaboration and a lecture course
06	Dr.K.Hariharan	Philadelphia USA	12.06.06 to 22.06.06	42 nd Power Source Conference and visit to some universities
07	Dr.V.Subramanian	Russia	01.07.06 to 07.07.06	To visit M/s Taramane Global Technologies , St. Petersburg to see the testing and assembling of components of Microwave Components that operate at 94 GHz. Apart from this, fruitful discussions were held with the company regarding their requirement of image analysis of the 3D RADAR that they have developed.
09	Dr.A.T.Seshadri	USA	16.07.06 to 21.07.06	To present the paper in the 2006 Gordon Conference on High Temperature Materials, Processes and Diagnostics at Colby College in Waterville, Maine.
09	Dr.T.S.Natarajan	Japan	13 / 08 – 18 / 08	To attend an International Conference in Physics Education 2006 (ICPE) in Tokyo
10	Dr.A.Subrahmanyam	Partenkirchen Germany	10 / 09 – 15 / 09	To deliver a key note address on a " Review and present status of transparent and conducting thin films" in Tenth International Conference on Plasma Surface Engineering Under Brief Visit
		Technical Univ. at Dresden, Germany. Univ. of L.Acquila, Italy	18 /09 – 19 /09 20 /09 / 21 /09	-do-

Sl.No	Name of Faculty	Country visited	Date	Purpose of Visit
11	Dr.M.S.Ramachandra Rao	Boston, USA USA	27 / 11 – 01 / 12 04 / 12 – 10 / 12	Materials Research Society International Symposium (MRS Fall 2006) Visit Universities
12	Prof. P.C.Deshmukh	USA	13 / 12 – 02 / 01	To visit Georgia State University, Atlanta under the DST-NSF sponsored India-USA collaborative research program.
13	Dr.Arul Lakshminarayan	Germany	EOL for 1 year 23 / 12 / 06 – 22 / 12 / 07	To take up position of Guest Scientist at Max Plank Institute for Physics of Complex Systems, Dresden
14	Dr.A.Subramanian	USA	14 / 03 - 20 / 03	To attend a meeting with M/s PPG Industries, Pittsburg under Brief Visit.
15	Dr.M.S.Ramachandra Rao	London	29 / 03 - 30 / 03	To attend the Institute of Physics Board meeting and visit London Centre for Nanotechnology under Brief visit .

Honours and Awards obtained

Sl.No.	Name of the Faculty	Name of the Award	Awarded by	Awarded for	Date of Award
1	Prof. Neelima Gupte	Stree Shakti Foundation Award	Stree Shakti Foundation		2006.
2	Prof. V.R.K.Murthy	26 years of journey – outstanding contributions to the area of ferroelectric/dielectric research in India”	In the 14 th National Seminar on Ferroelectrics & Dielectrics (NSFD-XVI) held at IIT-Kharagpur		Dec. 2006
3	Dr.V.Damodara Das	Rajiv Gandhi Excellence Award	India International Friendship Society (IIFS)	Service rendered with excellence in the field of Science, Technology and Education	8 / 06

4.16.4 Design and Development Activities:

1. Design and development of a CNT based field emission setup
2. Development of experimental facility for the synthesis of carbon nanocoils by pyrolysis technique
3. Development of facility for micro fuel cell
4. Development of facility for DMFC
5. Development of materials for CNT based alkaline fuel cell.

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 lakhs
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:

Patents filed: 4

Large scale synthesis of Multi Walled Carbon Nanotubular Coils (MWNTC) over alloy hydride catalysts
S. Ramaprabhu and A. Leela Mohana Reddy (No:666/CHE/2007)

Electrochromic material based on Misch metal substituted alloy hydrides
S. Ramaprabhu, M Krishna Kumar and N. Rajalakshmi (No:668/CHE/2007)

A Flexible carbon nanotube based field emitters
S. Ramaprabhu, R. B. Rakhi, A. Leela Mohana Reddy and K. Sethupathi (NO:667/CHE/2007)

Pt/MWNC (Multi Walled Carbon Nanotubular Coils) electrocatalysts for oxygen reduction in PEMFC
S. Ramaprabhu and A. Leela Mohana Reddy (No:669/CHE/2007)

4.16.5 Research and Consultancy:

Sponsored Research Projects

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in Lacs)	Co-ordinators
01	Development of lead free nano ferroelectric and dielectric materials by mechanically activated synthesis	3 Years	DST	71.98	Dr.B.S.Murthy Dept. of Met.& Mat. Engg. (Principal Investigator) & Dr.V.R.K.Murthy Dept of Physics (Co-Investigator)
02	Studies on supercapacitances properties of Polymer-MWNTs nano-composites	2 Years	NRB	26.53	Dr. .S.Ramaprabhu (Principal Investigator) & V.Sankaranarayanan (Co-Investigator)
03	Fabrication and I-V Characteristic studies of oxide based PLD grown non-linear interfaces	2 Years	CSIR	9.64	Dr.M.S.Ramachandra Rao Principal Investigator
04	Photophysics of Carbon Nano Tubes by using Picosecond Laser Induced Transient Grating Techniques.	3 Yrs	CSIR	10.96	Dr.Prem B Bisht & Dr.S.Ramaprabhu Co-Investigator

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in Lacs)	Co-ordinators
05	Correlation between texture, microstructure and superconducting properties in RABIT based coated conductors.	2 Yrs	DST	2.30	Dr.V.Subramanya Sarma, Dept. of Met. & Mat.Engg. & Dr.N.Harish Kumar Co-Investigator
06	Development of PZT and PSN Ferro-electrics with improved properties by High Energy Ball Milling for Sensor Applications	2 Years	NRB	28.80	Dr.V.R.K.Murthy and Dr.B.S.Murty Met. & Materials Engg.
07	Nanothin films for medical applications: Development of visible wavelength photo-catalyst for artificial oxygenation of blood	2 Yrs.	DIT Dept. of Informa tion Tech.	24.20	Dr.A.Subrahmanyam Dr.Mahaveer Kumar Jain (Co-Investigator)
08	Growth and Physical property studies of pulsed laser deposited multiferrole thin films	3 yrs	DST	38.87	Dr.M.S.Ramachandra Rao
09	Applications of relativistic many-body theory in atomic and molecular structure and in spectroscopic studies	3 Yrs	DST	22.38	Dr.Sonjoy Majumder Dr.P.C.Deshmukh
10	PLD grown piezoelectric thin films: optimization of growth parameters and physical properties for device applications	2 yrs	NRB	42.5	Dr.M.S.Ramachandra Rao Dr. K. Sethupathi (Co-Investigator)
11	Development of bulk, thin film and nanostructured perovskite and oxide based materials for thermochromic applications	3 yrs	DST	14.76	Dr.M.S.Ramachandra Rao Dr.N.Rama Young Scientist,
12	Development of RFe ₂ magnetostrictive materials	2 ½ yrs	DRDO	24.90	Dr.G.Markandeyulu (PI) Dr.N.Harish Kumar (Co-I)
13	Generation of sub 10 femtosecond (fs) pulses by using the technique on non-collinear optical parametric amplification (NOPA) and their characterization	3 Yrs	Board of Research and nuclear Sciences (BRNS)	56.80	Dr.P.B.Bisht
14	Active and Passive inclusion on bilayer membranes: The influence of anisotropy and electric charge of the membrane constituents on budding and domain formation in bilayer membranes .	2 Yrs	DST (India – Solvenia Program)	3 .0	Dr.P.B.Sunil Kumar, Dept. of Physics, IITM & Dr.Ales Iglic Univ. Ljubljana, Slovenija.

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	5.0
				Jun 2007	9.0
		Investigation of electrocatalyst properties of MWNT based electrodes for DMFC	RCI	July 2005	10.0
				Dec 2006	29.0
Development of Hydrogen storage materials	VSSC	Feb 2006			
		Aug 2007			
Synthesis of MWNTs and SWNTs	VSSC	April 2006			
		October 2007			

Research Publications:

Total No. of papers published in Referred National Journals	:	03
Total No. of Papers published in Referred International Journals	:	103
Total No. of Papers presented in National Conferences	:	44
Total No. of Papers presented in International Conferences	:	55

In Refereed National Journals:

1. Pranawa C. Deshmukh and Shyamala Venkataraman, *100 years of Einstein's Photoelectric Effect*, Bulletin of the Indian Association of Physics Teachers, Vol. 23, 320-327 (2006)
2. A.R. Ganesan, P. Arulmozhivarman, D. Mohan and A.K. Gupta, Laser Beam Steering Control System for free-space line of sight Optical Communication IETE Journal of Research Vol.52, no.6, pp. 417-424 (2006)
3. V. Balakrishnan, A family of specific heats, Physics Education, Vol. 23, No. 2, pages 97-103, 2006.

In Refereed International Journals:

1. Basanta Bhaduri, N. Krishna Mohan and M.P. Kothiyal, A dual-function ESPI system for the measurement of out-of-plane displacement and slope, Optics Lasers in Engineering 44, 637-644 (2006).
2. N. Krishna Mohan, Quazi.T.Islam and P.K.Rastogi, Recent developments in Holographic Optical Elements (HOEs) - *Guest Editorial*, Optics Lasers in Engineering, 44, 871-880 (2006).
3. N. Krishna Mohan and Quazi.T.Islam, Design of an off-axis HOE light concentrator to focus light from multiple directions in a plane, Optics Lasers in Engineering 44, 943-953 (2006)
4. S. K. Debnath, M. P. Kothiyal, J. Schmit, P. Hariharan, Spectrally resolved phase-shifting interferometry of transparent thin-films: sensitivity of thickness measurements, Applied Optics, 45, 8636-8640 (2006).
5. Basanta Bhaduri, N. Krishna Mohan and M.P. Kothiyal, A TV holo-shearography system for NDE, Lasers in Engineering 16, 93-104 (2006).
6. Basanta Bhaduri, N. Krishna Mohan and M.P. Kothiyal, (5, M) phase shift algorithm for speckle and speckle shear fringe analysis in NDT, Holography and Speckle 3 (1), 18-21 (2006).
7. S. K. Debnath, K. V. Nirmal, M. P. Kothiyal, Spectrally-resolved phase-shifting interferometry for accurate group velocity dispersion measurements, Optics Letters, 31, 3098-3100 (2006).

8. Basanta Bhaduri, N. Krishna Mohan and M. P. Kothiyal, Cycle path digital speckle shear pattern interferometer: Use of polarizing phase shifting method, *Optical Engineering* 45, 105604-1-6 (2006).
9. S. K. Debnath, M. P. Kothiyal, Improved optical profiling using spectral phase in spectrally resolved white light interferometry, *Applied Optics*, 45, 6965–6972 (2006).
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Distinguished Visitors to the Department:

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
01.	Nemani V.Suryanarayana Institute for Theoretical Physics, Canada	19 / 04	To deliver a lecture on Exact bosonizations of finitely many fermions
02.	Dr. B M A Rahman School of Engineering, City University, London EC1V 0HB, UK	10 / 05	To deliver a lecture on Rigorous Design Optimization of Photonic Devices by using the Finite Element Method
03	Prof. S Datta Gupta Univ of Hyderabad	16 / 05	To deliver a lecture on Micro and nano optics

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
04.	Dr. R.Mahendiran Department of Physics National University of Singapore	30 / 06	To deliver a lecture on Magnetization Staircase: A New Phenomenon in CMR Oxides
05	Dr.R.Vijaya Dept. of Physics IIT Bombay	10 / 07	To deliver a lecture on Photonic Crystals: Novel Materials for controlling Light Propagation and Emission
06	Dr.Pulickel M.Ajayan Henry Burlage Professor Engineering, Rensselaer Polytechnic Institute, New York, USA	25 / 07	To deliver a colloquium lecture on Engineering Carbon Nanotubes for Applications
07	Dr.Saber M.Hussain Dept. of Applied Biotechnology Air Force Research Laboratory, Dayton, USA	21 / 08	To deliver a lecture on Biological interaction of engineered nanomaterials: Future applications and implications of nanotechnology
08	Dr.A.R.Phani Materials Engineer Department of Physics Univ. of L'Aquila Via Vetoio-10 Copitto, L'Aquila , Italy	25 / 08	To deliver a lecture on Nano structured coatings: Structural modification of sol-gel derived TiO_2HfO_2 and pervoskite nanostructured thin films using microwave irradiation
09	Aditi Sen(De) ICFO- The Institute of Photonic Sciences Barcelona, Spain	06 / 09	To deliver a lecture on Noise-resistant distributed quantum computation in trapped ion chain
10	Raman Sundrum Johns Hopkins University (USA)	08 / 09	To deliver a lecture on Fundamental Concepts in Particle Physics
11	S.K. Deb High Pressure Physics Division Bhabha Atomic Research Center Mumbai	12 / 09	To deliver a lecture on Raman scattering : a versatile tool for characterization and study of material properties
12	Prof. E. V. Sampathkumaran Dept. of Condensed Matter Physics & Materials Science Tata Institute of Fundamental Research Homi Bhabha Road, Colaba Mumbai 400005, India	14 / 09	To deliver a lecture on Puzzling transport and magnetotransport anomalies in rare-earth compounds
13	Prof.Chua Soo Jin, Singapore-MIT Alliance	25 / 09	ZnO nanostructures
14	Jayajit Das Dept of Chemical Engg. MIT, USA	11 / 10	Lecture on "Early and late signaling events during T cell activation"
15	Dr. William Clark President, Clark-MXR, Inc. 7300 West Huron River Drive, Dexter, Michigan, USA	11 / 10	Lecture on Application of ultrashort pulse laser technology to structuring matter on the micrometer and nanometer scale

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
16	Dr. Vinay Venugopal Department of Chemistry, Univ. of Waterloo, Waterloo, Ontario, Canada.	13 / 10	Lecture on Probing Defects and Thermal Stability of Nanoscale Thin Films
17	Prof. S. Natarajan (Former Dean) Anna University	06 / 11	Lecture on Creativity and Innovation in Research
18	Dr. Vinod Kumarappan Aarhus university, Denmark	07 / 11	Lecture on Dynamics of molecular alignment by strong laser fields
19	Dr. B.S.V. GOPALAM Former Professor of Physics Dept., IIT Madras	16 / 11	Lecture on Nano – Scale Transistors
20	Dr. Ashish Asgekar BITS Pilani-Goa Campus	23 / 11	Lecture on Supernova Remnants and Interstellar Medium
21	Prof. Apparao Mohan Rao Department of Physics and Astronomy Kinard Laboratory of Physics, Clemson, SC	27 / 11	Lecture on Current Activities at Clemson's Nanomaterials Research Group
22	Dr. S. Senthil Kumaran All India Institute of Medical Sciences, New Delhi	29 / 11	Lecture on Applications of MR in Materials and Medicine
23	Dr. Arjendu K. Pattanayak Carleton College, Northfield, Minnesota	29 / 11	Lecture on Chaos, decoherence, and the difference between the quantum and the classical world
24	Dr. Ajoy Kar School of Engineering and Physical Sciences Physics Department, Heriot Watt University, Edinburgh	30 / 11	Lecture on Ultrafast nonlinear spectroscopy
25	Prof. Malgorzata Kujawinska 2005 SPIE President Institute of Micromechanics and Photonics, Warsaw University of Technology, Poland	11 / 12	Physics Colloquium on Optical metrology: from micromasurements to multimedia
26	Prof. Mikael Sjö Dahl Department of Applied Physics and Mechanical Engineering Luleå University of Technology, Luleå, Sweden	11 / 12	Physics Colloquium on Robust interferometry in speckled light
27	Dr. Gautam Mukherjee S.N. Bose Center for Basic Sciences Kolkata, and Bidhan Chandra College, Asansol	13 / 12	Lecture on Weighted Scale-free Networks in Euclidean Space Using Local Selection Rule

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
28	Dr. Vinod M.Menon Dept. of Physics, CUNY New York	04 / 01	Lecture on Organic-Inorganic hybrid Photonic Structures
29	Dr.Sarika Jalan MPI-PKS, Dresden Germany	04 / 01	Lecture on Symbolic Synchronization: apparent randomness with underlying coherence
30	Prof. Mulpuri V.Rao Dept. of Electrical & Computer Engg., George Mason Univ. Virginia 22030, USA	05 / 01	Lecture on Ultra-fast Microwave Heating for Annealing Ion-Implanted 4H-SiC and for growing 4H-/6H-SiC Nanowires
31	Dr.Ranjit Pati Dept. of Physics Michigan Technological Univ. USA	05 / 01	Lecture on Spin Modulated Molecular Electronics: Opportunities and Challenges
32	Dr.Douglas E.Spearot Dept. Mech. Engg. Univ. of Arkansas, AR 72701	08 / 01	Atomistic Calculations of Nanoscale Interfacial Behaviour: Application to Grain Boundary Engineering and Single-Walled Carbon Nanotube Synthesis
33	Dr.P.Ranjit Northwestern Univ. USA	10 / 01	Lecture on Dynamics of assembly proteins along a stretched SNA
34	Dr.Ayşe Erzan Dept. of Physics Istanbul Technical Univ.	12 / 01	Lecture on Content Bases Networks Topology and Random Boolean Dynamics
35	Dr.Sumithra Sankararaman Washington Univ. St. Louis	16 / 01	Lecture on Entropic Compression of Interacting DNA loops
36	Dr.P.Murugaraj Research Scientist, RMIT Univ. Australia	17 / 01	Lecture on Magnetic Alloy nanoparticles for Advanced Applications
37	Dr.K.Narayan TIFR, Mumbai	19 / 01	Lecture on Time dependent phenomena in string theory
38	Dr.Leon Sanche Univ. of Sherbrooke, Canada	22 / 01	Lecture on Interactions of low energy electron with condensed molecules: basic principles and applications
39	Dr.Rupamanjari Ghosh Jawaharlal Nehru Univ. New Delhi	23 / 01	Lecture on Can a laser be truly monochromatic?
40	Dr.P.S.Anil Kumar Asst.Prof. Dept. of Physics Indian Institute of Science Bangalore	24 / 01	Lecture on Spin-Polarized Electron Energy Loss Spectroscopy: A Probe for high energy, large wave vector spin waves on surfaces and ultra-thin films
41	Dr. John Thomas Dept of Chemistry Univ. of Manchester, UK	25 / 01	Lecture on Nanoscopic crystal growth
42	Sai Vinjanampathy Dept. of Physics & Astronomy Louisiana State Univ. USA	29 / 01	Lecture on Unitary Integration
43	Dr. Anirban Pathak Dept of Physics Jaypee Institute of Information Technology, Noida	31 / 01	Lecture on In how many different ways can one generate a negative Glauber-Sudarshan P function?

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
44	Dr.Ruben Huehne Staff Scientist Leibniz Institute for Solid State & Materials Research Dresden, Germany	01 / 02	Lecture on Improved critical currents and pinning properties in YBCO films for coated conductors
45	Dr.Amit Apte Mathematical Sciences Research Institute, Berkeley California, USA	06 / 02	Lecture on Renormalization and critical circles of nontwist area preserving maps
46	Dr.Sudarshan Ananth Albert Einstein institute Potsdam, Germany.	09 / 02	Lecture on Ultra-violet finite deformations of N = 4 Yang-Mills
47	Dr.Kannan Ramaswamy Washington University St. Louis, USA	15 / 02	Lecture on Optical generation, detection and control of nuclear spin polarization in semiconductors
48	Prof Alain Pumir Institut Non Lineaire de Nice Valbonne, FRANCE	20 / 02	Lecture on Sling effect on collision of inertial particules in turbulent flows
49	Prof. Eberhard Schultheiss, Fraunhofer FEP Dresden Germany	22 / 02	Lecture on Fraunhofer Society - A research organisation Made in Germany.
50	Dr.Pushan Majumdar Germany	05 / 03	Lecture on Gluonic flux tubes – Effective string theories?
51	Dr.John Ipsen Dept. of Physics & Chem. Syddansk Univ. Denmark.	14 / 03	Physics colloquium on Mechanics of the cell nucleus
52	Dr.Ferdinand Evers Institute for Nano-technology, Forschungszentrum Karlsruhe, Germany.	19 / 03	Physics colloquium on Achievements and Challenges in ab initio Calculations for Molecular Electronics
53	Dr.N.Mukunda Centre for High Energy Physics IISc., Bangalore	27 / 03	Lecture on Group Representations and Coherent Status

(i) In House Faculty Seminar

S.No.	Name of the Faculty	Topic of the Lecture	Date
01	Dr.V.R.K.Murthy	Role of Dielectric materials for applications in microwave frequency point of view	08 / 11
02	Dr.A.R.Ganesan	Adaptive Optics	15 / 11
03	Dr.Kavita Dorai	Nuclear Magnetic Resonance: A 21st Century Perspective	21/ 11
04	Dr.Prasanta KumarTripathy	String Compactifications	17 / 01

S.No.	Name of the Faculty	Topic of the Lecture	Date
05	Dr.K.Hariharan	Solid State Ionics: Materials and Applications	31 / 01
06	Prof. V S Murty	Optical Remote Sensing - LIDAR Technique	21 / 02

(ii). In House Faculty Seminars (Allied Department)

S.No.	Name of the Faculty	Topic of the Lecture	Date
01	Prof. G.Venkatarathnam R& Ac Lab. Dept. of Mechanical Engg. IITM.	Exploiting non ideal properties of gas mixtures: Applications in Cryogenics and Refrigeration	07 / 03
02	Prof. Enakshi Bhattacharya Microelectronics & MEMS Lab. Dept. of Electrical Engg. IITM	Lecture on Optimization and Modeling of Polysilicon Piezoresistors for Pressure Sensor Applications	28 / 03

Other Activities

A 9-Member delegation from National University of Singapore visited our Department on 5th September 2006 and discussed prospective collaborative programs with the faculty members.

Professor R.Srinivasan, former HOD of our Department was our Institute's Chief Guest for Teachers' Day function on September 7th. He visited various laboratories of our Department and met faculty members.

Dr. Gautam Mukherjee, Bidhan Chandra College, Asansol, who has recently submitted his Ph.D. from S.N. Bose Center for Basic Sciences Calcutta, is visiting the Complex Systems IDRPs for a period of three months from October to December 2006 for collaborative research on Complex Networks.

Prof. P.B.Sunil Kumar, Department of Physics has been nominated as Professor-in-charge of High Performance Computing the Department of Computer Science and Engineering with effect from March 1, 2007.

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:

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

Sl. No.	Name of the Students/Scholar	Roll No.	Name of the Conference/Seminar Symposia/Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	R.Varatharajan	ME03DO23	Fabrication of Advanced Materials XV	18-19 Oct. 2006 Cincinnati, USA	IIT, Madras
India					
1.	S.Dhanalakshmi	MT01S009	Advanced materials for hostile environment	1-2 March.2007 Thiruvananthapuram	CVRDE
2.	M.Ganesh Babu	ME04D013	INCCOM-5	November.2006 ASL Hyderabad	project

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

Sl.No.	Name of the Student/Scholar	Roll No.	Name of prize	Prize awarded by
1.	S.Dhanalakshmi	MTO1S009	First prize for oral presentation	Advanced materials for hostile environment Conf organisers

5.1.3 Faculty and their activities:

Faculty/Scientific Staff:

Name and Qualifications

Dr.S.K. Malhotra, Chief Design Engr (SG) [Head]

Dr.M. Balasubramanian, Associate Professor:

Dr.P. Alagusundaramoorthy, Associate Professor:

Dr.R. Velmurugan, Associate Professor

Major area of specialization

Composite Materials, Composite Product Design, Quality Control of Composites.

Ceramics, Ceramic Composites, Sol-gel Process

Composites for Civil Engg, Chemical Plant Structures, Retrofitting & Rehabilitation.

Composite Structures, Impact Mechanics, 3-D Composites.

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

Sl.No.	Coordinator(s)	Title	Period
Workshop			
1.	Dr.M.Balasubramanian & Dr.P.Alagusundaramoorthy	Fibre Reinforced Thermoset Plastics	October 9-14, 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
Seminar				
1.	Dr.M.Balasubramanian	International Seminar on Ceramics	Andhra University, Visakhapatnam	January 8-10, 2007
Conference				
1.	Dr.P.Alagusundaramoorthy	International Conference on FRP Composites in Civil Engg.	Florida International University, Florida, USA	December 13-15,2006.
2.	Dr.R. Velmurugan	Inccom-5	ASL, Hyderabad	November, 2006.

Special Lectures delivered by the faculty members in other Institutions:

Sl.No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr.M.Balasubramanian	Manufacturing methods of fibre reinforced plastics	National Institute of Technology, Trichy	29.09.2006
2.	Dr.M.Balasubramanian	Carbon-carbon composites	National Institute of Technology, Trichy	29.9.2006
3.	Dr.M.Balasubramanian	Polymer-clay nanocomposites	National Institute of Technology, Trichy	02.12.2006
4.	Dr.P.Alagusundaramoorthy	Retrofitting of Structures using Advanced Composites Structures	National Institute of Disaster Management, New Delhi.	01.02.2007
5.	Dr.R.Velmurugan	Nano Composites for Structures	Mohamed Sathak Engg. College, Kalakarai	13.04.2006
6.	Dr.Velmurugan	3-D Composite tubes under Compression	IIT, Delhi	Nov.2006
7.	Dr.R.Velmurugan	Nanomaterials environmental effects.	Annamalai University	10.03.2007
8.	Dr.R.Velmurugan	Energy Absorption by thin walled tubes.	Sona College of Tech., Salem	23.03.2007

Visits abroad by faculty:

Sl.No.	Name of faculty	Country Visited	Date	Purpose of Visit	Funding
1.	Dr.P.Alagusundaramoorthy	Germany	21.11.2007 to 22.11.2007	European Union Project	Project
2.	Dr.P.Alagusundaramoorthy	Italy	23.11.2007 to 25.11.2007	European Union Project	Project
3.	Dr.P.Alagusundaramoorthy	USA	10.12.2007 to 12.12.2007	For getting a Project	Project

Honours and Awards obtained by faculty:

Sl.No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	Dr.M.Balasubramanian	Ganpule Award	Indian Ceramic Society	Best paper published on Whitewares, Tiles, Sanitarywares and related subjects in the Transactions of the Indian Ceramic Society during 2000-2004	Jan 8, 2007

5.1.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Polymer nanocomposites gear development and performance evaluation	Jan2007-Jan2009	DST	14.10	R.Gnanamoorthy (Mech) S.K.Malhotra
2.	Polyfunctional Technical Textiles against Natural Hazards	Sep.2006-Aug, 2010	European Commission	54.00	P.Alagusundaramoorthy
3.	Investigations of Ti-lined Composite pressure bottles	Oct.2004 – Sept.2007	Respond, VSSC	12.50	R.Velmurugan R.Palaninathan(App.Mech)
4.	Development & behavior of polymer nanocomposites in marine atmos.	2006-2008	NRB, New Delhi	18.95	R.Velmurugan

Industrial Consultancy projects:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs.in lakhs)
1.	S.K.Malhotra R.Velmurugan	Design of Kevlar Vibration Test fixture	SD SC, Shar, Sriharikota	2.50
2.	P.Alagusundaramoorthy R.Sundaravadivelu (OE)	Investigation regarding the structural safety of fire damaged building at JNPT, Mumbai	Jawaharlal Nehru Port Trust, Mumbai	7.31
3.	P.Alagusundaramoorthy R.Sundaravadivelu (OE)	Damage of approach bridge connecting shallow water berth to container terminal at JNPT, Assessment and repairing	Jawaharlal Nehru Port Trust, Mumbai	3.0

RBIC project:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr.R.Velmurugan	Energy absorbing characteristics of dual phase steel tubes.	Tube Investments, Chennai	4.90

Research publications of the faculty members & research scholars:

Total No. of papers published in Refereed National journals	---	6
Total No. of papers published in Refereed International journals	---	22
Total No. of papers presented in National Conferences:	---	9
Total No. of papers presented in International conferences	---	9

In Refereed National Journals:

1. S.Sakthivelu, P.Manohar, V. Ramamurthi and M.Balasubramanian, Effect of grinding on de-hydroxylation behaviour of diaspore, Transactions of the Indian Ceramic Society, 65 (4) (2006) 211-214.
2. S.Sakthivelu, P.Manohar, V.Ramamurthi and M.Balasubramanian, Deflocculating effect of sodium polymethacrylates on aqueous clay suspensions, Transactions .of the Indian Ceramic Society, 65 (2006) 165-167
3. R.V.S. Reddy, and P. Alagusundaramoorthy, Static behaviour of Contact Molding GFRP Composite Highway Bridge Deck Panels", Journal of Institution of Engineers, India, 86 (2006), 177-181.
4. P. Alagusundaramoorthy, K.A.B. Lakshman Kumar, and R. Veera Sundarsana Reddy, Pultruded Fiber Reinforced Polymer composite Deck Panels for Highway Bridges, The Bridge & Structural Engineer, India, 35, (4) (2006), 17-28.
5. A. Boominathan, P. Alagusundaramoorthy, and R. Sundaravadivelu, Rehabilitation and Retrofitting for Vibration of the Supporting Structure of Dehydrating Centrifuge Mechine, Journal of Structural Engineering, India, 33, (1) (2006), 57-63.
6. R.Velmurugan and K.Karthikeyan, Damping characteristics of Montmorillonite based polyester /clay nanocomposites, Aerospace Sciences & Tech. 58(3)(2006)213-224

In Refereed International Journals:

1. P.Jawahar and M.Balasubramanian, Influence of nanosize clay platelets on the mechanical properties of glass fiber reinforced polyester composites, Journal of Nanoscience and Nanotechnology, 6 (12) (2006) 3973-3976.
2. V.Vinothini, Paramanand Singh and M.Balasubramanian, Optimisation of barium titanate nanopowder slip for tape casting, Journal of Materials Science 41(21) (2006) 7082-7087.
3. J.Chandradass and M.Balasubramanian, Sintering behaviour of sol-gel derived alumina and alumina zirconia minispheres, Materials and Manufacturing Processes, 21 (2006) 804-809.
4. P.Jawahar, R.Gananamoorthy and M.Balasubramanian, Tribological behaviour of clay-thermoset polyester nanocomposites, Wear, 261 (2006) 835-840.
5. J.Chandradass and M.Balasubramanian, Extrusion of alumina fibre using sol-gel precursor, Journal of Materials Science, 41 (18) (2006) 6026-6030.
6. J.Chandradass and M.Balasubramanian, Effect of magnesium oxide on sol-gel spun alumina and alumina-zirconia fibres, Journal of the European Ceramic Society, 26 (2006) 2611-2617.
7. J.Chandradass and M.Balasubramanian, Sol-gel based extrusion of alumina fibres, Journal of Materials Processing Technology, 173 (3) (2006) 275-280.
8. .R.Varatharajan, S.K.Malhotra, L.Vijayaraghavan and R.Krishnamurthy Mechanical and machining characteristics of GF/PP and GF/Polyester Composites, Materials Sci and Eng B, 132(2006) 134-137.

9. S.Arul, L.Vijayaraghavan, S.K.Malhotra and R.Krishnamurthy, The effect of vibratory drilling on hole quality in polymeric composites, *International Journal of Machine Tools and Manufacture*, 46 (2006) 252-259.
10. S.Arul, L.Vijayaraghavan, S.K.Malhotra and R.Krishnamurthy, Influence of tool material on dynamics of drilling of GFRP composites, *International Journal of Advanced Manufacturing Technology*, 29 (2006) 655-662.
11. A.Arul, D.S.Raj, S.K.Malhotra and R.Krishnamurthy, Molding and optimization of process parameters for defect toleranced drilling of GFRP Composites, *Materials and Manufacturing processes*, 21 (2006) 357-365.
12. S.K.Malhotra, Paramahand Singh and A.Thirunavukkarasu, Synthesis of Alumina-Zirconia NanoComposites by solgel process, *Materials and Manufacturing Processes*, 21 (2006)652-657.
13. P. Alagusundaramoorthy, I.E. Harik, and Chiaw. Choo Ching, "Structural Behaviour of FRP Composite Bridge Deck Panels", *ASCE Journal of Bridge Engineering Special Issue, FRP Structures*, 11, (4) (2006), 384-393.
14. M. Suneel kumar, P. Alagusundaramoorthy, and R. Sundaravadevelu, "Ultimate Strength of Ship Plating under Axial Compression", *International Journal of Ocean Engineering*, 33, 8-9 (2006), 1249-1259.
15. T.P.Mohan, Ramesh Kumar and R.Velmurugan, Mechanical and barrier properties of epoxy polymer filled with nano layered silicate clay partides, *Journal of Materials Science*, 41(10) (2006)2929-2937.
16. M.Ganesh Babu, R. Velmurugan and N.K.Gupta, Energy absorption and ballistic limit of targets struck by heavy projectiles, *American Journal of Solids and Structures*, 3 (2006) 21-39
17. M. Ganesh Babu, R.Velmurugan and N.K.Gupta, Medium Velocity Impact of sandwich composite plates, *International Journal of Crashworthiness*, 11(1) (2006) 1-12
18. T.P.Mohan, M.Ramesh Kumar and R.Velmurugan, Mechanical, Thermal and Vibration Characteristics of Epoxy-Clay Nanocomposites, *Journal of Materials Science*, 41(18) (2006) 5915-5925.
19. N.K.Gupta, N.Mohamed Sheriff and R.Velmurugan, A study on buckling of thin conical frusta under axial loads, *Thin-Walled Structures*, 44(9) (2006) 986-996.
20. N.K.Gupta, N.Mohamed Sheriff and R.Velmurugan, Experimental and numerical investigations into collapse behaviour of thin spherical shells under drop hammer impact, *International Journal of Solids and Structures*, 44 (10) (2007) 3136-3155.
21. S.Solaimurugan and R.Velmurugan, Progressive crushing of stitched glass/polyester composite cylindrical shells, *Composites Science and Technology*, 67(3-4)(2007), 422-437.
22. S.Solaimurugan and R.velmurugan, Improvements in Mode I interlaminar fracture toughness and in-plane mechanical properties of stitched glass/polyester composites, *Composites Science*.67 (1) (2007) 61-69.

In Proceedings of National Conferences:

1. M.Balasubramanian and G.I.Rakesh, Study on SiC particulate reinforced Al-Si alloy composite, *Proceedings of the ISAMPE National Conference on Composites (INCCOM0V)*, Hyderabad, November 24-25, 2006, pp.3039.
2. D.Alagia Meenal, R.Velmurugan and A.S.S.Sekar, Study of Mechanical Properties of GFRP Composites with Cement and Fly ash, *Proceeding of AMPC*, 2006, pp.117-125.
3. M.Ganesh Babu and R.Velmurugan, Effect of fiber orientation on energy absorption capacity of thin laminates subjected to heavy mass projectile impact, *Proceedings of Inccom-5, ASL, Hyderabad*, Nov.2006, pp.154-164.
4. R.Velmurugan and M.Lubeena, Structural and thermal analysis of cylindrical laminated composite shell using FE method *Proceedings of Inccom-5, ASL Hyderabad*, Nov.2006, pp.140-153.
5. T.P. Mohan and R.Velmurugan, Vibration Characteristics of Epoxy Clay Nanocomposites and Glass fibre reinforced epoxy-clay hybrids, *Proceedings of Inccom-5, ASL, Hyderabad, Nov.2006*, pp.140-153.

6. R.Velmurugan S.Solaimurugan and N.K.Gupta, Crashworthiness studies of stitched composite shells, Proceedings of large deformation (Indo-Russian workshop), IIT Delhi, Nov.2006, pp.162-174.
7. R.Velmurugan, J.Chandradass and M.Ramesh Kumar, Effect of Nano clay addition on Vibration properties of Glass Fibre reinforced vinylester Composites, proceedings of National Conference on Materials, Manufacturing and Design, MSEC, Sivakasi, February 2007, pp.61-65.
8. R.Velmurugan and T.P.Mohan, Barrier properties of Nanolayered silicate clay/epoxy polymer composites proceedings of National wWorkshop on Nano Technology, Annamali University, March 2007, pp.35-46.
9. R.Velmurugan and R.Muralikannan, Energy absorbing characteristics of heat treated circular steel tubes, proceedings of NCETE 07, Sona college of Technology, Salem, March 2007, pp.2-10.

In Proceedings of International Conferences:

1. R.V.S. Reddy, V.V. Karanjinni, K.A.V.R.J. Vinayak, P.Alagusundaramoorthy, and M.P.Muthuraj, "tiffness studies on GFRP Composite Bridge Deck Panels under fatigue Loading" Proceedings of the 5th Asian Symposium on Polymers in Concrete, SERC, Chennai, India, September 2006. pp. 603-610.
2. S.S. Prakash, and P. Alagusundaramoorthy, "Characterization of Masonry Wallettes and Shear Triplet Specimens Retrofitted with GFRP Composites" Proceedings of the 3rd International Conference on FRP Composites in Civil Engineering (CICE 2006) December 2006, Miami, Florida, USA. pp. 363-366.
3. S.S. Prakash, and P. Alagusundaramoorthy, "Numerical Study on Masonry Load Bearing Walls Retrofitted With FRP Composites" Proceedings of the 3rd International Conference on FRP Composites in Civil Engineering (CICE 2006) December 2006, Miami Florida, USA. pp. 399-403
4. S.Sambamurthy, R.Velmurugan, R.Palanimathan, and T.Sekar, Analysis and Design of Metallic Plates for Biaxial Loading using FEM, proceedings of 1st International Congress on Computational Mechanics and Simulation (ICCMS-06), IIT Guwahati, December 2006, pp.853-859.
5. R.Sarathi, R.K.Sahu and R.Velmurugan, Understanding the Electrical and Mechanical Properties of Epoxy Nanocomposite Insulating Material, Proceedings of International Conference on Nanotechnology – Materials and Methods, CIT, Coimbatore, 2006, pp.214-220.
6. R.Veera Sudarsana Reddy and P.Alagusundaramoorthy, Experimental Study on Static Behaviour of Fatigue Tested GFRP Composite Bridge Deck Panels, Proceedings of the International Conference on Fast Track Construction of Bridges For Important Projects, NBRDC, Hyderabad, India, February, 2007, I.2, pp.231-237
7. R.Veera Sudarsana Reddy and P.Alagusundaramoorthy, Experimental Study on Ultimate Strength of Prototype hand Lay-up GFRP Composite Highway Bridge Deck panel, Proceedings of 2nd International Conference on Recent Advances in Composite materials, Banaras Hindu University, Varanasi, India, February, 2007, pp.58-61
8. L.Vijayaraghavan, S.K.Malhotra, R.Veratherajan and R.Krishnamurthy, Mechaning studies on thermoplastics and thermoset composites, proceeding of processing and Fabrication of Advanced Materials XV, Cincinnati, USA, October 15-19, 2006, pp.577-589.
9. R.Varatharajan, L.Vijayaraghavan and S.K.Malhotra, Processing and Characterisation of Carbonfibre – polypropylene and graphite fibre-polypropylene Composites, proceedings of processing and Fabrication of Advanced Materials XV, Cincinnati, USA, October 15-19,2006, pp. 590-605.

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
- Rare Earth based Colourants
- Thin film Multilayers/Heterostructures
- Electroluminescent (EL) thin films
- Spintronics
- Multiferroics

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. As on 1.3.2007, the following number of students/scholars were associated with the center:

Ph.D. : 16
Research Associates : 3

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

S.No.	Name of the student	Title of the paper presented	Name of the Conference/ seminar/ symposia	Date and venue
1	M. V. Sivaiah and U. V. Varadaraju	Eco-Friendly Inorganic Pigments: $g\text{-Ce}_2\text{S}_3$ And $g\text{-[Na]Ce}_2\text{S}_3$	Annual IIT Madras Chemistry Symposium and The First Mid-Year Meeting of the Chemical Research Society of India	IIT-Madras July 12, 13 2006
2	K. Biswas and U. V. Varadaraju	High temperature Thermoelectric and resistivity properties of $\text{CuAl}_{1-x}\text{Mn}_x\text{O}_2$		
3	V. Sivakumar and U. V. Varadaraju	A Novel Red Phosphor under UV Excitation		
4	M. Pardha Saradhi and U.V. Varadaraju.	Photoluminescence Properties of Eu^{2+} activated $\text{Li}_2\text{SrSiO}_4$: Application for Solid State Lighting		
5	M.Kottaisamy and M.S.Ramachandra Rao	SiO_2 encapsulated rare earth and transition metal doped ZnS nano-crystalline phosphors – A new class of luminescent materials for lighting and display devices	Eighth International Conference on Nanostructure Materials (NANO-2006),	August 22-25 IISC Bangalore
6.	M.Kottaisamy, P.Thiyagarajan and M.S.Ramachandra Rao	Di-band and tri-band phosphor blends for near UV and blue LED converted white light emitting diodes	9th Asian Symposium on information Display (ASID-06)	October 08-12, 2006 New Delhi, India
7.	P.Thiyagarajan, Brijesh Tiwari, M.Kottaisamy and M.S. Ramachandra Rao.	Near UV excitable $\text{Y}_2\text{-x-yGd}_y\text{SiO}_5\text{:Cex}$ white light emitting phosphor for white LED and display applications		

S.No.	Name of the student	Title of the paper presented	Name of the Conference/ seminar/ symposia	Date and venue
8	Maneesh Chandran, K.Mohan Kant, N.Rama and <u>M.S.Ramachandra Rao</u>	PLD growth of CNTs using a nanostructured Ni buffer layer: depend of H ₂ partial pressure	Materials Research Society Fall meetings	Boston MA, USA. Nov-27, Dec 1 2006
9	K.Mohan Kant and <u>M.S.Ramachandra Rao</u>	Structural and Morphology characteristics of cobalt ferrite thin film by pulsed laser deposition		
10	Shubra Singh, N.Rama and M.S.Ramachandra Rao	Transport studies of Transition metal ion doped ZnO bulk and thin films		
11	K.Mohan Kant and M.S.Ramachandra Rao	Structural and Morphology characteristics of cobalt ferrite thin film by pulsed laser deposition		
12	P.Thiagarajan, M.Kottaisamy and M.S.Ramachandra Rao	Energy Transfer studies on Ca ₃ MgSi ₂ O ₈ :Ce, Eu phosphor for cool white light emission	International symposium for Research Scholars, (ISRS-2006)	Dec-18-20, 2006, IIT-Madras, Chennai
13	K.Mohan Kant, S.Thirupathiah, M.Kottaisamy, K.Sethupahti and M.S.Ramachandra Rao	Synthesis and Characterization of Fe ₃ O ₄ nanoparticles dispersed in SiO ₂ matrix		
14	K.Mohan Kant, K. Sethupathi and M.S.Ramachandra Rao	Carbon nanostructures by pulsed laser deposition: Morphology, transport and growth mechanism		
15	S.Thirupathiah, K.Mohan Kant, R. Adarsh and M.S. Ramachandra Rao	Hall effect and transport studies on nanostructured magnetite thin films deposited by pulsed laser deposition		
16	K. Mohan Kant, E. Senthil Kumar, A. Bhasker Reddy, Shubra Singh, K.Sethupathi and M.S. Ramachandra Rao	Fabrication of p-CuAlO ₂ /n-ZnO: p-n junctions for transparent electronics		
17	S. Bhaskar Reddy, K. Mohan Kant, K. Prasad Rao and M.S.Ramachandra Rao	Ferroelectric and magnetic property study of Er ₂ CuTiO ₆ double perovskite		
18	Shubra Singh and M.S.Ramachandra Rao	Structural and Optical properties of Cr doped ZnO		
19	B.Ramachandran and M.S.Ramachandra Rao	Optical and magnetic property studies of α-Fe ₂ O ₃ nano-particles Dispersed in silica matrix		

S.No.	Name of the student	Title of the paper presented	Name of the Conference/ seminar/ symposia	Date and venue
20	M. Pardha Saradhi and U.V.Varadharaju	Multiple Energy transfer and enhancement of white emission in $\text{Sr}_2\text{SiO}_4:\text{Eu,Ce}$ by Dy co-doping	International winter school on chemistry of the materials	Jawaharlal Nehru Centre for Advanced Science and Research, Bangalore, Dec,12-19, 2006
21	B.Tiwari, M.Kottaisamy, J.Mishra and M.S.Ramachandra Rao	Effect of crystal field on Ce^{3+} energy levels in La or Gd co-doped $\text{Y}_3\text{Al}_5\text{O}_{12}$	7th Asian International Seminar on Atomic and Molecular physics	4-5th,Dec, 2006, Department of physics, IIT-Madras
22	J. Joseph and U.V. Varadaraju	"Ionic Liquid Assisted Synthesis and Low Temperature Stabilization of Alumina Nanostructures"	211th ECS Meeting - Chicago, Illinois.	May 6 - May 10, 2007
23	U.V. Varadaraju, M. Anji Reddy, M. Satya Kishore, V. Paralong, V. Caignaert and B. Raveau	"Effect of Particle Size on the Lithium Insertion into TiO_2 Polymorphs"	211th ECS Meeting - Chicago, Illinois.	
24	M. Anji Reddy, S. Manepalli, P. Valarie, C. Vincent, U. V. Varadaraju and B. Reaveau,	"Lithium Insertion into Nano Phase MgTi_2O_5 with Pseudo Brookite Structure"	211th ECS Meeting - Chicago, Illinois.	
25	K. Manepalli, V. Pralong, V. Caignaert, V. Upadhyayula and B. Raveau,	"Electrochemical Properties of Acidic Titanium and Vanadium based Phosphates"	211th ECS Meeting - Chicago, Illinois.	
26	S. Asiri naidu and U.V. Varadaraju	" Eu^{3+} luminescence in new boro silicate ($\text{La}_4\text{BiSi}_2\text{BO}_{13}$) with apatite related structure"	MRSI AGM – 2007	NPL, Delhi
27	Krishnendu Biswas and U.V. Varadaraju	"High temperature thermopower and resistivity studies on $\text{CuAl}_{1-x}\text{Cr}_x\text{O}_2$ "	MRSI AGM – 2007	NPL, Delhi

5.2.3. Faculty and their activities:

Faculty:

Name and Qualification

Prof. U.V. Varadaraju
Ph.D. (IISC Bangalore)

Prof.M.S. Ramachandra Rao,
Ph.D. (IIT Kharagpur)

Dr. K. Chandrasekaran
S.O.- I, Ph.D. (IIT Madras)

Major Areas of Specilization

Thermoelectric materials, Materials for lithium ion batteries, Luminescent materials, Inorganic Colourants.

Spintronics, Multilayers, Heterostructures growth of nano structured films, manganites, PLZT ferroelectrics for sensor applications, Electroluminescent films

Perovskite, Pyrochlore type oxides, Double perovskites and multiferroics

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

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	Diluted 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	Inorganic Luminescent Materials	Meenakshi College for Women, Chennai-24
3.	Prof.M.S.Ramachandra Rao	The evolution of PLD: From High T _c Superconductors to Spintronics ^o	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	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.	U.V. Varadaraju	France	Oct, 2006	Collab. Research, IFCP

5.2.4. Design and Development Activities:

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

New facilities added or major equipment procured through project funds:

S.No.	Name of Equipment	under	Value (in Rs.)
1.	Keithley IV source meter	CSIR	5 lakhs
2	Keithley pico ammeter	CSIR	5 lakhs
3	Rigaku x-ray diffractometer	CSIR	20 lakhs

5.2.5. Research and Consultancy:

Sponsored Research Projects:

S.No.	Title	Period	Funding Agency	Amount (Rs. in Lakhs)	Co-ordinators
1.	Research on New Materials used for Energy Storage –		Indo-French Centre for the promotion of Advanced Research		Prof.UV.Varadaraju and Prof. B. Raveau (France)
2.	Fabrication and I-V characteristic studies of oxide based PLD grown non-linear interfaces sponsored by CSIR	3	CSIR	9.68	Prof. M.S.Ramachandra Rao
3	PLD grown Piezoelectric thin films; optimization of growth parameters and physical properties for device applications	2	NRB	42.5	Prof. M.S.Ramachandra Rao and Dr.K. Sethupathi (Physics)
4	Growth and physical property studies of pulsed laser deposited multiferroic thin films.	3	DST	38.87	Prof. M.S.Ramachandra Rao

Research Publications:

No. of papers published in Refereed National Journals	:	1
No. of papers published in Refereed International Journals	:	16
No of papers presented in national conferences	:	8
No. papers presented in International Conferences	:	19

In Refereed International Journals:

1. "Electrical transport and morphological study of PLD-grown nanostructured amorphous carbon thin films" K Mohan Kant, N Mahipal Reddy, N Rama, K Sethupathi and M S Ramachandra Rao *Nanotechnology* 17 (2006) 5244–5247
2. Photoluminescence studies on Eu^{2+} -activated $\text{Li}_2\text{SrSiO}_4$ -A potential orange-yellow phosphor for solid-state lighting Pardha Saradhi, M. Varadaraju, U.V. *Chemistry of Materials*, 18 (22), (2006), 5267-5272
3. V. Sivakumar and U.V. Varadaraju, $\text{Ce}^{3+} \rightarrow \text{Eu}^{2+}$ energy transfer studies on BaMgSiO_4 – A Green phosphor for three band white LEDs, *J. Electrochem. Soc.*, (Accepted for publication)
4. An orange-red phosphor under near-UV excitation for white light emitting diodes - Sivakumar, V. Varadaraju, U.V., *Journal of the Electrochemical Society*, 154 (1), (2007), J28-J31.
5. Stabilization of $\gamma\text{-La}_2\text{S}_3$ by alkali metal ion doping Biswas, Krishnendu Varadaraju, U.V. *Materials Research Bulletin*, 42 (2), (2007), 385-388.
- 10 An orange-red phosphor under near-UV excitation for white light emitting diodes - Sivakumar, V. Varadaraju, U.V. *Journal of the Electrochemical Society*, 154 (1), (2007), J28-31.
- 11 Lithium intercalation into nanocrystalline brookite TiO_2 M. Anji Reddy; Kishore, M. Satya; Pralong, V.; Varadaraju, U.V.; Raveau, B. *Electrochemical and Solid-State Letters*, 10 (2), (2007), A29-A31.
- 12 Fabrication and characterization of uniform TiO_2 nanotube arrays by sol-gel template method Maiyalagan, T. Viswanathan, B.; Varadaraju, U.V. *Bulletin of Materials Science*, 29 (7), (2006), 705-708.
- 13 Synthesis and electrochemical properties of a new vanadyl phosphate: $\text{Li}_4\text{VO}(\text{PO}_4)_2$ M.S. Kishore Pralong, V. Caignaert, V.; Varadaraju, U.V.; Raveau, B. *Electrochemistry Communications*, 8 (10), (2006), 1558-62
- 14 Synthesis and electrochemical properties of a new vanadyl phosphate: $\text{Li}_4\text{VO}(\text{PO}_4)_2$ Kishore, M. Satya Pralong, V.; Caignaert, V.; Varadaraju, U.V.; Raveau, B. *Electrochemistry Communications*, 8 (10), (2006), 1558-1562.
- 15 NbSb_2 as an anode material for Li-ion batteries M. Anji Reddy, U.V. Varadaraju, *Journal of Power Sources*, 159 (1), (2006), 336-9
- 16 Phosphides with zinc blende structure as anodes for lithium-ion batteries M.V.V.M.S. Kishore, and U.V. Varadaraju, *Journal of Power Sources*, 156 (2), (2006), 594-7
- 17 Electro-oxidation of methanol on TiO_2 nanotube supported platinum electrodes Maiyalagan, T. Viswanathan, B.; Varadaraju, U.V. *Journal of Nanoscience and Nanotechnology*, 6 (7), (2006), 2067-71.

Distinguished Visitors to the Centre:

S.No.	Name of the visitor and designation	Date of visit	Purpose of visit
1.	Dr. V. Pralong, CRISMAT, France	Feb, 2007	Collab. Res
2.	Dr. V. Caignert, CRISMAT, France	Feb, 2007	Collab. Res
3	Prof. D. Buttrey	Jan, 2007	Invited talk
4.	Dr. M. Paranthaman, Oak Ridge Natl Lab, USA	Aug, 2006	Invited talk

5.2.6. Other Activities/Achievements:

- Dr. N. Rama, Research scholar, MSRC, was awarded Prof. A.M. Lashkar memorial prize (joint winner) in the 43rd convocation
- Prof U.V. Varadaraju attended as a member of the screening committee for NMITLI projects CSIR to select areas of research to be funded under NMITLI scheme

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 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.
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/Conference /Training attended by the faculty members in Academic institutions and Public Sector undertakings:

S.No.	Name of faculty	Title	Period	Venue
Seminar:				
1.	Dr. R. Murugesan	Determination of chemical composition of gall bladder stones	25/12/2006	Erode Science College, Erode
2.	Dr. R. Murugesan	Crystal Growth and characterization of some inorganic complexes	25/12/2006	Erode Science College, Erode

Research Publications:

No. of papers published in Refereed International Journals ... 14

In Refereed International Journals:

S.No.	Name of Faculty	Title of the paper	Name of the Journal
1.	Suvitha, A; Babu Varghes; Rao, M.N. Sudheendra	Bis(diisobutylammonium)tris(naphthalen e-2,3-diolato)silicate acetonitrile trisolvate.	Acta Crystallographica, Section E: Structure Reports Online (2006), E62(1),
2.	Kumbhare, Liladhar B.; Jain, Vimal K. ; Babu Varghese;.	Palladium(II) and platinum(II) monoselenocarboxylates: Synthesis, spectroscopy, structure and their use as molecular precursors for metal selenides	Inorganica Chimica Acta (2006), 359(2), 409-41

S.No.	Name of Faculty	Title of the paper	Name of the Journal
3.	Petsalakis, Evangelia I.; Chrysina, Evangelia D.; Tiraidis, Costas; Hadjiloi, Theodoros; Leonidas, Demetres D.; Oikonomakos, Nikos G.; Aich, Udayanath; Varghese, Babu; Loganathan, Duraikkannu.	Crystallographic studies on N-azidoacetyl- inhibitor of glycogen phosphorylase: Comparison with N-acetyl- D-glucopyranosylamine.	Bioorganic & Medicinal Chemistry (2006), 14(15), 5316-5324.
4.	Kumar, B. Hari; Varghese, Babu; Kumar, G. Jaya; Bai, M. D. Ajitha.	8-Hydroxy-7-phenyl-2,6-dioxabicyclo[3.3.1]nonan-3-one.	Acta Crystallographica, Section E: Structure Reports Online (2006), E62(12), o5567-o5569.
5.	Gopalakrishnan, Janarathan; Varghese, Babu; Doddi, Adinarayana; Rao, M.N.Sudheendra.	A new synthetic route to cyclophosphadithiazines: synthesis and X-ray structural characterization of the first spirocycle containing thiadiazaphosphetidine and phosphadithiazine heterocycles.	Applied Organometallic Chemistry (2006), 20(12), 880-885
6.	Raj, S. Gokul; Kumar, G. Ramesh; Mohan, R.; Varghese, Babu; Jayavel, R.	Crystal structure of single crystals of nonlinear optical L-histidinium trichloroacetate.	Journal of Molecular Structure (2006), 825(1-3), 158-164
7.	Kedarnath, G.; Dey, Sandip; Jain, Vimal K.; Dey, Gautam K.; Varghese, Babu.	2-(N,N-Dimethylamino)ethyl-selenolates of cadmium(II): Syntheses, structure of Cd ₃ (OAc) ₂ (SeCH ₂ CH ₂ NMe ₂) ₄ and their use as single source precursors for the preparation of CdSe nanoparticles	Polyhedron (2006), 25(12), 2383-2391
8.	Srimurugan, Sankareswaran; Viswanathan, Balasubramanian; Varadarajan, Thirukallam Kanthadai; Varghese, Babu.	Synthesis and crystal structure of [2 + 2] calixsalens.	Organic & Biomolecular Chemistry (2006), 4(16), 3044-3047
9.	Sabiah, S.; Varghese, Babu; Murthy, Narasimha N	Structure of a five-coordinate mononuclear cobalt(II) complex: chlorobis([N,N-(1,1'-biphenyl-2,2'-dimethylene)]-2-aminomethyl)pyridine)cobalt(II) bromid	Journal of Chemical Crystallography (2006), 36(2), 147-151
10.	Bandyopadhyay, Arkasish; Varghese, Babu; Sankararaman, Sethuraman	Sethuraman. Synthesis of 1,4-Cyclohexadiene-Based Acetylenic Macrocycles with Cadiot-Chodkiewicz Coupling. Structure of a Tub-Shaped Tetrameric Container	Journal of Organic Chemistry (2006), 71(12), 4544-4548.
11.	Raj, S. Gokul; Kumar, G. Ramesh; Mohan, R.; Jayavel, R.; Varghese, Babu.	L-Histidinium trichloroacetate. <i>Acta Crystallographica</i> ,	Section E: Structure Reports Online (2006), E62(5), o1704-o1706.
12.	Dey, Sandip; Jain, Vimal K.; Varghese, Babu	Schurr, Thilo; Niemeyer, Mark; Kaim, Wolfgang; Butcher, Ray J. 3-Dimethylaminopropyl chalcogenolate complexes of palladium (II): Syntheses and characterization, including the crystal structures of [Pd (OAc) (ECH ₂ CH ₂ CH ₂ NMe ₂)] ₂ ·H ₂ O (E = S, Se) and [PdCl (TeCH ₂ CH ₂ CH ₂ NMe ₂)] ₂ .	Inorganica Chimica Acta (2006), 359(5), 1449-1457.
13.	Udaya Lakshmi, K; Thamotharan, S.; Ramamurthi, K.; Varghese, Babu.	Supramolecular architecture of bis(melaminium)L-tartrate 2.5-hydrate	<i>Acta. Cryst.</i> (2006). E62, O455-O457.
14.	Ritesh Nandy, Mahadevan.Subramoni, Babu Varghese, Sethuraman Sankararaman J.	Intramolecular π -Stacking Interaction in a Rigid Molecular Hinge Substituted with 1-(Pyrenylethynyl) Units	Org. Chem. (2007)

6.1 CENTRE FOR CONTINUING EDUCATION

6.1.1 Introduction

The Centre for Continuing Education (CCE) at IIT Madras was established in June 1986. The Centre facilitates faculty members towards meeting the following Mission of IIT Madras.

- To provide knowledge-based technological services to satisfy the needs of the society and the industry
- To help in building national capabilities in science, technology, humanities, management, education and research

The faculty effectively participates and contributes to the Institute's commitment of providing a broad base of learning opportunities through the following major activities:

- Academic Programmes under the Quality Improvement Programme (QIP)
- Short Term Courses under QIP
- Curriculum Development Cell (CD Cell)
- Continuing Education Programmes (CEP)
- Web Studio
- Educational Technology Cell
- National Programme on Technology Enhanced Learning

6.1.2 Quality Improvement Programme (QIP)

The faculty development activities of AICTE funded by Ministry of Human Resources Development are geared to ensure quality, relevance, excellence and equity in Technical education by supporting activities under the **QIP Scheme**. Deputation to the academic programmes of the Institute viz., M.Tech & Ph.D facilitates career development of the faculty of AICTE approved technical institutions in the country.

Since inception, 403 faculty members from other institutions have obtained Ph.D degrees and 506 faculty members M.Tech degrees under this programme till 2006–07. The table provides the data on Quality Improvement Programme.

Items	Ph.D			M.Tech		
	Admitted	On roll	Awarded	Admitted	On roll	Awarded
Number of teachers admitted/awarded degree in the academic year 2006-07	19	72	-	13	30	-
Number of Teachers of Degree level Engineering colleges benefited from inception to (2006-07)	562	-	403	577	-	506

IIT Madras has been serving 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 2006–07, the processing of applications, conduct of interviews by all Major (8) and Minor (17) QIP centre and selection of candidates has been completed.

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, 8 courses for a total duration of 12 weeks were conducted during 2006-07 and 198 teachers of Engineering Institutions as well as a few professionals from

industries / R & D organisations have participated in these programmes. From 1970-71 to 2006-07, **233** programs have been held and **5533** 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 2006–07.

6.1.5 Book Writing Scheme (BWS)

The BWS scheme is designed to encourage textbook writing by teachers. During the year 2006-07, **5** faculty members have come forward to write book under this scheme. **510** books have so far been published under this scheme.

6.1.6 Continuing Education Programme (CEP)

Several Short Term Courses were organized under Continuing Education Programme for the professionals from industry and R & D establishments on need-basis. The programmes were organized as tailor-made to suit the requirements of the Industries. Long duration (1 year) certificate programmes and even 2 years User Oriented M.Tech Programme to meet the specific needs of associated industries are being organized. Such programmes will ultimately pave-way for long-term consultancy assignments with the organizations. From the date of inception, i.e., between 1980 and 2006-07, **782** STCs have been conducted benefiting **17754** participants. Approximately **70** to **80** such programmes are organised every year. During the year under review, **72** Short Term Courses have been conducted and **1951** participants attended these programmes.

6.1.7 National Programme on Technology Enhanced Learning

The Phase-I of the National Programme on Technology Enhanced Learning (NPTEL) project funded by MHRD, which is a pioneering joint initiative of all the 7 IITs and IISc Bangalore in developing 113 video based courses and 118 web based courses. IIT Madras coordinates this project, which has reached the final stages during this year. While the video-based courses are telecast by the GyanDharsan (Free to air Technology Channel of the Doordarasan), the web-based courses can be freely accessible by any individual, aimed at students and faculty of Institutions offering undergraduate engineering programmes. This programme was formally launched by Shri.Arjun Singh, Honorable Minister for Human Resource Development, GoI, on 3rd September 2006.

6.1.8 Web Studio

The web studio which was established through NPTEL project as well as IIT Madras funded project on "IITM Courses on the web". Web studio is equipped with state-of-the-art software and hardware required for developing and hosting web-based courses. Web studio provides support for faculty developing web-based courses under NPTEL as well as for a large number of faculty members who provide supplementary learning material for regular courses handled by them. The project staff work in close coordination with faculty members in developing interactive web-based courses as well as in periodically updating them.

6.1.9 Educational Technology Cell

The Educational Technology Cell was established in 1989 by the Ministry of Human Resource Development, Government of India. The objective is 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 complimenting with the latest lighting systems and integrating equipment with a seating capacity of over 100 students. The studio has facilities for video conferencing and link to EDUSAT-the exclusive Educational satellite which facilitates to have interactive video sessions with universities across India and abroad. During this year 187 lectures (on 4 topics) have been recorded, edited and dispatched for broadcasting.

An additional video studio has been planned to meet the astute demand of the faculty who are showing great enthusiasm to record their lectures on video for hosting on the web and distributing for various institutions. The centre has upgraded its facility by procuring exclusive outdoor video cameras for recording various events and seminars.

Extramural lectures, special lecture, events and other recordings of importance has been periodically web hosted through CCE website. Exclusive video production for CD cell funded by AICTE has been produced and a few are in planning stages of production. About 240 lectures in video have been supplied to various Engineering Institutions and R&D establishments.

6.1.10 Central Photographic Section

The Central Photographic Section caters to photographic needs of the Departments and Centres of the Institute. The jobs include Photographic Coverage of most of the important functions such as Convocation, conferences etc. held in the Institute. Besides this, the section renders assistance to the UG, PG Students, Research Scholars and Faculty of all the Departments / Centres for their activities including technical Photography, conference poster preparation etc. The in-house processing and printing work is confined to Black and White photography. After recent modernization this section provides Digital / high-resolution photography for all the needs of the Institute.

The Central photographic section has undertaken 300 Departmental job orders and covered 85 functions as well as during 2005-2006. In addition, Central photographic section has contributed a large percentage of photographs to the Heritage Centre and Exhibition Hall at IC & SR. Passport size photos for 2007 convocation, graduants taken and made ready for degree certificates.

6.2 CENTRE FOR INDUSTRIAL CONSULTANCY AND SPONSORED RESEARCH

6.2.1 Introduction:

The Centre for Industrial Consultancy & Sponsored Research was set up in 1973 to promote interaction with industries. It facilitates active participation of the faculty in various interactive programmes organized for the benefit of the industries and the Institute. The Centre also provides administrative support for carrying out consultancy and sponsored research projects, particularly for recruitment of project staff, maintenance of accounts and purchase of equipments as well as materials.

Some of the major activities that the Centre is involved are:

- Sponsored Research programmes
- Plan Schemes
- Technology Development Mission Schemes
- Consultancy programmes: Project / research based / retainer / institutional
- Collaborative projects with foreign countries
- Industrial Associateship Scheme
- ISRO-IITM Space Technology Cell joint projects
- IGCAR-IITM Cell joint projects
- Patenting and Technology Transfers

Dean : Prof. T. T. Narendran

Staffs:

Dr. D. Balakrishnan	---	Chief Techno Economic Officer (until 31.12.06)
Sri R. Sundaram	---	Senior Techno Economic Officer
Sri V. Suresh	---	Senior Techno Economic Officer
Smt. Prema Chakrapani	---	Assistant Registrar (F&A)

6.2.2 Sponsored Research:

112 projects of value totaling to Rs.4505 Lakhs were taken up by the Institute during 2006 -2007 as given below.

Sl.No	Agency Name	Total Projects	Value (Rs. in Lakhs)
1	Advanced Research Centre for Powder Metallurgy & Materials, International.	1	2.38
2	Aeronautics Research & Development Board	6	89.93
3	Analog Devices India Private Ltd	1	9.06
4	Board of Research in Nuclear Sciences	2	83.05
5	Building Materials & Technology Promotion Council	1	12.86
6	Chennai Petroleum Corporation Ltd	2	52.40
7	Council of Scientific and Industrial Research	6	60.94
8	Central Power Research Industry	1	25.00
9	Defence Research and Development Organization	5	59.33
10	Department of Atomic Energy	1	4.85
11	Department of Biotechnology	8	230.23
12	Department of Information Technology	4	106.82
13	Department of Science & Technology	36	2312.58
14	European Commission	1	8.46
15	Garware Wall Ropes Ltd., Pune	1	3.14
16	IBM CORPORATION , USA	1	4.48
17	Indian National Academy of Engineering	2	2.00

Sl.No	Agency Name	Total Projects	Value (Rs. in Lakhs)
18	Indian Space Research Organisation	4	46.67
19	Indian Space Research Organisation(Respond)	1	20.30
20	Indira Gandhi Centre for Atomic Research	3	32.34
21	Indo_French Centre for the Promotion of Advance Research	1	16.44
22	International Bank For Reconstruction and Development , USA	1	69.87
23	Ministry of New and Renewable Energy	1	8.94
24	Ministry of Rural Development	1	23.44
25	Ministry of Shipping	1	37.50
26	Ministry of Water Resources	1	22.12
27	National Technical Research Organisation	2	129.50
28	Naval Research Board	8	226.29
29	NOKIA Research Center	1	5.78
30	NXP Semiconductors Netherland	1	7.28
31	Petroleum Conservation Research Association	1	10.93
32	Research Center Imarat , Hyderabad	1	9.96
33	Siemens information systems ltd.,	1	5.00
34	Students' International Conference Travel Programme	1	1.38
35	United Nations Development Programme	1	8.86
36	Universidad Politecnica de Madrid	1	9.68
37	Vortex Engineering Pvt Ltd.,	1	15.00
38	Others and Additional Grants		730.34
	Total	112	4505.13

This includes International Collaborative and Industry Sponsored Projects.

6.2.3 Consultancy Programmes:

539 Consultancy assignments of value totaling to Rs.2244 Lakhs, 49 Research Based Industrial Consultancy for a total value of Rs.674 Lakhs and 476 Institutional Consultancy assignments for a total value of Rs.874 Lakhs were taken up during 2006-2007, apart from additional grants to the tune of Rs.603 Lakhs for the on-going consultancy assignments. Also 14 faculty members were retained as consultants by various industries for a total fee of Rs.93 Lakhs.

6.2.4 New Faculty Scheme:

A new faculty members are given a seed money of upto Rs. 5.00 lakhs by IIT Madras to initiate activities in the field of his / her research interest and to enable the faculty to interact with organizations sponsoring R & D projects. 45 proposals were approved for funding under the New Faculty Scheme for a total sum of Rs.224 Lakhs.

6.2.5 Industrial Associateship Scheme:

249 Industries were members of this Scheme (Large scale 32, Medium scale 129 and Small Scale 88) for the Year 2006.

The following five Technology Appreciation Programmes were organized during the period under report (April 2006 – March 2007):

- Energy Aspects of built environment
- Microwave Application
- Industrial Process Optimization Application of Taguchi Quality Loss Function

- Welding Technology
- Industrial Catalysis
- Two day programme on "PEM Fuel Cell" was held during 16 & 17 March 2007 with Dr. Arun K Tangirala as Co-ordinator jointly with Centre for Continuing Education.

6.2.6 Other Programmes:

ISRO-IITM Space Technology Cell joint projects:

This is an on-going activity sponsored by the ISRO where research projects of interest to ISRO are being taken up at IIT Madras. 29 on-going projects totaling to a value of Rs.435 Lakhs were continued and 4 new projects for a value of Rs.47 Lakhs were taken up during the year 2006-2007.

IGCAR-IITM Cell:

11 on-going projects were continued during 2006-2007, totaling to a value of Rs.138 Lakhs and 3 new projects for a value of Rs.35 Lakhs were taken up during the year 2006 – 2007.

Technologies for Social Development:

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

(1) Socially Relevant Project.

Three projects have been completed and there are five on-going projects. All projects have been taken up by IIT Madras faculty.

(2) Rural Technology Action Group (Funded by Planning Commission).

Five projects taken by IIT Madras and one by Kumaraguru College of Technology have been completed. The beneficiaries of the project are Gandhigram Trust, Small Industries Service Institute, Pothu Vivasayeegal Sangam.

(3) Recognition and Mentoring Programme by Lemelson Foundation (USA).

Twelve innovations proposals are currently being funded with institute support by L-Ramp. In addition ten innovations were taken up for Proposal Development Funding. Thirty two students projects were supported by grants, through our nodal partners (10 of vellore Institute of Technology and 12 of Gandhigram Rural University and 10 of PSG College of Technology)

6.2.7 Distinguished Visitors to the Centre:

The following visited the Institute during the year 2006-07, for Collaborative Research.

SI.No	Visitor(s)	Organization	Month
1.	Mr. S. Nachiappan & Mr. Jean Claude	Saipem India Projects Services Limited, Chennai	26.04.06
2.	Mr. S. Deepak Martin, Director Leadership & Organization Development	Flextronics Technologies (I) Pvt. Ltd, Bangalore	10.05.06
3.	Mr. Kidambi Srinivas	Reliance India Limited	06.06.06
4.	Representatives from Timken	Timken Engineering and Research India, Bangalore	15.06.06

Sl.No	Visitor(s)	Organization	Month
5.	Mr. Gilles David, Vice President Mr. Ramu K. Sundaram, Advisory Engineer Mr. V.N. Rajan, Managing Director	Areva, T&D, Paris	30.06.06
6.	Mr. T.V. Krishnamurthy Vice Chairman	Huber Chemicals India Private Limited	17.07.06
7.	Dr. S. Chattopathaya	Exide Research Centre, Calcutta	28.07.06
8.	Dr Georg Wiessmeier & Mr. M Thangarathnavel	Bayer Chemicals Ltd.	02.08.06
9.	A high level delegation	Volkswagen, Germany	02.08.06
10.	Dr. Angelo Amerolli, Director Technology Alternate Energy Business	BP Alternative Energy Intl. Ltd.	14.08.06
11.	A group headed by Mr. Ashok Nanjundan	Caterpillar – Engineering Design Centre	24.08.06
12.	Mr. Sujit Das Innovative Centre	Eaton India Engineering Centre (EIEC)	31.08.06
13.	Chairman and Vice President	Conexant System Inc	Sept' 2006
14.	Scientists	Institute for Plasma Research	14.09.06
15.	Mr. Ward J. Timken (Jr. Tim Timken), Chairman	Timken Engineering and Research Centre, Bangalore	15.09.06
16.	Brigadier A. V. Subramanian and Lt. Col. J.P. Jacob	Simulator Development Division, Army Technology Board	18.09.06
17.	Dr. Nicolas Flamant,	Renault Automobile Company, France	03.10.06
18.	Dr. Veronica, Senior Scientist,	Nicholas Piramal India Limited	11.10.06
19.	Dr. S. K. De Datta along with a group of faculty	Virginia Tech.	30.10.07
20.	Dr. Deepak Parikh along with a team of Scientists	Technology Director, Dow Chemicals	19.12.06
21.	Mr. John Loughhead, Executive Director,	UK Energy Research Centre (UKERC)	13.02.07
22.	A team of delegates	Robert Bosch India Limited, Bangalore	08.02.07
23.	Mr. Joseph Ashok Lasante, Chief Technology Office & Country technical Director	Thales Software (I) Pvt. Ltd.	08.03.07
24.	Mr. Kalathur Pattabiraman,	Global Materials Engineering Manager, Honeywell Turbo Technologies	20.03.07
25.	Mr. M. Srinivasan, COO,	Mascon Global Limited	27.03.07

6.2.8 MoUs / Agreements signed:

26 new MoUs / Agreements have been signed by IIT Madras with the following 25 organizations / Institutions during 2006-07:

1. Nexge Technologies (P) Ltd., Chennai
2. Theme Work Analytics (P) Ltd, Bangalore
3. Amdale Software Technologies Pvt. Ltd, New Delhi
4. Analog Devices India Pvt. Ltd
5. Nagarjuna Fertilizers and Chemical Limited, Hyderabad
6. Ministry of Shipping, Road Transport & Highways, New Delhi
7. Bruker BioSpin AG Fallanden, Switzerland
8. National Institute of Ocean Technology
9. InfoDev, USA

10. Nitrex Chemicals India Limited, New Delhi
11. Rane Engine Valves Ltd., Chennai
12. 3i Infotech
13. Southern Railways
14. Vikram Sarabhai Space Centre, Trivandrum
15. Chennai Petroleum Corporation Limited
16. BHEL, Ranipet
17. Master Shipyard (pvt.) Limited, Kochi
18. Vision Research Foundation, Sankara Netralaya
19. NXP Semiconductors, Netherlands
20. National Technical Research Organization (NTRO),
21. Teranetics Inc., CA 95054
22. Vortex Engineering Pvt. Ltd
23. Reliance Industries Ltd., Mumbai
24. Kemin Nutritional Technology
25. NTRO & IIT Madras and NTRO with seven other Institutions
26. CSIR and University Institute of Chemical Technology, Mumbai

6.2.9 Patents:

Patent applications filed during the year 2006-2007 are given below:

Sl. No.	Title of the Invention	Inventor(s)	Dept.	Date of filing
1.	Electron Beam Induced Chromism and Photoluminescence in Reactive DC Magnetron Sputtered Non-Stoichiometric Tungsten Oxide Thin Films	Dr. A. Subrahmanyam	PHY	10.04.06
2.	A method & apparatus for carrying out oil jet peening.	Dr. R. Gnanamoorthy	MEE	28.04.06
3.	Substituted Nano Calcium Deficient Hydroxyapatite	Dr. T.S. Sampath Kumar	MET	15.05.06
4.	A device for online measurement of partial discharge in an electrical winding	Dr V Jayashankar	ELE	23.06.06
5.	Combined capacitive electro-magnetic voltage transformer	Dr V Jayashankar	ELE	04.07.06
6.	Variable value timing assembly for a 4-stroke internal combustion engine.	Dr A Ramesh	MEE	21.06.06
7.	Modular multiblock cross flow heat exchanger.	Dr. Sarit Kumar Das	MEE	17.08.06
8.	A method & a system for enabling representation of UML class diagram in LISP format & design pattern detection using such representation.	Dr. D. Janakiram	CSE	14.11.06
9.	A design for reusable printing paper.	Dr S Sankararaman & Dr A K Mishra	CHY	28.12.06
10.	Multi-antenna cellular broadband wireless communication systems with interference mitigation based on compressed channel state information feedback	Dr. Bhaskar Ramamurthi	ELE	12.02.07
11.	A process for the preparation of activated carbon from botanical sources	Dr. B. Viswanathan	CHY	23.02.07
12.	A linear variable capacitive transducer for sensing planar angles	Dr. V. Jagadeesh Kumar	ELE	16.03.07
13.	A method of and an apparatus for the continuous humidification of hydrogen delivered top fuel cell	Dr. Arun K Tangirala	CHE	30.03.07

Patents got approved during the year 2006-07

- 1.
- 2.
- 3.

6.2.10 Publications:

- The quarterly publication titled IIT Madras News was continued.

6.2.11 Other information:

- Meeting with M/s. Tamil Nadu Handicrafts Development Corporation Ltd., Chennai was organized on 17th April 2006 for upgradation of Technology.
- A Visit to Composites Technology Centre by Industrial Associates was organized on 11th May 2006.
- Teleconferencing was set up with Mr. Paul Maruani, Chairman, Id VectoR with the Dean, IC & SR & Prof. Job Kurian on 24th May 2006 for possible collaborative work.
- A committee constituted by the Director to evaluate the proposals for innovative student project was held on 1st June 2006. Out of the seven proposal presentations five were considered for funding for a total value of Rs.8.5 Lakhs.
- Organized the felicitation function for Dr. T. Ramasami, Secretary DST.
- Organized a visit to our faculty to look at the pre launch activities, before the launch of GSLV F02 at Satish Dhawan Space Centre.
- Four new projects were sanctioned to students under "Innovative Project Scheme" for a total value of Rs.6.5 Lakhs.
- A one day workshop on "Energy and Fuels from Biomass" was held on 7th December 2006 with Prof. Ajit Kumar Kolar as Co-ordinator.
- "Aerospace Technologists' Meet" was organized on 1st and 2nd February 2007 by Department of Aerospace Engineering with financial support from IC & SR to promote Industry - Academic interaction.
- Dean, IC & SR chaired a session titled "Leveraging Industry-Institute partnership for global manufacturing" in Global Manufacturing Conclave at STC, Hyderabad on 2nd February 2007.
- IDRG projects were reviewed on 15th March 2007.
- Review of Innovative Students Projects was held on 20th March 2007.
- Dean, IC & SR inaugurated the Quality Improvement Programme on "Recent Advances in Logistics and Supply Chain Management" at NIT, Trichy and also delivered a guest lecture.

6.3 CENTRAL ELECTRONICS CENTRE

6.3.1 About the Centre

The Central Electronics Centre (CEC) was established in 1971 with the main objective of servicing and maintaining the wide variety of sophisticated electronic equipment. The significant advantage, this Centre has over the other similar organizations is the mixed environment, i.e. a blend of academic environment and industry like working atmosphere.

The Centre is housed in dust free environment. The Centre has a team of qualified, experienced and talented staff members, trained in Germany in various fields of electronic instrumentation. The infrastructural and equipment facilities have been adequately strengthened over the years by successive collaborative Indo-German Projects.

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 Centre has continuously enlarged and diversified its activities and now it offers the following services:

- Servicing and Maintenance of Electronic Equipment
- Training Programs for Manpower Development
- Calibration of Electronic Test & Measuring Instruments
- Testing of Electronic Products
- Development of Custom built Equipment
- Consultancy Services to industries in the above areas.

So far, this Centre has lent its expertise in the above areas to more than 230 industries and other organizations in and outside the country.

As a part of Tailor Made Training Programs, four special 12 weeks Training Programs of unique in nature have been organized to retrain the Radio Officers of Merchant Navy to become Electro-Technical Officers. The project was sponsored by AMET (Academy of Maritime Education and Training), Chennai.

In the area of Renewable Energy too, this Centre has been playing a key role by conducting several Training Programs in the area of Solar Photo Voltaics (SPV). 40 SPV programs have been conducted and more than 860 personnel were trained. The project was sponsored by IREDA (Indian Renewable Energy Development Agency), New Delhi. SPV Laboratory (indoor and outdoor) facilities have been established and Solar Photo Voltaic Park has been developed to promote the developmental activities in this area.

As the Centre had expanded its activities, most of the laboratories have been upgraded and moved to newly constructed building.

In 2001, this Centre received ISO 9001:2000 Quality Certification from RWTÜV, Germany for having established the Quality Systems in its services. Also, the Centre received NABL Accreditation in 2004 for Testing and Calibration Laboratories in accordance with ISO/IEC 17025 Standards.

6.3.2 Activities:

Training Programs

Long Term CEC Training Program

XXII Batch of Training Program (2 years duration) with 11 candidates commenced on 21 st December 2006. The total number of candidates in XXI and XXII Batch of CEC Training Programs are thirty.

6.3.3 Following Laboratories have been moved to the newly constructed Extension of the Centre.

- (i) Training Laboratories
- (ii) Calibration Laboratories
- (iii) Testing Laboratories
- (iv) Solar Photo Voltaics Laboratories

6.3.4 Some of the Important Consultancy Projects completed:

Sl.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 & Crane Remote	Ford India P. Ltd	2	0.47
2	-do-	Fault Analysis of MGC and F/E Boards	Kody Tech. Ltd.	2	0.62
3	-do-	Fault Analysis of MGC, F/E Boards for Ultra Scanner and CRT Boards	Star Medisystems	2	0.51
4	-do-	Fault Analysis of RF Generator, Belt Motor Drives, Controllers, PWS PECVD	Maharishi Solar	7	2.85
5	-do-	Repair of Calibrator	Roots Industries	1	0.62
6	-do-	Servicing of Power Supply, Testing	Common Approval	3	1.39
7.	-do-	Servicing of Lock in Amplifier, Temperature Controller	IGCAR	2	0.76
8.	-do-	Servicing of Microprocessor Boards	GHCL Ltd	1	0.26
9.	-do-	Servicing of AC Drives	JKM Drerim Automotive Ltd.	1	0.76
10.	-do-	Servicing of DC Power Supply & Control Box	CVRDE	1	0.14

6.3.5 HRD Programs conducted for Technical Staff of IIT Madras:

Following 6 Training Programs for IIT staff have been conducted and a total of 32 IITM staff members have been trained.

S.No	Date	Course Title
1	11.12.06	Basic of Data Acquisition System
2	01.05.06	Basic Programmable Logic Controllers(PLC)
3	15.05.06	Strain Gauge, Strain measurements and Applications
4	31.05.06	Temperature Measurements
5	12.06.06	PCB Design Practices
6	26.06.06	Solar Photo Voltaic Systems

Dr.M.Kumaravel visited Periyar College of Technology at Tanjore on 29.5.06 for inaugurating AICTE Course for Engineering College Teachers on "Hybrid Energy Systems". Also he gave an invited talk on "PV-Hybrid Energy Systems".

Dr.M.Kumaravel as an elected member, attended Governing Council meeting of SESI (Solar Energy Society of India) at its Secretariat in New Delhi on 20.01.07.

Dr.M.Kumaravel gave an invited Lecture on "Solar Photo Voltaics-System Integration and Key issues" in National Conference on "Practising Solar Energy Options" at Administrative Staff of College of India (ASCI), Hyderabad on 18.02.07.

Dr.M.Kumaravel served as member in the following Committees:

- i. Serving as Governing Council Member of Solar Energy Society of India (SESI).
- ii. Serving as Member of Expert Committee for installation of Large Scale PV Plant at Rashtrapathi Bhavan.
- iii. Serving as Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Minjur, Chennai.
- iv. Serving as Chairman of Expert Committee for Technical Evaluation and Installation of SPV Plant at CWET (Centre for Wind Energy Technology), Chennai.
- v. Serving as Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Nemmili, Kancheepuram Dist.

Ongoing Development Activities

Solar Photo Voltaic powered Seawater Desalination ('Suryajal') Systems in Standalone as well as in Hybrid versions.

Staff Strength

The Centre has 8 Technical and 2 Administrative staff.

6.4 COMPUTER CENTRE

6.4.1 Introduction:

The Computer Centre was established in 1973 to provide Central Computing resources, facility and support to the research initiatives of the Institute. 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.

The new Data Centre Phase-I was commissioned in June 1, 2006. The High Performance Computing (HPC) servers and all the workflow/web/e-mail etc. servers are operational in the Data Centre with the following special features.

- a. The Data Centre has been designed as per TIER III standards of UPTIME Institute.
- b. The entire facility is monitored from a central command centre which will monitor the status of all the facilities
- c. The facility is designed to address almost 100% expansion which can be carried out in a phased manner
- d. The facility will be one of the largest Data Centres available in the country for an academic institution.

Mr.C.S. Sourirajan is In-Charge of the Data Centre.

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 45 Mbps. Dr.S. Jayaprakash is overall in-Charge of the network infrastructure and operations.

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 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 |

M/s. HP India has undertaken development of workflow automation systems for the Academic Section and Stores & Purchase. These have undergone several trials with the users and will be commissioned shortly. Mr. S.K. Ramesh is responsible for these activities.

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 techno-Logy development for Indian and International Industry. Fostering software development in Small towns and rural areas.
Professor-in-Charge (Website) Dr. Babu Viswanathan, Mech Engg	CFD / High speed reacting flows High performance computing
Professor in-Charge (Workflow) Dr. Koshy Varghese, Civil Engg	Automation in Construction Planning – Fast Track & Concurrent Engg Projects Sustainable Development Geographic Information Systems in Civil Engg Applications
Professor-in-Charge (HPC) Dr.P.B. Sunil Kumar	Complex Fluids, Biological Physics and Statistical Mechanics
Senior Systems Engineers Jayaprakash S, Ph.D.	Software Engineering / Computer Networks
Ramesh S.K, M.S	System Administration, MIS, Data Management, Data Processing, System Programming.
<i>Systems Officer Gr.I</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.(C.S)	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.

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 Cell Trainees and repairs personal computers.

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.

6.4.3 GATE and JMET Examinations:

Mr. S.K. Ramesh and Mr. V. Ravichandran assisted in the successful conduct of the GATE 2007 and JMET 2007 examinations.

6.4.4 JEE 2006-2007 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.

6.4.5 Antivirus:

Server-based e-Trust software from CA has been installed in a server at the Computer Centre that provides automatic updating. Installation in individual machines is provided through a website at Computer Centre. Help is provided to the users who face difficulties in activating or updating this from time to time. Clean-ups and reinstallation (if required) are also done. This activity is co-ordinated by Dr. S. Jayaprakash and is executed by Mr. D. Hariharan.

6.4.6 Seminars / Lectures / Other activities:

- ♦ Dr. S. Jayaprakash visited NIT Trichy in connection with the Campus High speed Networking on 28.01.2006
- ♦ Dr. S. Jayaprakash delivered a Lecture on Internet and Computer Security at Police Training College, Chennai on 27.02.2006
- ♦ 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.
- ♦ Dr.S. Jayaprakash attended Campus Network Purchase Committee meeting as External Expert at NIT, Trichy 24.03.2006

- Computer Centre conducted a Training programme on Stores automation for staff members from 19.04.2006-21.04.2006
- Dr. S. Jayaprakash attended Steering Committee meeting on 'e-Governance Programme' at Univ. of Madras on 1.6.2006, 29.6.06 & 11.8.06
- Officials from M/s. Bosch visited Computer Centre on 29.06.06
- Structure cabling work has been completed and implemented in Bose Einstein Guest House during September 2006
- Training Programme on MSC and StarCD Softwares conducted by CSM Software, Bangalore From 9.10.06 – 13.10.2006
- Dr.S. Jayaprakash delivered a lecture on 'Client Server Concepts' at VLB Janakiammal College of Engineering, Coimbatore on 27.11.06
- Introduction to Abaqus (3 day course) conducted by M/s. Abaqus Engineering India (P) Ltd., Chennai on 11.12.06-13.12.06
- Star-CCM+ Training conducted by M/s.CD Adapco, Bangalore on 14.12.06-15.12.06
- 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.

6.4.7 Memberships of Committees

Dr. S. Jayaprakash was invited to serve as a Steering Committee Member 'e-Governance", University of Madras

Mr. C.S. Venkatesan, Asst. Systems Engineer was enrolled as a Life Member in ISTE from 2004.

6.4.8 Institute Projects:

S. No.	Title	Coordinators/ Staff
1.	Campus Network	Dr. S. Jayaprakash Mr.P.Y. Sreekumar Mr.C.N. Vijayaraghavan Mr. V. Selvaraju
2.	Hospital Drug Management System	Mr. S.K. Ramesh Mr. V. Ravichandran
3.	JEE Data Processing	Mr. P.Y. Sreekumar Mr. S. Anandkumar
4.	GATE Data Processing	Mr. S.K. Ramesh Mr. V. Ravichandran
5.	M. Tech Admission	Mr. S.K. Ramesh
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	Mr. C.S. Sourirajan
9.	Anti-virus facility	Mr. D. Hariharan
10.	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 is having the following shops and sections and their activities during the period April 2006- March 2007 are given below:

Sl.No	Shops	Facilities
1	Carpentry	Planing, crosscutting, turning, thickness reduction, polishing, teeth sharpening, blade sharpening and grinding
2	Fitting & Tool Room	Filing, drilling, tapping, jig boring, tool milling, engraving, marking, slotting, grinding and cutting
3	Machine Shop	Shaping, milling, turning, planing, radial drilling and tool and cutter grinding
4	Gear Shop	Spur, helical & bevel gear cutting
5	Electrical Shop	Simple wiring & winding, simple electrical circuit
6	Instrument Shop	Calibration of Pressure gauges upto 100 kg/cm ² . NC trainer lathes, milling machines
7	Welding Shop	Arc welding, gas welding, brazing, & profile cutting.
8	Foundry Shop	Oil fired furnace, cupola & sand mixing plant
9	Smithy Shop	Hand forging, power hammer, heat treatment
	Sections	
10	Pneumatics and Hydraulics	<ol style="list-style-type: none"> 1. Festo training kits with valves. 2. Electromagnetic Kit 3. PLC to demonstrate Pneumatics 4. Practical demonstration like auto wheel brake system. Weight lifting equipment for demonstration from Eukon Bosch . Hydraulic Kit with valves for Students. Bosch training kit for students Demonstration.
11	Electronics	PCB, Tag board, Soldering and PLC Proofing.
12	FRP	Process material demonstration. Making of dust bin and welding hand shield.
13	Plastics	Introduction to process materials, Practical demonstration in making cycle token, key tags, caps & Folders
14	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 524 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	89	Fitting
2.	Engineering Physics	11	Electrical
3.	Mechanical Engineering	97	Electronics
4.	Metallurgical & Materials Engineering	37	Carpentry
5.	Aerospace Engineering	33	Welding
6.	Chemical Engineering	60	Turning
7.	Naval Architecture & Ocean Engineering	28	Pneumatics & Hydraulics
8.	Civil Engineering	63	Plastics & FRP
9.	Bio- Technology	42	Milling & Shaping
10.	Computer Science	37	Foundry
11.	Engineering Design	27	Smithy
	Total	524	Gear & Tool room
			Quality control & Communication

Central Workshop executes fabrication of test set-ups and their accessories related to PhD, PG and UG Projects. 485 Work Orders were executed during the year 2006 – 2007.

A short-term refresher course for Workshop Instructors was conducted during May 01.05.2006.

Refresher courses in various trades for our Institute employees were conducted as detailed below.

1. Machine shop practice
2. Welding Practice
3. Electrical Maintenance of machineries and Equipments
4. Pneumatics & Hydraulics
5. Quality Control & calibration of Basic Measuring
6. Plastics & Fiber Reinforced Plastics
7. Gear Manufacturing Process and Inspection
8. Tool room Practice

7.2 Human Resources Development (HRD) Programme for the staff:

Staffs 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
Foreman training Institute	---	Bangalore.

7.3 Central Gas Supply Unit:

The CGSU procure Industrial gases and Spl. Gases from various manufacturers/Suppliers and issues the same to various departments/laboratories of the institute for research and practical deceases.

- I. Industrial gases : Oxygen, Dry.Nitrogen, Dissolved Acetylene, Std.Hydrogen and Carbon-di-oxide.
- II. Special gases : High pure Argon, High pure Oxygen, High pure Hydrogen, High pure Nitrogen, Zero air and Helium.

The following are two kind of gases ordered and issued to various department during the year 2006-2007.

Industrial Gases:

Description	Qty Ordered Approximate	Qty actual Consumption
Oxygen	2500 cm	1554 cm
Dry Nitrogen	4000 cm	4144 cm
Dissolved Acetylene	300 cm	164 cm
Std. Hydrogen	500 cm	546 cm
Carbon-di-Oxide	800 cm	705 cm

Special Gases:-

High pure Argon	1540 cm	1540 cm
----do---- Oxygen	200 cm	266 cm
----do----Hydrogen	300 cm	329 cm
---do---Nitrogen	2400 cm	2695 cm
Helium	200 cm	135 cm
Zero Air	500 cm	525 cm

7.4 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 Dewar flasks, lugging probe, laser housing tube with water jacket, reactor tube, vacuum tube collector for solar energy and quartz wares.

Senior Students from Sivasamy Kalalaya visited the CGBS and enjoyed a glass working demonstration.

During April 2006 to March 2007 the section undertook 415 work orders from various departments.

The Central Glass Blowing Section (IITM) organised 15th National Seminar of Indian Society of Scientific Glass blowers on "Modern Glass Working Techniques" (July 6-7, 2006) and 13th Workshop on "Glass Devices for Cryogenic systems" (July3-5, 2006) and quartz working Techniques.J

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 4,13,333 collections, 1187 current journals, catering to the information needs of 6,184 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	2006-2007
A. Collections	
Books	2, 29,158
Ph./D Theses	3,520
Pamphlets and Reports	4,031
Microfilms/Fische	1,842
Book-Bank (General)	6,169
Book-Bank (Weaker Section)	8,090
Current Periodicals by Subscription	1,103
Current Periodicals by Exchange/Gift	84
Back Volumes of Periodicals	93,408
Patents & Specifications	20,000
German Collection	44,280
CD-ROMs	1,200
Audio/Video Cassettes	448
Total	4, 13,333
B. Membership	
Staff	652
Faculty	335
Students	4,393
Alumni Members	284
Corporate Members	169
Industrial Associate Members	230
Special Members	70
Project Co-ordinators	51
Total	6,184
C. Services: Circulation	
Number of Books/Journals issued	1, 00,097
Number of Books issued Book Bank (GS)	3,762
Number of Books issued Book Bank (WS)	3,958
Consultation Cards issued to users	143
Overdue & other Charges collected	7, 82,922
Xerox Charges collected	1, 79,022
D. Permanent Loan to Depts/Centres	
Books Issued	1,071
E. Inter Library Loan Transactions	
Borrowed from other Libraries	84
Loaned to other Libraries	111
F. Reprint Service	
Reprints received from other Institutions	744p
Reprints supplied to other institutions	1,409p

H. Expenditure on

Purchase of Books	64, 93 Lakhs
Subscription of Journals	472.80 Lakhs

I. New Journals Added

17

8.2 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:

- M/s. TUV India Pvt. Limited (TUV NORD) conducted the Surveillance Audit on 30-01-2007.
- ISO Internal Quality Audit was conducted on 27-02-2007
- Dr. Harish Chandra, Librarian delivered lecture on System and Procedures Manual for ISO-9001:2000 to the Participants of National Workshop of LIS Teacher and the Digital Future organised by Central Library and IATLIS on 19-01-2007
- Internal Quality Audit was conducted on 14-09-2006.

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:

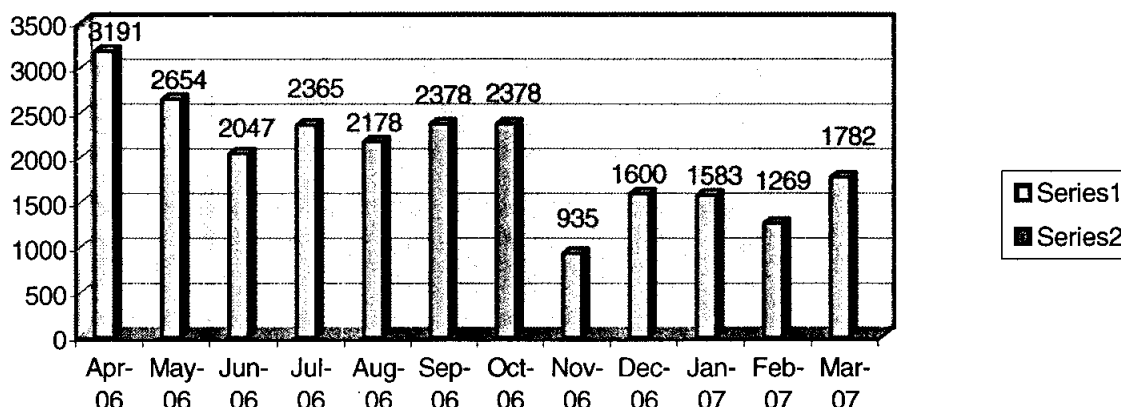
8.3.1 RFID – Tagging Work

RFID is a technology that is expected to replace barcodes. Barcodes identify individual items in a collection using a number sequence that links to a database record. Barcodes are staff intensive, requiring staff to be involved in most patron transactions. Radio Frequency Identification is a way of tracking items using radio waves. Radio waves require no line of sight and are contact less, which has the potential to require no staff/patron contact for many routine transactions. RFID has other advantages like:

- The ability to provide higher-quality customer service.
- Faster performance of circulation and inventory operations.
- It's simple and easy-to-use with consistent handling of all media types.
- Eliminate the applied labor of manual material checkout and return processes.
- Allow automated return of materials.
- Control losses through electronic article surveillance that works with circulation software.

In view of the above facts, we have implemented RFID in the Central Library, which has been integrated with smart card. This has enabled self-check in /check out, auto electronic book drop, tracing of books through stack management system and electronic gate Control.

Figure I: RFID Tagging Work during 2006-2007



8.3.2 On-line Database

We have added JSTOR on-line full text database, which offers both multidisciplinary and discipline-specific collections. Currently, we have all five Arts & Sciences Collection, the Health & General Sciences Collection, the Biological Sciences Collection and the Business II Collection. JSTOR is not a current issues database. Because of JSTOR's archival mission, there is a gap, typically from 1 to 5 years, between the most recently published journal issue and the back issues available for access to IIT Madras users w.e.f. 17-03-2007. In addition to this, we have also made arrangement for providing access to the journals covered under Springer Online Journal Archives (OJA) through Springer Link. The Central Library has been declared Best User Institution for ABI-Inform, Compendex & INSPEC by INDEST-AICTE Consortium.

8.3.3 HRD Initiatives

The Central Library has initiated a two year Graduate Training programme for the Library Science Graduates and Post-graduates with stipend for Rs.4500/- for the first year and Rs.4900/- for the second year with effect from January 2007. The objective of this training programme is to provide an opportunity to the younger generation for hands on experience to the library activities and also an opportunity to learn and understand the new method of information handling tools and techniques. In addition to this, we have also taken various initiatives which are listed below:

- a) Conducted Training Programme to the Librarians of Chartered Accountants of India, New Delhi and Librarians of all regional Centers during 21-08-2006 to 23-08-2006
- b) Conducted National Workshop on LIS Teacher and the Digital Future jointly with IATLIS during 17-19 January 2007. Over 42 participants from 18 states participated. The major objectives of the Workshop are listed below :
 - To provide a forum to the LIS Teachers, Research Scholars, Librarians and Academic Administrators to discuss or present their views on the recent developments and advances in ICT and its implementation in LIS Teaching and Library Services
 - To create awareness and understanding about the importance of introducing and executing information technology in LIS teaching to achieve academic excellence.
 - To provide an opportunity to the participants to see the world class Information Technology Infrastructure and other facilities available on IIT Madras Campus
 - To provide an opportunity to the participants to see the implementation of RFID Technology, Smart Cards, ISO-9001: 2000, Contact less Smart Card enabled Access Control, Digital Knowledge Center, Media Resource Center, Children's Library Corner, Web based Library and Information Support Services and other facilities / services

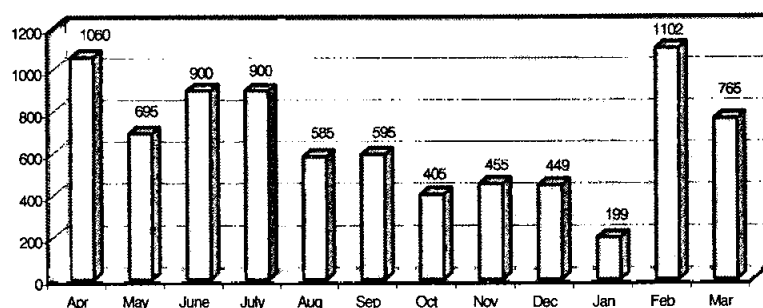
8.3.4 Contact less Smart Card enabled Access Control System

The Central Library has implemented Contact less Smart Card enabled Access Control System. Under this, turnstiles system has been connected to CLSC reader. RFID readers authenticate and valid members to enter the Library. In addition to this, the same card can be used to issue and return of books. The downloaded transactions are stored as log files in the PC. We are able to generate attendance reports of user's entry and exit movements.

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 over come 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 (Approximately 6.00 lakhs) and also saved the time of users ensuring great satisfaction among them. The details regarding work completed during 2006-2007 are given below:

Figure 2: Total Number of Publications Bound during 2006-2007



8.5 Library Staff Activities:

8.6 Training/ Lecture/Presentation/Conference Organized:

Sl.No	Name of the Speaker / Organiser	Topic	Date
1.	Mr. Mark Wheeler, Thomas Scientific, Customer Education and Support, Department of U.K	Training Programme on Web of Science (Science Citation Index Extended)	07-04-2006
2	Dr. Allen Yeo, Principal Consultant, Thomason Scientific, Singapore	Training Programme on Smart Discovery Using Web of Science (WOS) and Value of Back files	26-05-2006.
3	Mr. N.R. Vamanan Marketing Executive, Capital Market, Chennai.	Training Programme on CAPTALINE: CORPORATE DATABASE	13-07-2006
4	Prof. Fredric Andres, Faculty of Computer Science National Informatics Centre, Japan	Image Processing in Web Content	14-08-2006
5.	Dr. Harish Chandra Librarian, IIT Madras	Onsite Training Programme to the Librarians of Chartered Accountants of India, New Delhi	21-08-2006 to 23-08-2006
6	Dr. Harish Chandra Librarian, IIT Madras	Half-day Workshop on Information handling in Digital Era	30-10-2006
7	Dr. Harish Chandra Librarian, IIT Madras	Web Resources & Services available at the Central Library of IIT Madras.	03-11-2006

8.7 Short term Courses / Workshops / Seminars / Symposia / Conferences / Training/ meeting attended by staffs

Sl. No	Name of the staff	Title	Institution	Period
1	Mr. K. Kamaraj,	Workshop on Conservation of Library Materials	T.M.S.S Library, Thanjavur	7-04-2006 to 09-04-2006
2.	Mr. T. Natanasigamani,	On-line New Purchase System	Dean, Planning IIT Madras	19-04-2006 to 24-04-2006
3	Mr.G. Kumar	One day HRD Programme on Team Building Skills	IIT Madras	21-06-2006
4	Mr. M. Ramani	One day HRD Programme on Team Building Skills	IIT Madras	21-06-2006
5	Mr.G. Kumar	One day HRD Programme on Communication Skills	IIT Madras	13-07-2006
6	Mr. P. Velmurugan	One weekHRD Programme on Communication Skills	IIT Madras	17-07-2006 to 21-07-2006

Sl. No	Name of the staff	Title	Institution	Period
7	Mr. C.R. Sekar	PROQUEST Information Learning	MALA & Allied, Chennai	04-08-2006
8	Mr. C.R. Sekar	Annual General Body Meeting	MALIBMET	27-09-2006
9	Mr. P. Natarajan	One day Training Programme on Fire Prevention and Fire Fighting	M/s Everlife Fire Services, Chennai	15-12-2006
10	Mr. K. Sethu	One day Training Programme on Fire Prevention and Fire Fighting	M/s Everlife Fire Services, Chennai	15-12-2006
11	Mrs. Savitri Ramadoss	HRD Training Programme on Computer	IIT Madras	04-12-2006 to 08-12-2006
12	Mrs. R. Shanthi	HRD Training Programme on Computer	IIT Madras	04-12-2006 to 08-12-2006
13	Mrs. Savitri Ramadoss	Hindi Training Programme	IIT Madras	08-12-2006 & 21-12-2006
14	Mrs. R. Shanthi	Hindi Training Programme	IIT Madras	08-12-2006 & 21-12-2006
15	Mr. P. Natarajan	National Workshop on LIS Teacher and the Digital Future	Central Library	17-01-2007 to 19-01-2007
16	Mr. T. Ramakrishnan	National Workshop on LIS Teacher and the Digital Future	Central Library	17-01-2007 to 19-01-2007
17	Mr. M. Ramani	National Workshop on LIS Teacher and the Digital Future	Central Library	17-01-2007 to 19-01-2007

8.8 Special Lectures Delivered by the Librarian:

Sl. No	Topic of Lecture	Venue and Date
1	Digital Library Initiatives: From Concept to Completion	Karunaya Deemed University Coimbatore on 09-06-2006
2	Networking & Consortia	NITTTTR, Chennai on 25-07 2006
3	State-of-the-Art Facilities and Services at the Central Library of IIT Madras	IIT, Khargpur on 04-08-2006
4	Library Automation Strategy	On-site Training Program to the Librarians of Institute of Chartered Accountants of India, New Delhi and it's Regional Centers at the Central Library of IIT Madras Chennai on 21-08-2006
5	Best Practices at the Central Library of IIT Madras	On-site Training Program to the Librarians of Institute of Chartered Accountants of India, New Delhi and it's Regional Centers at the Central Library of IIT Madras Chennai on 22-08-2006
6	Digital Library Initiatives: Resources and Services	On-site Training Program to the Librarians of Institute of Chartered Accountants of India, New Delhi and it's Regional Centers at the Central Library of IIT Madras Chennai on 23-08-2006
7	Application of ISO-9001:2000 in Libraries and Information Centres	Karnatak Law Society' Gogte College of Commerce, Belgaum and NAAC Bangalore. 25-26th August 2006
8	RFID Enhances Integrated Digital Library Services	Karnatak Law Society Gogte College of Commerce, Belgaum and NAAC, Bangalore. 25-26th August 2006
9	Networks and Consortia	NITTTTR, Chennai on 05-09-2006

Sl. No	Topic of Lecture	Venue and Date
10	E-Resources	KLN College of Engineering, Pottapalayam, Madurai and SALIS, Madurai Chapter on 09-09-2006
11	Industrial Information Sources and Services	KCT Business School, Department of Management Studies, on 25-10-2006
12	Web Resources and Services available @ the Central Library of IIT Madras	Central Library of IIT Madras on 03-11-2007
13	The role of Information Literacy for Excellence	SALIS and MSSW and Supported by UNESCO on 07-11-2006
14	Digital Libraries for Academic Excellence	Academic Staff College and DLIS University of Pune on 19-11-2006
15	Application of ISO-9001:2000 in Libraries and Information Centers	Academic Staff College and DLIS University of Pune on 18-11-2006
16	RFID-Enhances Integrated Digital Library Services	Academic Staff College and DLIS University of Pune on 18-11-2006
17	Development of Web-based Library and Information Services	Periyar EVR Central Library, VIT University, Vellore on 25-11-2006.
18	Library Systems and Procedures Manual for ISO-9001:2000	National Workshop on LIS Teacher and the Digital Future organised by Central Library, IIT Madras and IATLIS on 19-01-2007
19	Central Library System: A Bird's Eye View	120th Library Advisory Committee @ Central Library, IIT Madras on 07-02-2007
20	SIRD Technical Talk on Library-A Gateway to Knowledge Resources	SIRD, IGICAR, Kalpakkam on 08-02-2007
21	Growing Facets of Library Automation	DELNET, New Delhi on 22-02-2007
22	E-Journals and E-Resources Management in IIT Madras	IIT Roorkee and INDEST, New Delhi on 09-03-2007
23	Moderator of Brain Storming Session on issues in Digital Libraries	MALA in Chennai and RCIS on 12-03-2007.

8.9 Honours and Awards obtained by the Librarian :

Sl. No	Name of Award	Awarded by	Awarded for	Date of Award
1	Plaque	ELSEVIER New Delhi	Highest Usage of Engineering Village in 2006	29-12- 2006
2	Certificate of Appreciation	Director, IIT Madras	In recognition of Valuable Contribution as Senior Internal Auditor for ISO 9001: 2000 activities from 2003 to 2006	13-04-2006

8.10 Journal Editorial Board

Sl.No	Level	Journal
1	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

8.11 Books, Monographs Authored/ Co-authored/Edited by Librarian:

1. Harish Chandra, Prepared Workshop Course Material on "LIS Teacher and the Digital Future " for the participants of National Workshop on LIS Teacher and the Digital Future jointly organised by Central Library, IIT Madras and IATLIS during 17th to 19th January 2007 at IIT Madras, pp.179
2. Edited SALIS 2006 Papers of National Conference on Initiatives in Libraries and Information Centers in the Digital Era (With A. Hariharan, Dr. S. Murlidhar, Dr. J. Dominic and V. Sakthi Regha) June, 2006, pp. 594

8.12 Paper Published in National Conferences / Festschrift Volume by the Librarian:

1. Saleh Al-zharani, Saravady,S, Harish Chandra and Pit.Pichappan, Controlled EHR Access in Secured Health Information System, Proceedings of the First IEEE International Conference on Digital Information Management (ICDIM2006) 6-8 December 2006, Bangalore, IEEE, pp. 64-68
2. Harish Chandra, Planning, Design and Construction of the Central Library Building as Dynamic Engine and Multi-Functional Complex facilitating the Sharing, Interaction and Exchange of Learning, Research Experiences, Knowledge and Information to achieve Academic Excellence: A Case Study of Indian Institute of Technology Madras (IIT Madras) World Library and Information Congress: 72nd IFLA General Conference and Council, 20-24 August, 2006, Seoul, Korea, 124 Library Buildings and Equipments,p. 1-16
3. RFID Enhances Digital Library Security and Value Added Library Services: An Implementation Experience, Proceedings of the National Conference on Information Management in Digital Libraries, organized by IIT Kharagpur, 2-4 August, 2006, Kolkata, Radical Impression, p. 481- 486
4. Harish Chandra, Indian Association of Special Libraries and Information Centers Golden Jubilee All India Conference Report, Library Hi Tech News, Volume 23 Issues 3, 2006 pp. 3-4
5. Harish Chandra, Capacity Building Synergies for National Library of India to facilitate Administrative & Organizational Development for Digital Future, The National Library, India: An Intellectual Resources (NACONAL 2006) held at Kolkata, November 13-14, 2006, Organised by The National Library, Ministry of Culture, Government of India. pp.359-373
6. Harish Chandra, Application of ISO-9001: 2000 in Libraries and Information Centers, DELNET Newsletter, Volume 12 Nos. 1&2, December, p.10-12
7. 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), 2006 p. 10-21
8. Harish Chandra, Digital Library Project Management and Governance of Services: Implementation Issues and Solutions, Conference Proceedings, EMPI Digital Library National Convention-2007, New Delhi, EMPI Business School, 2007, pp.289-304

8.13 Fellowships of Academies and Professional Societies of the Librarian:

Sl.No	Name of Academy / Professional Society	Level	Year of Admission
1	SALIS 2006 National Conference on 'Initiatives in Libraries and Information Centres in the Digital Era at Karunya Deemed University at Coimbatore	Conference Director	9 th 10 th June 2006.
2	DELNET, New Delhi	Governing Board of DELNET	Biennial period 2006-2007 & 2007-2008

8.14 New Facilities/Equipments added:

- LCD Projector has been installed in Media Resource Centre
- Order for the procurement of additional RFID Tagging Station has been placed
- Lamination Machine has been procured to laminate Barcoded – ID Cards

8.15 Visitors to the Central Library:

Sl.No.	Name of the Visitor & Designation	Date of visit	Purpose of visit
1.	Dr. Kailash Govil, Focal Point for Asia FAO, UN, Rome	07-04-2006	To see the Central Library and sharing his views on Global Forest Resources and their Information Systems.
2.	Mr. B.M. Ganveer, Registrar Visvesvaraya NIT Nagpur.	27-04-2006	To see the facilities and functioning of the Central Library
3.	Prof. R.K. Mohapatra, Sanjay Memorial Institute of Technology, Ankushpur, Berhampur University. Accompanied with 14 MLISc students	09-05-2006	To see the facilities and functioning of the Central Library
4	Dr. R, Ramachandran, PLIO, National Library, Kolkata	19-05-2006	To see the Central Library and delivered a lecture on Activities of National Library, Kolkata
5.	Mr. K. V. Satyanarayan, Manager, TCS (Tata Consultancy) & Team	26-05-2006	To see the facilities and functioning of the Central Library
6.	Mr. N. Chochalingam, Dy. Chief Engineer, Civil, TA Department, N.L.C.Neyveli and his team	16-06-2006	To see the facilities and functioning of the Central Library and discussing digital libraries
7.	Dr. Ravichandran, Librarian, NITTTR, Accompanied 37 Polytechnic Librarians AP Andhra Pradesh.	26-07-2006	To see the facilities and functioning of the Central Library
8.	Dr. A.S. Khullar, IAS Lal Bahadur Shastri National Academy of Administation, Mussoorie.	06-08-2006	To see the facilities and functioning of the Central Library
9.	Dr. Amruth Sherikar, Principal Library Information Officer Lal Bahadur Shastri National Academy of Administation, Mussoorie	06-08-2006	To see the facilities and functioning of the Central Library
10.	Prof. N. Laxman Rao Department of Library & Information Science Osmania University, Hyderabad	04-09-2006	To see the facilities and functioning of the Central Library
11	Dr. Ravichandran, Librarian, NITTTR, Accompanied 22 Polytechnic Librarians from Karnataka	07-09-2006	To see the facilities and functioning of the Central Library
12.	Mr. M. Subba Rao, Consultant, NISIET, Hyderabad Accompanied 11 foreign Delegates	11-09-2006	To see the facilities and functioning of the Central Library
13	Prof. S.S. Kashwaha Vice Chancellor, Mahatma Gandhi Vidyapith, Varanasi	19-09-2006 to 21-09-2006	To see the facilities and functioning of the Central Library
14	Dr. Dominic, Librarian Karunya Deemed University, Coimbatore	18-10-2006	To see the facilities, functioning, and discussing Library Development Activities
15	Mr. Oliver Bertrand Maitre de Conferences, ECOLE Polytechnique Dept. des Langues et Culture.	26-10-2006	To see the facilities & functioning of Central Library
16	Prof. I.V Malhan, Head, DLIS University of Jammu, Jammu	30-10-2006	To see the facilities and functioning of Central Library
17	Prof. Jagtar Singh, DLIS Punjabi University, Patiala	30-10-2006	To see the facilities and functioning of Central Library
18	Prof. Frank Meditoch Principal, Caledonian University College Muscat, Oman.	06-11-2006	To see the facilities and functioning of Central Library

Sl.No.	Name of the Visitor & Designation	Date of visit	Purpose of visit
19	Prof. K.R. Ayyaswamy Prof-in-charge of Library KCT Coimbatore.	06-11-2006	To see the facilities and functioning of Central Library
20	Mrs. Sakthi Rekha, Librarian, MSSW, Chennai Accompanied delegates.	09-11-2006	To see the facilities and functioning of Central Library
21	Mr. K. Muhammad Basheer, Principal, Rahmania Higher Secondary School For Handicapped, Calicut Accompanied with 100 students.	09-11-2006	To see the facilities and functioning of Central Library
22	Dr. V.G. Talwar, Professor DLIS, Mysore University	23-11-2006	To see the facilities and functioning of Central Library
23	Prof. (Mrs) Vijaya Rajhansa, Head Jawaharlal Nehru Library, University of Mumbai, 20 MLISc. Students	26-11-2006	To see the facilities and functioning of Central Library
24	Dr. Ravichandran, Librarian, NITTTR accompanied 15 foreign Delegates	09-02-2007	To see the facilities and functioning of Central Library

8.17 Other Activities

- 1 Dr. Harish Chandra, Librarian attended the Review Meeting (TIFAC TePP Project: Electronic Tagging of Books) on 25-05-2006
- 2 Dr. Harish Chandra, Librarian acted as the Conference Director for the SALIS 2006 National Conference on 'Initiatives in Libraries and Information Centres in the Digital Era at Karunya Deemed University at Coimbatore during 9th 10th June 2006. He also delivered Keynote address.
- 3 Dr. Harish Chandra, Librarian attended the Meeting of Governing Board of DELNET at New Delhi on 05-06-2006.
- 4 Dr. Harish Chandra, Librarian attended the Registration Meeting for Ph.D in Library and Information Science at Mother Theresa University, Chennai on 28-06-2006.
- 5 Mr. M. Murugan, Assistant Librarian attended the ISO Internal Quality Audit on 07-07-2006.
- 6 Dr. Harish Chandra, Librarian attended the UPSC Selection Committee on 11-07-2006.
- 7 Dr. Harish Chandra, Librarian participated as member of Panel Discussion of the National Conference organized by IIT Khargpur from 02-08-2006
- 8 Dr. Harish Chandra, Librarian delivered Keynote Address in the Inaugural Function of DELNET Orientation Programme on 11-08-2006. Programme organized by University Library, Anna University, Chennai.
- 9 List of Core-journals subscribed was prepared and sent to all Departments and Centers on August 2006
- 10 Dr. Harish Chandra, Librarian attended the Selection Committee Meeting for the Selection of Librarian at NIT, Warangal on 12-09-2006
- 11 119th Library Advisory Committee Meeting was held on 25-09-2006
- 12 Dr. Harish Chandra, Librarian delivered Keynote Address as a Special Guest and also presented Key paper on "Industrial Information Service" in the 9th National Convention on Knowledge, Library and Information Networking (NACLIN 2006) at the University of Jammu during 26-29 September 2006.
- 13 Dr. Harish Chandra, Librarian attended Doctoral Committee meeting to review the research progress of PhD student, Mr. Kanniyappan, University Library of Anna University on 04-10-2006
- 14 As Subject Expert, Dr. Harish Chandra, Librarian conducted Interview for Library Science to assess the Research Proposal for Ph.D offered by Mother Teresa Women's University Research and Extension Center, Chennai on 05-10-2006
- 15 Dr. Harish Chandra, Librarian attended the Selection Committee for the selection of Documentation Officer at NIO, Goa. On 13-10-2006
- 16 Dr. Harish Chandra, Librarian delivered Inaugural Address as the Chief Guest on the eve of Inaugural function of Workshop on Institutional Repositories at Sri. Krishna College of Engineering & Technology, Coimbatore on 02-12-2006

- 17 As an external examiner, Dr. Harish Chandra, Librarian conducted the Public Viva-Voce examination of Mr. G. Rathina Sabapathy for Ph.D Thesis entitled AGRILIBNET (Agricultural Libraries Network) A Prototype Web Portal) Department of Information Science, University of Madras on 04-12-2006
- 18 As an expert, Dr. Harish Chandra, Librarian attended Retro-conversion Project at National Library, Kolkata on 21-12-2006
- 19 As an external examiner, Dr. Harish Chandra, Librarian conducted the Public Viva-Voce examination of Mr. V. Shanmugam for Ph.D Thesis entitled Impact of Information Technology on the Information Seeking Behavior of Corporate Library Users in Chennai (Tamil Nadu), Department of Information Science, University of Madras on 22-12-2006
- 20 Dr. Harish Chandra, Librarian delivered Keynote Address on the eve of Inaugural function of One day Seminar on future Libraries at University Library, Anna University and SALIS, Chennai on 30-12-2006.
- 21 Mr. Mangala Hirwade, Websites of Indian Universities: An Evaluation (Ph.D Theses was published) Mumbai, Himalaya Publishing House, 2006. Ranked the Central Library Website as the First among the top ten Library Web Pages at Page 357
- 22 Dr. Harish Chandra, Librarian attended Selection Committee for the post of Deputy Librarian at University of Allahabad on 02-02-2007
- 23 120th Library Advisory Committee Meeting held on 07-02-2007
- 24 The following staff members visited IGICAR, Library to see state-of-art facilities and digitization work on 08-02-2007

Dr. Harish Chandra, Librarian
 Mr. M. Murugan, Assistant Librarian
 Mr. C.R. Sekar, Assistant Librarian
 Mr. K. Sethu, Library Information officer
 Mr. T. Natanasigamani, Jr. Superintendent
 Mr. M. Ramani, Attendant
 Mr. Rakesh Kumar Bhoi, Graduate Trainee

- 25 Dr. Harish Chandra, Librarian delivered Inaugural Address on the eve of Inaugural function of Three Day Workshop on Library Automation and Networking organised by DELNET on 22-02-2007
- 26 Dr. Harish Chandra, Librarian delivered Keynote Address on the eve of Inaugural function of Two day Workshop on Digital Library Initiatives using Dpace & GSDL jointly organised by B.S.Abdur Rahman Crescent Engineering College and SALIS on 16-03-2007
- 27 Dr. Harish Chandra, Librarian Chaired Technical Session -IV on Digital Library: Project Management, Technology Selection and Governance of Services of EMPI Digital Library National Convention-2007 held at New Delhi on 20-03-2007

8.18 Future Plan:

1. To complete RFID Tagging of Books
2. To improve the Quality of Stacks
3. To organize minimum six training programs for users and staff
4. To prepare detailed Guide to Central Library
5. To prepare the Guide to reference sources available in the Central Library

9. STUDENTS AMENITIES AND ACTIVITIES

9.1 Hostels:

All students admitted to IIT Madras required to reside in the hostels inside the campus. There are 15 men's hostels and 2 ladies hostel with a total of 4859 single rooms, 248 double rooms and 16 triple rooms. During the period under report, there were 3595 men and 484 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 hostel and the Central Supplies Unit staff. There are 158 hostel employees and are responsible to the Hostel Management through the respective Wardens of the hostels. The Chairman, Council of Wardens is also 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. R Sarathi Associate Professor, Dept. of Electrical Engg.
Godavari	Dr. Devendra Jalihal Professor, Dept. of Electrical Engg.
Jamuna	Dr. Prem Bisht Associate Professor, Dept. of Physics
Krishna	Dr. R Gnanamoorthy Professor, Dept. of Mechanical Engg.
Mahanadhi	Dr. K Ananthanarayanan Associate Professor, Dept. of Civil Engg.
Mandakini	Dr. C Vijayan Professor, Dept. of Physics
Narmada	Dr. C Balaji Associate Professor, Dept. of Mechanical Engg.
Pamba	Dr. Udaychandran Chakkingal Associate Professor, Dept. of Metallurgical and Materials Engg.
Saraswathi	Dr. V Subramanian Associate Professor, Dept. of Physics
Sarayu	Dr. R Madhumathi Associate Professor, Dept. of Management Studies
Sindhu	Dr. K Rajagopal Professor, Dept. of Civil Engg.

Sharavati	Dr. C Sujatha Professor, Dept. of Mechanical Engg.
Tamiraparani	Dr. S R Satish Kumar, Professor, Dept. of Civil 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 194 Senior Division Air Wing NCC cadets were enrolled against an authorized strength of 200 during the year.

Kiting:

Each cadets were kited with full set of uniform to meet the expected standard to turn out of NCC Air Wing.

Training:

The training schedule was chalked out keeping in view of cadets academic session load. Total 26 parade were conducted to impart foot drill training, arms drill training and weapon training which was 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, one ANO was available to assist in training and liaisoning with IIT. Dr. Narayana Swamy has been newly appointed as NCC caretaker in place of Prof. S Neelamani who left the institute for pursuing studies abroad.

Cadet Attendance:

The attendance of cadets was not upto satisfactory level inspite of proper schedule and publishing regular circulars, only few cadets used to turn up for parade and other activities. The average attendance was about 50%. This has been intimated to institute authorities through ANO and caretaker. There is a need for intervening and streamlining procedure by IIT administration so that full strength of cadets attend various NCC activities and parades.

Aero Modeling:

As a part of institutional training Mr. Radha Kamallakaran, professional aero-modeler imparted training to 25 selected cadets. He covered various types of Aero Modeling e.g static, control line and remote control Aero Modeling. We intend extending scope of this activity in next session.

Independence, Republic and NCC Days' celebrations:

Independence, Republic and NCC day were celebrated in the campus. A guard of Honour was presented to Director by IIT NCC Air Wing Cadets.

Certificate Examination

Examination is conducted to check the knowledge level of cadets pertaining to subjects covered during the session.

Social Service activities

Various social service activities were conducted by the cadets. Some of them are as follows

- (a) Anti-Terrorism pledge
- (b) Celebrating Vigilance Week
- (c) Cancer awareness rally

Annual Training Camp:

Annual Training Camp for all cadets of IIT Madras was organized between 01 Dec 06 to 12 Dec 06 during winter vacations of the institution. Various technical and ground training activities, social service aspects and guest lecture were organized during the annual training camp to develop the sense of unity & discipline among IIT students. Following events were 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 competitions were organised)
- (d) Daily Drill and technical class
- (e) Lecture on important 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 and related details by Rep of Shankar Netralaya
- (h) First Aid Awareness Programme by Medical officer IIT Hospital Madras
- (i) Drawing and Painting Competition
- (j) Diabetes awareness lecture
- (k) Cultural Programme and Camp Night
- (l) Visits by Deputy Director General NCC (TN, P & AN) and Group Commander Madras 'B'.
- (m) Cross Country Race
- (n) Skeet shooting and range firing
- (o) Motivation CD representation
- (p) Road Safety Lecture by Joint Police Commissioner (traffic)
- (q) Cultural Programme by NCC cadets followed by dinner.

It is proposed to take the cadets away from institute campus and be part of a bigger camp along with the cadets of other engineering colleges.

Conclusion:

Cadets were trained to give them an exposure to military way of working and to develop their personality and be part of a team. Some of the cadets showed a keen interest in all the fields during the camp despite their academic schedule thereby displaying a high morale, sense of responsibility and devotion towards their duty.

9.4 N.S.S

Orientation Meeting on 15th August, 2006

The National Service Scheme activities for the Academic year 2006-07 commenced on the Independence Day, 15th August 2006 with a small function in the Central Lecture theatre. The NSS Faculty Coordinator welcomed the 1st Year BTech, Dual Degree, and Integrated MA students who had joined NSS this year, and made a brief orientation about the aims and objectives of IITM NSS to the newcomers.

This time we had 216 student volunteers, working under various groups namely: (i) Two Teaching Groups (Tamil and Telugu), (ii) Green Earth Group, (iii) Neighborhood Development Group, (iv) E-Learning Group, (v) Science Activities Group, and (vi) Head Quarters Volunteers.

1. E-learning (August 2006 – March 2007)

E-learning is an innovative step of NSS IITM with the support of TeNeT group of IIT Madras in which the students in the far flung remote areas are given Village Online Tutorial Programme with better educational aids prepared by the our volunteers. The winter camp in December was the time for the students to interact with the student beneficiaries of the E-learning programme, a sort of Contact Class. Vishal Bharat Grameen Trust Chennai provided the necessary help as vital link between the schools and internet kiosks in the villages and the NSS team. This year, the E-learning project covered nearly 40 villages, in 5 districts of Tamil Nadu. The students went to the internet kiosks catering for the E-learning needs in and around nodal points in rural Tamil Nadu like Aranthangi, Mayiladuthurai, Theni, Arcacut, and Tirupattur. The volunteers contributed also to the development of internet based tutoring material, and in the preparation and delivery/correction of mock exams to the various 10th standard rural students.

2. Teaching

2.1 Local Teaching Activities (Aug. 2006 – Mar. 2007)

The teaching project, which has been going on in IITM since the seventies, aims at inculcating in the students, the curiosity to learn and understand the world around them. Students regularly take up the role of teachers every evening in the four teaching centres in and around the campus, namely, Taramani temple, Taramani Corporation Higher Secondary School, Velachery and NSS headquarters in the campus. This year, we opened up a new centre in the Kendriya Vidyalaya IIT, where the NSS volunteered to help out the students from 6th standard to 9th standard on every Saturday. On August 16, NSS teaching volunteers visited all the teaching centers and commenced their activities on the same day.

2.2 Teaching Methodologies Program (Sep 23 & 24, 2006)

Ms. Lakshmi Suryanarayanan, Principal of Olcott's school, Besant Nagar and her colleagues conducted a 2 day workshop on "Teaching Methodologies" NSS volunteers discussed their problems encountered during teaching especially with Primary- teaching of Mathematics and Language. NSS volunteers benefited a lot by knowing the effective methods of teaching by using interesting games, visual and other tools. She explained the development of various teaching aids and games for making the learning process an enjoyable experience. Also the session was highly useful for the volunteers for discussing and solving the problems they faced during their course of teaching.

Similar workshop was conducted for the E learning and Tamil teaching volunteers. In this workshop guidelines were given for the students in developing a better user friendly and innovative E tutorial and also to develop a full fledged set of question papers and learning module aimed at bringing out a better result for the rural students in the board exams both in terms of quality and percentage.

3. Green Earth Group

This is an environmental conscious group of the NSS family that attempts to protect the bountiful Mother Nature especially on the campus. This group tries to spread awareness about the environmental issues in the campus and achieve Zero Waste Management.

3.1 OWZone Rallies in September 2007

NSS volunteers actively participated OWZone Project awareness rallies which held on 1st, 2nd and 4th September. Volunteers presented speeches about organic waste and inorganic waste, in various languages (English, Hindi, Telugu) to the campus residence. Volunteers also designed posters on the waste management themes. The rallies covered the entire residential and hostel zones.

3.2 Coastal Clean Up Day

GEG volunteers were part of the 3000 volunteers who helped in clearing the garbage from the Marina Beach in Chennai as part of the International Coastal Clean-Up Day on 16th September 2006. The global initiative was sponsored by UN South Asian Co-operative Environment Programme (SACEP). On that day, totally 18 tones of garbage was collected from the Marina. On 23rd September, volunteers also visited the two OWZONE sheds in the campus where the inorganic wastes are segregated and packed into sacks to be taken to the waste market.

3.3 Bird's Nests

GEG volunteers have built bird nests using wooden boards from packing boxes. These boxes can be used to house injured birds and also birds which are nesting to safeguard their young ones. We have built such boxes for barn owls and some small birds going by the designs provided by Dr. Susy Varughese. NSS volunteers also maintained the garden at the NSS office by cutting wild grass using cutting tools.

3.4 Camp at Jyothimalai (1st – 6th December)

During our Camp, there happened to be a medical camp and food donation programme for the nearby village. The students immediately went for the extension program inviting the villagers to the camps. The Medical Camp had many ophthalmologists and general medical practitioners and the villagers had limited access to the most modern technologies of medicine and they still clinked to their quacks. Persuading them for the camp was not as much easy process. The students also went for tree planting and constructing a cement floor for the Ashram which only had a rugged terrain as ground. The arduous task of getting the raw materials and stones for the process was taken cheerfully by the students.

3.5 Cycle Rally to Pallikaranai (Feb. & Mar. 2007)

NSS volunteers visited Pallikaranai marshland as part of a field trip and were horrified by the stench emanating from the garbage. In spite of government regulations, garbage continues to be dumped at the Pallikaranai Marsh Area. The rally took place on 4th February 2007. Students were sensitized by indiscriminate dumping of waste in the Pallikaranai marshland.

3.6 Bird watching

NSS volunteers joined Prakriti in bird watching on 11th March 2007 in the IITM Campus at 6.45 am. They have also attended some movies about wildlife in India.

3.7 Night Patrolling

IITM Campus is facing the problem of deers being attacked by dogs and we have lost many of our deer due to the dog menace. The attacks are known to occur at night from 11pm to 1am. NSS volunteers patrol the campus on cycles on Friday and Saturday nights doing whatever little they can do to protect the deer. This took place only in March 2007.

4. Science Activities Group

When one gains knowledge, he automatically accepts the duty to share the knowledge with his fellow beings. IITians who are introduced to and are inspired to make innovations do have the duty to pass the fire of curiosity and experimentation to the fellow students in the schools around with not much technological infrastructure to illustrate and understand better the principles of Science.

Realizing this responsibility, the Science Activities Group of NSS got engaged in developing many science educational aids and demonstrated them to the schools around our campus during the winter camp. Five schools were covered, including 2 corporation schools. The feedback was very positive from all the schools visited.

5. Neighborhood Development Group

5.1 Cancer Institute (from August 2006 – March 2007)

The volunteers who visited the Cancer Institute served in two ways. They divided themselves in two groups, alternatively visiting the Children's Ward and helping by writing letters to the discharged patients of the Institute. At the Children's ward, they spent time with the children drawing, painting, and playing indoor and outdoor games. The children were extremely happy with the volunteers. The volunteers also wrote letters to discharged patients to enquire their health and status from their relatives and friends. They also informed, through letters, their next appointments, in the case that they were not completely cured.

5.2 Vishranti (from August 2006 – March 2007)

Vishranti is an old age home for destitute women, located in Palavakkam. They represent the dismal reality of the consumerist and selfish wave of "use and throw" culture which has blinded today's society. Vishranti is home to more than 100 grandmas and a few grandpas. The students had a tough time interacting with the mostly Tamil group there in the absence of a lingua franca. But this was immaterial when the sustained flow of pristine love and affection took place between these grandmas and our volunteers. The grandmas told their bed time stories to our friends there as if they had long waited for some one to listen to their stories and the richness of their experience.

The volunteers there engaged in a survey collecting the personal data, health details and whereabouts of the inmates. The grandmas staged a wonderful skit before their guests from IIT despite their fragilities. The volunteers dissolved into the ocean of love there, serving food for the grandmas, hearing their woes and wishes and compensating for the love their relatives and children are indebted to them. They really felt that the ones who have orphaned them after their "productive stints" are the real losers as they miss the pure love and compassion they would have got.

5.3 Spastics Society (Vidya Sagar)

The volunteers at Vidya Sagar saw it to that they could assist the institute in the best possible way it could. They taught the children, symbolic expressions and sign code meant for the dumb and deaf children. They got to know about the therapy the children undergo which is combined with special education. They engaged them in story telling, music, drama and painting sessions. The students realized that every child had a distinct ability and had to be dealt in a customized manner.

5.4 English for Communication (Jan. – Mar., 2007)

Our NSS Volunteers created English modules for velachery higher secondary school students, with help of faculty members within the campus and outside expertise. They taught English through play way methods, like skits, drama, etc, this programme was well received by the students of the school and welcomed by the teachers of the same institution.

6. Winter Camp

The Winter Camp of NSS-IITM was structured as service opportunities for all the volunteers. The camp took place from 1st December to 6th December 2007 at various places in and around Chennai. The NSS volunteers were divided into various contingents for various programmes in association with various NGOs like the Society for Educational and Economic Development, Sriperumbudur, Sevalaya, Cancer Institute, Give India, Vishranti, Karunai Vallal Charitable Trust and Vidyasagar. The volunteers engaged in the service activities. The members of the E-learning Group went to conduct classes and mock tests for 10th standard children in various rural schools. While the E-learning volunteers were visiting various villages in 5 districts of Tamilnadu (including as south as Theni), the Science Activities group volunteers visited the various schools in the city for popularization and demonstration of learning science through experiment and fun.

7. DOS Collection

NSS IITM along with Atma Charity Wing of IITM organizes collection of provision like Dal, Oil, Sugar, cereals, pulses, stationery, old and clothes for the underprivileged and poor in the vicinity of the campus. This monthly event happening on every first Sunday, between August 2006 and May 2007, with the donors in the residential zone informed prior to the collection.

8. Other Highlights

8.1 One day workshop

One day workshop on “Sensitization on Social Issues” was organized to all NSS volunteers, and was conducted by CISM on 29th October 2006. Mrs. Latha Suresh co-ordinated this program for CSM.

8.2 Half-Yearly Review meeting

NSS IITM began all the year round activities once semester started. On 17th January it had half yearly review meeting and on the same day certificates for the last year volunteers was distributed. Ms. Latha Suresh coordinator CISM Chennai was our chief guest for the programme.

8.3 Medical camp

NSS students actively volunteered the medical camp organized by the Rotary Circle on 8th April, 2007, at the Taramani corporation school.

8.4 Valedictory function

On 17th April, NSS organized the valedictory programme for 2006-07. Prof. Santhakumar, Dean Academic Courses, IITM, was the Chief Guest. There were other invitees from two of the local schools where NSS had actively served. The Chief Guest gave the mementos and certificates to all the coordinators and volunteers, and some of the volunteers presented their views on experiences about the NSS activities for the year.

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 various walks of life after their graduation. Hence the students are encouraged towards participation and organization of a number of sports activities.

The following tournaments were conducted during the year 2006-2007 by the Institute Gymkhana of IIT Madras.

- ❖ The Inter-Collegiate Invitation Tournament “SPORTFEST – 2006”.
- ❖ All India Inter-Collegiate Basketball Tournament for Men (Gerhard Fischer Cup) and for Women (Mrs. Koikila Rajaiah Trophy).
- ❖ IIT Sanmar Inter-Collegiate Invitation Cricket Tournament
- ❖ Inter-Hostel Tournament – “SCHORETER THROPHY”
- ❖ Non-Media Tournament- “Dean (Students) Trophy”
- ❖ Institute Annual Open Road Race

- ❖ Institute Annual Cycle Race
- ❖ Institute Triathlon Race

Inter-IIT Aquatic Meet 2006

The Inter-IIT Aquatic Meet was held from 1st – 4th October 2006 at IIT Guwahati. First time all IITs participated in the above meet in which our IIT contingent secured the second place in Swimming and won the Bronze in Water Polo. The overall third place in the Aquatic Meet was won by IIT Madras with 8 points.

Inter-IIT Sports Meet 2006

The 42nd Inter-IIT Sports Meet was held between December 13th and 20th for the first time at IIT Guwahati. The intense practice during mini camps in the month of November improved our preparations quite a bit. IIT Madras won first position in both men and women section securing a total of 68 points for men and 28 points for women. IIT Bombay was second with 66 points. The competition was quite intense and we were in the race till the morning session of the final day, our cricket team showed excellent performance. The Tennis team, Cricket team, Basketball team, and the Football team won the first place (Gold) for IITM. In the Women's section, IITM secured the first place with a total of 28 points. IITKGP was the second with 22 points. The Women's Basketball team performed well to receive the top honors, while the Women's athletics team got first place. Our women athlete Pragati Meena got the "best women athlete" award with a trophy. Neeti of IITM won the women tennis championship. No doubt most of our teams performed at their best.

All-India Inter-Collegiate Invitation Basketball Tournament 2007

This tournament was conducted from 18th January to 22nd January 2007 and attracted teams from South India. The venue of the tournament was shifted from OAT to the new flood-lit basketball courts. A large number of spectators who attended this tournament, witnessed many exciting matches wherein excellent performance was displayed by many teams. Sathyabama University, Chennai retained the Gerhard Fischer Trophy for Men 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 24th February to 13th March 2007. There was a record entry from 20 city colleges competing for top Honors. A high level of competition was witnessed throughout the tournament RKM Vivekananda College retained the coveted Trophy and Loyola College entered in the finals first time and was placed runner-up.

Inter-Hostel Tournaments:

The Inter-Hostel Tournament were conducted in all the Games/events spread over the academic year and were contested for the Schroeter Trophy for General Championship, adhering to the Inter-IIT pattern of sports events. Also the Dean's Trophy events were conducted on non-media and non-Inter IIT Sports events "GANGA" Hostel won the Schroeter Trophy as well as the Dean's Trophy.

The following non-media tournaments were conducted for the students: (i) 9-a-side Tennis ball Cricket, (ii) 9-a-side Tennis ball Cricket for Freshers, (iii) 6-a-side Football, (iv) 6-a-side Hockey, (v) 3-a-side Basketball and (vi) 3-a-side Volleyball also, institute open events namely, Road Race, Cycle Race, Triathlon were conducted. All these events encourage larger participation of the students 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 coaching camp was Tennis benefited more than 200 campsites from the camp.

The Fitness club had a registered membership of 438, the Tennis club membership of 55 and the Badminton club a membership of 99. 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 advance planning of the calendar of sports events including the fixtures for both Schroeter and Dean's Trophy events helped the smooth satisfactory conduct of the various sports events. Also, the new flood-lit facilities attracted many students to the Basketball, the Volleyball and the Tennis courts.

National Sports Organisation:

National Sports Organisation (NSO) is functioning as per the Government of India's decision for improving sports with special reference to upkeep the fitness of students. Our Institute has been taking necessary steps in encouraging students to participate in various games and sports events and in physical fitness activity as well.

In the academic year 2006-07 nearly 185 first year undergraduate students were registered under this scheme. Coaches/experts from various Sports Federation and sports Development Authority of Tamil Nadu were engaged for coaching our NSO students.

The noteworthy performance of sizable first year students at the various tournaments viz. Inter-IIT Sports Meet, Sportfest and All India Invitation Inter-Collegiate Basketball Tournament is partly due to the quality training given to the students and the hard efforts put forth by the students during the NSO programme.

Overall, it has been an eventful year for the Gymkhana activities.

9.6 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 2006 to March 2007 are listed below:

1. A talk "Lets Talk" by doctors was organised by Dr.Sujatha in Sharavathi Hostel on 11 April 2006
2. A talk on "Common Gynaecological problems and Keyhole surgeries" by doctors Saraswathi Gokulraj and Dr. Maran of MIOT hospital was organized
3. Prema Chakrapani attended the workshop on "Capacity building for women managers in higher education" held at Ethiraj college from July 10-14, 2006.
4. Prof. Nandita Dasgupta addressed the first year students on 2/Aug/2006 (as part of GCU) and informed them about the Women's Forum
5. A meeting was organised with Women's Forum Executive Committee members and I year B Tech, I year M Tech, I year MS, I year Ph.d students on 31/Aug/2006 at Sharavathi Hostel

6. A talk by Urvashi Butalia on: "Interrogating History: A Women's View" was organised on Sept 15 2006.
7. A talk by K Lalitha (founder Anveshi Foundation) on: "Globalisation and Gender" was organised along with the Humanities Department as part of the "After Globalisation ..." conference on 24/11/2006.
8. A talk was given by Arul Mozhi (High Court Lawyer) on "Women and Law" Feb 9 200
9. Voices from within were heard on March 8, 2007 Dr. Usha Titus, Registrar, IIT Madras spoke about the responsibilities of women in positions of power in general

Dr. Prema Rajagopalan, Asst. Professor, Dept of Humanities spoke about gender bias that exists amongst faculty

Prema Chakrapani, Asst Registrar, ICSR spoke about the difficulties of women staff in particular when they are transferred from one section to another.

Other activities:

Two cases of harassment were brought to the notice of the Women's Forum

1. An M Tech student in EE Department. This case was referred to the Women's Cell
2. A Hostel employee complained of harassment at the hostel. This was referred to the Director, IIT Madras

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

Introduction:

The Placement activity commenced with Pre-Placement Talks from 01 August 2006. The actual process of campus recruitment began on 01 December 2006.

A total of 153 companies visited the campus this year. Majority of the visitors were from core industries besides those in finance, consulting, IT services and R&D.

The number of students placed among the registered with the placement cell during 2006-2007 is below:

No. of students / scholars placed

Sl.No	Branch	BTech	Dual	MTech	MBA	MSc	MS	PhD	Total
1.	Aerospace	19	7	7	-	-	4	-	37
2.	Applied Mechanics	-	-	5	-	-	2	2	9
3.	Bio Technology	36	7	-	-	-	-	2	45
4.	Civil	40	8	24	-	-	9	-	81
5.	Chemical	37	10	17	-	-	2	2	68
6.	Chemistry	-	-	-	-	6	-	-	6
7.	Com. Science	21	6	34	-	-	27	-	88
8.	Electrical	66	35	37	-	-	18	1	157
9.	Engineering Physics	11	-	-	-	-	-	-	11
10.	Humanities	-	-	-	-	-	-	-	
11.	Management Studies	-	-	-	62	-	-	-	62
12.	Mathematics	-	-	8	-	21	-	1	30
13.	Mechanical	80	24	39	-	-	19	6	168
14.	Metallurgical	27	8	7	-	-	5	-	47
15.	Naval Architecture	16	4	-	-	-	-	-	20
16.	Ocean	-	-	3	-	-	3	-	6
17.	Physics	-	-	4	-	17	-	-	21
	Total	353	109	185	62	44	89	14	856

During the year 856 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 2006-07 are as follows:

11.1 Assistance to B.Tech students:

Merit-cum-means scholarships of Rs. 1000/-p.m. were sanctioned to the B.Tech students whose parental income is less than Rs. 2 lakhs besides the exemption from payment of tuition fees. During the period under report 415 students benefited. The year-wise details of number of students were benefited are given in Table 11.1

SC/ST students admitted to B.Tech programme were sanctioned the concession of free messing plus pocket allowance Rs.250/-p.m. exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules. As on 31.3.2007, 113 students benefited.

16 B.Tech / Dual Degree Student 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
2006	129	62	-
2005	132	56	16
2004	137	30	-
2003	92	18	-
Total	490	166	16

In addition to the above, the Institute sanctioned notional prize of Rs. 1000/- to 28 first B.Tech top ranking (in the JEE 2006) students whose parental income is more than Rupees two lakhs.

11.2 Other Scholarships:

Scholarships were sanctioned by NCERT, GOI and State Governments to meritorious students pursuing B.Tech programme in this Institute. The batch – wise details of number of students benefited by these scholarships are given below:

No of NCERT Scholarship obtained by B.Tech students

Batch	Total no. of students
2006	04
2005	33
2004	59
2003	30
Total	126

No. of State Government Scholarship obtained by B.Tech students

State	Batch / Total no. of students				Total
	2006	2005	2004	2003	
Andhra Pradesh	2	17	45	197	261
Dehi	5	10	15	1	31
Karnataka	1	--	2	1	4
Kerala	--	2	3	2	7
Tamil Nadu	--	-	1	-	0
Other States	3	6	5	10	24
Total	11	45	71	211	327

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 228 fresh assistantships and 205 renewed assistantships were given. The discipline-wise details are given below:

No. of HTTA awarded

Sl. No.	Discipline	Fresh – 2006 batch		Renewal - 2005 batch
		I Sem.	Non-HTTA got HTTA	
1	Aerospace Engineering	08	2	05
2	Applied Mechanics	08	1	05
3	Chemical Engineering	21	1	19
4	Civil Engineering	31	12	37
5	Computer Science & Engg.	36	-	33
6	Electrical Engineering	41	-	37
8	Incl. Maths & Sc.Computing	06	3	07
9	Mechanical Engineering	44	5	46
10	Metallurgical & Mat. Engg.	12	1	08
11	Ocean Engineering	5	1	05
12	Solid State Technology	05	1	03
Total		217	11	205

11.3.2 Dual Degree (B.Tech & M.Tech)

Students who joined from June 2006 Dual Degree (B.Tech & M.Tech) of 2002 batch were awarded Half-time Teaching Assistantship (HTTA) at Rs.5000/- per month based on valid GATE score or CGPA OF 8.0 and above. During the period under review 98 students were awarded assistantships of Rs.5000/- per month from June 2006 and 98 renewed assistantships in Jan. 2007 out of which 85 students were renewed HTTA at the rate of Rs. 5000/- p.m and 13 student at the rate of Rs. 2858/-p.m. since they obtained CGPA of less than 6.5 at the end of July-Nov. 2006 semester. The department-wise details are given below:

S.No	Discipline	2002 batch	
		Fresh (9 th Sem.)	Renewal (10 th Sem.)
1.	Aerospace Engineering	09	09
2.	Biotechnology	06	06
3.	Chemical Engineering	09	09
4.	Infrastructural Civil Engg.	09	09
5.	Computer Science & Engg.	07	07
6.	Electrical Engineering	28	28
7.	Mechanical Engineering	20	20
8.	Met. & Mat. Engineering	06	06
9.	Naval Arch. & Ocean Engg.	04	04
10.	Total	98	98

11.4 M.Sc.:

Students admitted to M.Sc programme were sanctioned Rs 1000/- p.m. merit scholarship & tuition fee waiver as per rule. During the period under report 103 students benefited. The department-wise details are given below:

No. of Merit Scholarship and Tuition Fee Waiver awarded

Sl. No.	Course	Merit scholarship		Full Tuition Fee Waiver		50% Tuition Fee Waiver	
		2006	2005	2006	2005	2006	2005
1.	Chemistry	7	8	4	3	8	9
2.	Mathematics	9	8	3	3	2	6
3.	Physics	7	8	4	3	2	9
Total		23	24	11	9	12	24

11.5 **Integrated M.A :** Two Students admitted to MA programme were sanctioned merit scholarship Rs 1000/- p.m. and Exemption from payment of tuition fee as per rule.

11.6 **M.S:**

The scholars admitted to MS programme with GATE Score are given Half-time Teaching Research Assistantship (HTRA) of Rs 5000/- p.m. for three years. During the period under report 290 scholars received this assistantship of which 83 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	11	15
2	Applied Mechanics	4	8	12
3	Biotechnology	7	10	17
4	Chemical Engineering	5	10	15
5	Civil Engineering	5	28	33
6	Computer Sc. & Engg.	12	36	48
7	Electrical Engineering	18	42	60
8	Management Studies	4	9	13
9	Mechanical Engineering	17	35	52
10	Metallurgical & Mat. Engg.	3	10	13
11	Ocean Engineering	4	8	12
Total		83	207	290

11.7 **Ph.D:**

The Scholars admitted to Ph.D. full time programme in Engineering are sanctioned Half-time Teaching / Research Assistantship (HTRA) of Rs.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 645 students obtained assistantships of which 115 were fresh scholars. The department-wise details of the assistantships awarded and renewed are given below:

No. of HTRA awarded

Sl. No.	Discipline	Fresh	Renewal	Total
1	Aerospace Engineering	3	5	8
2	Applied Mechanics	6	13	19
3	Biotechnology	5	27	32
4	Chemical Engineering	7	30	37
5	Chemistry	12	64	76
6	Civil Engineering	7	68	75

Sl. No.	Discipline	Fresh	Renewal	Total
7	Computer Science & Engg.	6	20	26
8	Electrical Engineering	7	46	53
9	Engineering Design	3	--	3
10	Humanities & Soc. Sciences	3	20	23
11	Management Studies	5	27	32
12	Mathematics	14	15	29
13	Mechanical Engineering	19	90	109
14	Metallurgical & Mat. Engg.	2	33	35
15	Ocean Engineering	2	18	20
16	Physics	14	54	68
Total		115	530	645

11.8 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/-

During the period under review 51 scholars availed the financial assistance from the Institute of Rs. 30.77

Lakhs disbursed to them.

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 2006:

Total Sanctioned Programmes	Total	Sanctioned Intake		No. joined		No. joined through			
				Category		JEE		Preparatory Course	
		SC	ST	SC	ST	SC	ST	SC	ST
B.Tech	323	48	24	60	19	47	15	13	4
Dual Degree	197	30	15	33	13	29	7	4	6

SC/ST students admitted against reservation are given the following benefits:

- Traveling 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 2006.

Offer issued for PC		No. joined	
SC	ST	SC	ST
-	14	-	14

In July 2005, 19 SC and 13 ST candidates were offered admission, but 16 SC and 11 ST students only joined. Of this, all 16 SC and 11 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 2006:

Category	Offer issued	No. joined
SC	92	43
ST	45	16

12.4 M.Sc programme:

Admission was made to the M.Sc. programme through entrance examinations only. 16 students were admitted in SC category and 2 in ST 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 2006, 4 foreign national students joined M.Tech programme.

At the end of March 2007, 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 2006-2007:

Sl.No	Name of the Work	Rupees in Lakhs
1.	New boys hostel G+6 floors (4 Blocks)	5038.00
2.	Bio – Tech Building	1031.00
3.	Revamping of 11Kv distribution system	242.00
4.	Proposed interior work for third floor of ME & MH Lab	25.00
5.	Proposed Construction work for third floor of ME & MH Lab	83.00
6.	Providing ward rope shutters in double room of Nine Hostels	30.00
7.	Construction of MRI & MRS Building	65.00
8.	Extension of Dinning Hall at Krishna & Cauvery Hostel	24.00
9.	Construction of Coffee day Building	25.00
10.	Renovation of single room (36 rooms) at Tharamani Guest House	44.00
11.	Providing collection tank near Sewage Treatment Plant	35.00

Work in Progress:

1.	Construction of Engineering Design Centre	803.00
2.	ME & MH Interior Work	25.00
3.	Renovation of rooms at Krishna, Cauvery and Sarayu Hostels.	70.00
4.	Addition & Alteration work in Academic Zone	240.00
5.	Construction of C2 type Quarters	2976.00

13.2 Housing Facilities:

As on 31.03.2007, 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 2006-2007, 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:

It 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 served **1160** employees, **3265** dependents, **4200** students, **877** retired staff and their spouse and **326** project staff. In total **9837** persons are registered in the hospital.

Doctors

Regular:

Dr. Mahalakshmi M. Ravi	Medical Officer
Dr. B. Rebecca Punithavalli	Medical Officer

On Contract:

Dr. J. Indulekha	Medical Officer
Dr. N. Porchelvi	Junior Medical Officer
Dr. C.B. Ramkumar	Junior Medical Officer
Dr. V. Thenral	Junior Medical Officer
Dr. Kanimozhi	Junior Medical Officer
Dr. G. Muruga Perumal	Junior Medical Officer
Dr. Shehena	Junior Medical Officer

Dr.N.A. Jayavelan, who served as CMO-i/c from 01/09/1995 to 31/08/1997 and 09/09/1998 to 05/09/2006 and superannuated on 31/12/2006. Dr. C.Sridevei, Medical Officer (Paediatrician) and Dr.S. Aruna, Medical Officer took Voluntary Retirement on 01/04/2007 and 01/03/2007 respectively.

Part-time Consultants

Dr. Jayashreemurthy	Gynaecologist
Dr. M.S. Sornam	Gynaecologist
Dr. S.K. Rajavalli	Dentist
Dr. Indira Chaturvedi	Paediatrician
Dr. E.S. Krishnamurthy	Neuropsychiatrist
Dr. J.S.N. Murthy	Cardiologist
Dr. S. Manoj	Cardiologist
Dr. Krishna Kumar	Ophthalmologist (from Preams' Eye Clinic)
Dr. B.M. Prasad	Dentist (from Sri Balaji Dental College)
Dr. Vijay Ebenezer	Dentist (from Sri Balaji Dental College)
Dr. Praskash	Endodontist
Dr. Sabitha Selvam	Radiologist & Sonologist
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. Amutha	Dermatologist
Dr. S. Vijayaraghavan	General Physician
Dr. A. Vikram	Gastroenterologist
Dr. Vasantha Jayaram	Psychiatrist
Dr. N. Mahesh	Neurologist
Dr. Anu Rajan	Physiotherapist

Para-medical staff:	<i>Regular</i>	<i>On Contract</i>
Staff Nurse	- 6	10
Pharmacists	- 2	Nil
Lab. Technician	- 1	Nil
Male Helpers	- 5	4
Female Helpers	- 5	8
Office Staff	- 3	Nil
Mo Fai Project Staff	- Nil	1
Technician	- Nil	4

Outpatient Services:

Institute hospital has fully computerized O.P. card registration system for all eligible members with their photos. In 2006-2007, 71,221 outpatients were treated in the hospital. In 2006-07 about 1421 new cases records were registered at hospital office.

Inpatient Services:

There are 18 beds in our hospital for treating in-patients. In 2006-07, 731 patients were treated as inpatients and 1 delivery was conducted.

Our surgeons performed 130 surgeries in 2006-07.

Emergency services:

Emergency service is available round the clock on all days with a duty Doctor and supporting staff. 5445 emergency cases were attended during Non-OP hours in 2006-07. An ambulance service run by Trauma Care Consortium is available at hospital on round the clock.

Physiotherapy, X-ray & USG services:

5421 patients had Physiotherapy, 607 patients had Ultra Sound Scan and 2517 patients had X-ray taken at our hospital.

Treatment for Non-entitled Patients:

Non-entitled guests of a staff /student can avail emergency treatment on payment basis subjects to the institute rules. Rs. 4,04,630/- was collected in the year of 2006-07 and Rs. 9,29,791/- was collected towards Medical Insurance Claim.

Other Activities:

1. Health Education and Screening Eye Camp by conducted by Prems' Eye Clinic at Institute Hospital on 28/11/2006.
2. Dr. Ajit Varki, Distinguished Professor, IIT Madras and currently Professor of Medicine and Director of the Glycobiology Research and Training Centre at University of California, San Diego, visited Institute Hospital and had discussion with Institute Hospital Doctors on 08/01/2007.
3. Institute Hospital conducted Free Women's Health Screening Camp from 13/03/2007 to 15/03/2007 for our Institute female staff members and dependent of staff in connection with Women's Day. Totally 98 women benefited by the Camp.

Hepatitis B Vaccination Camp:

Hepatitis B Vaccination (Second Doses & Third Doses) Camp was conducted at our Hospital. 300 Staff and students were vaccinated.

Salient points of the Hospital:

1. OPD Timings:

Working Days /Holidays	:	8.00 AM – 6.00 PM
Laboratory (Sample Collection) (Run by SMF Hospital)	:	7.30 AM – 1.00 PM 2.00 PM – 7.00 PM
X-Ray : Monday to Friday	:	9.00 AM – 6.00 PM

Saturdays & Sundays : 8.00 AM – 4.00 PM
Holidays : 9.00 AM – 1.00 PM

Ultra Sonogram : 9.00 AM – 12.00 NOON
4.30 PM – 5.30 PM

Physiotherapy: Monday to Saturdays : 9.00 AM – 12.00 NOON
4.00 PM – 7.00 PM

Pharmacy : 7.30 AM – 9.00 PM
(Run by Apollo Pharmacy)

2. The following five CME programmes were conducted at our Hospital during 2006-2007.

Sl. No.	Title of Programme	Date	Name of the Person conducted the programme
1	DIAGNOSIS & MANAGEMENT OF DIABETICS AND COMPLICATIONS	05/08/2006	Dr. Sriram Mahadevan Dr. Nirupa Somasundaram
2	AWARENESS PROGRAMME FOR PATIENTS & THEIR FAMILY MEMBERS ON DIABETICS & HEALTH LIFE STYLE	07/09/2006	Dr. Arjun Rajagopalan Dr. S. Suresh Dr. Nirupa Somasundaram
3	CARDIOVASCULAR DISEASES AND ITS MANAGEMENT	04/10/2006 06/10/2006 07/10/2006	Dr.S. Manoj Consultant (Cardiologist)
4	BRONCHIAL ASTHMA	26/10/2006	Dr. S. Vijayaraghavan, M.D., General Physician
5	PSYCHIATRIC PROBLEMS IN GENERAL PRACTICE	06/12/2006 20/12/2006	Dr.Vasantha Jayaram Consultant (Psychiatrist)

2006-2007

Month	N/Entitled	Insurance	Physio	X-ray	USG Scan	Surgery	O.P	In-Pat	Emergency
Apr	28800	90753	391	218	52	8	5135	72	320
May	23920	35443	382	182	45	8	4921	45	260
Jun	30660	131218	455	183	36	5	5107	60	303
Jul	39870	43200	454	201	62	6	5856	68	335
Aug	32250	14103	470	270	47	1	6575	101	550
Sep	34210	15084	526	280	69	10	6287	101	445
Oct	32270	75925	363	193	58	5	6922	88	517
Nov	37570	23688	394	203	53	18	7499	76	742
Dec	40510	34207	314	135	29	17	5196	34	438
Jan	34370	108658	530	210	63	19	6373	33	577
Feb	39950	26235	549	220	50	12	5580	26	475
Mar	30250	331277	593	222	43	21	5770	27	483
	4,04,630	9,29,791	5421	2517	607	130	71221	731	5445

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 Tifanys 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 70th Finance Committee of the Institute in its meeting held on 21/12/2006 recommended Non Plan Revised Estimates of Rs. 9810 lakhs (Gross) for 2006-07 and Budget Estimates of Rs. 10065 lakhs (Gross) for the year 2007-08. The Committee also recommended Plan Revised Estimate of Rs. 5500 lakhs for 2006-07 and Rs. 6000 lakhs Plan Budget Estimate for 2007-08.

The following are the Summary of Revised Estimates 2006-07 and Budget Estimates for 2007-08 as approved by the Board of Governors of the Institute in their 192nd Meeting held on 21.12.2006.

(Rupees in Lakhs)

Head	BE – 2006-07	RE – 2006-07	BE – 2007-08
I. Non-Plan			
Income	2385.00	2675.00	2765.00
Grant from MHRD	7500.00	6825.00	7300.00
Total	9885.00	9500.00	10065.00
Expenditure			
Recurring	10097.00	9810.00	10065.00
Total	10097.00	9810.00	10065.00
II. Plan			
Grant from MHRD	4000.00	5500.00	6000.00
Corpus Fund Transfers			
Total	4000.00	5500.00	6000.00
Expenditure			
Non-recurring	5200.00	5500.00	6000.00
Total	5200.00	5500.00	6000.00

Audit

The Annual Accounts of the Institute for the year 2005-06 was audited by Principal Accountant General (Tamil Nadu & Pondicherry) during July 2006. The certified copy of Accounts and Audit Report were sent to MHRD, New Delhi for placing before Parliament on 21st December 2006.

Summary of Plan/Non-Plan funds utilization for 2005-06 is as below:

PLAN

(Rupees in Crores)

Opening Balance	Nil
Grant Sanctioned during 2005-06	54.40
Funds from Corpus	20.32
Total available	75.22
Capital Expenses during 2005-06	
Buildings & Construction	57.44
Furniture & Fixtures	3.28
Equipments	14.50
Total	75.22
Balance	Nil

NON -PLAN

(Rupees in Crores)

Opening Balance	Nil
Grant Sanctioned during 2005-06	68.25
Institute Income	30.96
Total available	99.21
Expenditure during 2005-06	
Pay & Allowances	32.55
Retirement Benefits	21.02
Library Services	5.69
Health Services	1.47
Student Scholarship	10.23
Hall Subsidy	2.05
Administrative Expenses	1.98
Departmental/Laboratory/Workshop expenses	5.51
Transport Subsidy	0.37
Student support Activities	0.38
Computer Facilities	1.54
House Keeping & Estate Maintenance	9.76
Water/Electricity Charges	11.65
Entrance Examination Expenses	1.85
Total utilized *	106.05
Deficit	6.84

- Deficit made good from Corpus Fund interest earnings of earlier years.

1. THE SENATE

Chairman

PROF. M.S. ANANTH

Members

Prof. Achar D R G	Prof. Idichandy V G
Prof. Ajit Kumar Kolar	Prof. Indrapal Singh Aidhen
Prof. Ananth M.S.	Prof. Jagadeesh Kumar V
Prof. Amitava Dasgupta	Prof. Janakiraman P A
Prof. Anantharaman R N	Prof. Jayachandran S
Prof. Anantha Subramanian V	Prof. Job Kurian
Prof. Anju Chadha	Prof. Kalpakam S
Prof. Anumolu Meher Prasad	Prof. Kalyanakrishnan R
Prof. Archita Patnaik	Prof. Kalyanaraman V
Prof. Arindama Singh	Prof. Kamala Krithivasan
Prof. Ashok Jhunjhunwala	Prof. Kamalanabhan T J
Prof. Ashok Kumar Mishra	Prof. Kamath S G
Prof. Balakrishnan A R	Prof. Karmalkar S
Prof. Balasundaram Subramanian	Prof. Karunakaran D
Prof. Baskaran S	Prof. Kesavan Nair P
Prof. Bhallamudi Sreenivasa Murty	Prof. Koshy Varghese
Prof. Baskar K	Prof. Kothiyal M P
Prof. Bhaskar Ramamurthi	Prof. Krishnaiah K
Prof. Bhattacharyya S K	Prof. Krishnakumar R
Prof. Boominathan A	Prof. Krishnan Balasubramaniam
Prof. Budaraju Srinivasa Murty	Prof. Kulkarni S H
Prof. Chandra T S	Prof. Kumaraswamy S
Prof. Chandrakumar N	Prof. Lakshmana Rao C
Prof. Chandramouli P	Prof. Lakshmi Bala S
Prof. Chaudhary S C	Prof. Loganathan D
Prof. Choudum S A	<i>Prof. Malathy Duraisamy</i>
Prof. Damodara Doss V	Prof. Mangala Sunder Krishnan
Prof. Deshmukh P C	Prof. Mani A
Prof. Devdas Menon	Prof. Mani J S
Prof. Devendra Jalihal	Prof. Markandeyulu G
Prof. Dhamodharan R	Prof. Mathews M S
Prof. Dharanipragada Janaki Ram	Prof. Mayuram M M
Prof. Doble Mukesh	Prof. Mehta P S
Prof. Enakshi Bhattacharya	Prof. Mohan S
Prof. Evangeline Manickam	Prof. Muraleedharan V R
Prof. Gandhi S R	Prof. Murthy V R K
Prof. Ganesan N	Prof. Muthuveerappan G
Prof. Ganesh Babu K	Prof. Nagarajan R
Prof. Ganesh L S	Prof. Nandita Dasgupta
Prof. Giridhar K	Prof. Narayanan S
Prof. Gnanamoorthy R	Prof. Narendran T T
Prof. Gopinath K	Prof. Natarajan R
Prof. Govardhan M	Prof. Natarajan T S
Prof. Hariharan K	Prof. Neelima Madhukar Gupte
Prof. Harishankar Ramachandran	Prof. Panda T
Prof. Hema A Murthy	Prof. Pandurangan C
Prof. Paramanand Singh	Prof. Sriram P
Prof. Parthasarathy P R	Prof. Subir Kumar Saha
Prof. Pathak S D	Prof. Subrahmanya Murty V

Prof. Ponnusamy S
Prof. Prabhu K M M
Prof. Pradeep T
Prof. Prakash Maiya M
Prof. Prasad B V S S S
Prof. Prasad Rao K
Prof. Prasanna Kumar T S
Prof. Pushpavanam S
Prof. Raghavan S
Prof. Raghavan S V
Prof. Rajagopal K
Prof. Rajendran C
Prof. Raju Sethuraman
Prof. Rama R
Prof. Ramachandra Rao M S
Prof. Ramachandraiah A
Prof. Ramachandran K B
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