

Annual

Report

2007-08

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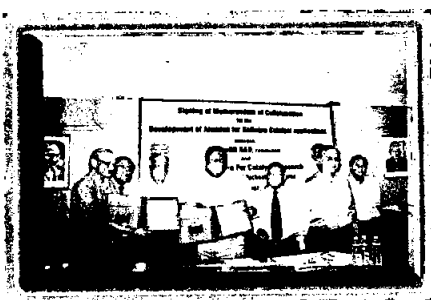
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CELEBRATING
TECHNOLOGY

Golden Jubilee 2003-09



IIT MADRAS



Annual Report 2007-08



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CONTENTS

1.	Report of the Director	1
2.	Administration	21
3.	Academic Programmes and Award of Degrees	35
4.	Departments:	
4.1	Aerospace Engineering	47
4.2	Applied Mechanics	57
4.3	Biotechnology	67
4.4	Chemical Engineering	85
4.5	Chemistry	97
4.6	Civil Engineering	117
4.7	Computer Science & Engineering	155
4.8	Electrical Engineering	171
4.9	Engineering Design	203
4.10	Humanities & Social Sciences	211
4.11	Management Studies	219
4.12	Mathematics	235
4.13	Mechanical Engineering	255
4.14	Metallurgical & Materials Engineering	301
4.15	Ocean Engineering	323
4.16	Physics	343
5.	Centres:	
5.1.	Sophisticated Analytical Instrument Facility	371
6.	Centres of Special Facilities:	
6.1.	Centre for Continuing Education	375
6.2.	Industrial Consultancy and Sponsored Research	377
6.3.	Central Electronics Centre	387
6.4.	Computer Centre	391
7.	Central Facilities:	
7.1	Central Workshop	395
7.2	Central Gas Supplies Unit	396
7.3	Central Glass Blowing Section	396
8.	Central Library	397
9.	Student Amenities and Activities:	
9.1.	Hostels	405
9.2.	Medical facilities	406
9.3.	Gymkhana	406
9.4.	Guidance and Counselling Unit	407
9.5.	Women's Forum	408
9.6.	Alumni Affairs	408

10.	Students Placement	409
11.	Financial Assistance to Students:	
	11.1 B.Tech.	411
	11.2 Other Scholarships	411
	11.3 M.Tech.	412
	11.4 M.Sc.	413
	11.5 M.S.	413
	11.6 Ph.D.	413
	11.7 Financial Assistance to Research Scholars/Students for presentation of papers abroad	414
12.	Weaker Section and Foreign Students:	
	12.1 B.Tech programme	415
	12.2 Preparatory Course for admission to B.Tech. programme	415
	12.3 M.Tech programme	415
	12.4 M.Sc programme	416
	12.5 Admission of Foreign National Students and Indian National Residing Abroad	416
13.	Campus Amenities:	
	13.1 Major Works	417
	13.2 Housing Facilities	417
	13.3 Horticulture	417
	13.4 Telephone Facilities	417
	13.5 Central Supplies Unit	417
	13.6 Guest House	417
	13.7 Hospital	418
	13.8 Bank	421
	13.9 Post Office	421
	13.10 Schools	421
	13.11 Open Air Theatre	421
	13.12 Student Activities Centre	422
	13.13 Cafeteria	422
	13.14 Crèche	422
	13.15 Transport Services	422
	13.16 Campus News	422
14.	Finance and Accounts:	423
	Appendixes:	
	1. The Senate	425
	2. Board of Academic Course	427
	3. Board of Academic Research	428
	4. Board of Students	429
	5. Board of Industrial Consultancy & Sponsored Research	430
	6. Library Advisory Committee	431
	7. The Finance Committee	432
	8. Buildings and Works Committee	433

1. DIRECTOR'S REPORT

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 13000 people.

The institute offers several course-based undergraduate and post-graduate programmes as well as research-based masters and doctoral programmes. It has responded to environmental changes and user needs by redesigning curricula, offering new programmes and specially designed user-oriented M.Tech. and Continuing Education programmes. The Preparatory Course programme for weaker section students offers intensive coaching to eligible candidates to prepare them for entry into IITM on successful completion of this one-year programme. 2 SC and 28 ST candidates have been admitted to this course in 2007.

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 2007-08.

1. THE FORTY-FORTH CONVOCATION

At this Convocation, a total of 1320 degrees are being awarded: 125 Ph.D., 104 M.S., 337 M.Tech., 66 M.B.A., 92 M.Sc., 111 Dual Degree and 374 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 : 32 QIP candidates (teachers from other colleges), 20 sponsored candidates and 56 UoP candidates, 167 ladies, comprising 22 Ph.D., 23 M.S., 37 M.Tech., 21 M.Sc., 14 MBA, 2 Dual Degree and 48 B.Tech. students.

2. COURSE-BASED PROGRAMMES

IITM offers UG, Dual Degree and PG programmes in Aerospace Engineering (AE), Biotechnology (BT), Chemical Engineering (CH), Civil Engineering (CE), Computer Science & Engineering (CS), Electrical Engineering (EE), Engineering Design (ED), Mechanical Engineering (ME), Metallurgical & Materials Engineering (MM) 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, ME and OE.

New multi-institute M. Tech. in Clinical Engineering and Ph.D. in Biomedical Devices and Technology programmes have been introduced in this year in collaboration with Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum and Christian Medical College, Vellore. The MS and Ph.D. programmes emphasize research excellence and the M.Tech. (Clinical Engineering) programme addresses the management of the technology aspects in a hospital as well as the Medical Technology needs of the country.

A PG Diploma Programme for Executives for Visionary Leadership in Manufacturing (PGDPEX) has been launched from the academic year 2007-08 under the aegis of National Manufacturing Competitiveness Council (NMCC) and the Ministry of Human Resource Development of the Government of India with the support of industry, for enhancing the competitiveness of Indian Manufacturing Sector.

3. ACADEMIC RESEARCH

IITM continues to be active in research and during the year under review, 125 Ph.D theses and 104 Master's theses have been completed. Our faculty and research scholars have published 877 research papers in refereed International (767) and National (110) Journals and have presented 866 research papers in International (568) and National (298) Conferences. At the risk of over simplification, I will attempt to give a flavour of the results obtained.

3.1 Ph.D. Work

Applied Mechanics

Jayavenkateshwaran & Ramasubba Reddy studied the mechanical properties of stents using Finite Element Method and proposed three new cardiovascular stents' designs to alleviate the positioning difficulty during stent deployment in diseased vessels.

Ramji & Ramesh evolved a novel methodology to unwrap isoclinic data, which has remained elusive for the last two decades. This has made whole field stress separation possible for practical problems.

Vijayalakshmi & Ramasubba Reddy developed a Group delay based acoustic measure for the detection of hypernasality and a Markov model-based, continuous, mono-phone and tri-phone speech recognition system for the assessment of dysarthria.

Biotechnology

Kalpna & Guhan Jayaraman showed that induction of Acid-Tolerance Response (ATR) up-regulates proteases which are involved in the degradation of recombinant proteins. They also showed that the suppression of ATR results in a multiple-fold increase in the production of recombinant proteins by *L.lactis*, a better strategy than using protease mutants.

Srinivasan & Venkatesh Balasubramaniam developed and validated a modular physiological polysignal based multimodal human system interface.

Chemical Engineering

Amutha Devi & Panda studied an *Saccharomyces cerevisiae* yeast model experimentally looking for new atorvastatin substitutes for the treatment of hypercholesterolemia. They evaluated thermodynamic and kinetic parameters thoroughly.

Anil Ballea & Pushpavanam developed an efficient code to simulate two phase flow in bubble column and air lift reactors. They showed that drag and buoyancy forces dominate the interactions and compared numerical predictions with experimental results.

Ganesh Palappan & Sai determined the optimum operating variables for maximum separation of flotsam rich, intermediary and jetsam rich binary mixtures of particles of varying density and size in a continuous fast fluidized bed.

Gopi & Nagarajan developed a novel, single-technology process, based on high-intensity ultrasonics to achieve highly-rounded nano-particles, and a well-dispersed nano-ceramic/polymer composite formulation.

Murugan & Swaminathan carried out recycling of high volume plastic wastes based on polyolefins along with other low density materials using mechanical methods. They found that the recycled materials had good acoustic properties. They also recycled expanded polystyrene wastes by dissolution in an eco-friendly solvent called d-Limonene and evaluated solution properties and dissolution kinetics.

Thilakavathi, Panda & Tanmay Basak proposed and validated a fundamental new theory for multireactant-multienzyme reactions. They proposed a structured model incorporating all three RNAs and steps in translation for esterase synthesis in yeast.

Vetri Murugan & Nagarajan investigated the use of ultrasonic fields to keep cryogenic fuels de-stratified during storage on ground and in satellites. This ISRO-sponsored work led to significant reduce loss of boil-off.

Vidyasagar Shilapuram, Sai & Krishnaiah studied the effect of method of operation, location of primary liquid distributor and viscosity on macroscopic properties in liquid-solid circulating fluidized bed established the operation regimes.

Chemistry

Anitha Kumar & Ashok Mishra studied the modification of sol-gel phase transition and swelling properties of a thermoreversible hydrogel Poly(N-isopropylacrylamide) using fluorescence probes, with bile salt and Poly(Vinylalcohol) hydrogel as additives. They found that the bile salt NaDC causes a broadening of PNIPAM sol-gel transition behaviour.

Anji Reddy & Varadaraju pioneered the demonstration that oxide lattices hitherto considered unresponsive towards lithium intercalation are amenable in the nanometer regime. The study opens new vistas in intercalation chemistry.

Aravind & Baskaran observed that highly regioselective cleavage of *bis*-Benzylidene Acetals derived from D-Mannitol furnishes highly functionalized chiral intermediates. They effectively exploited chiral intermediates in the stereoselective synthesis of anticancer and antidiabetic molecules.

Asmita Kumari & Vidyasagar synthesised ten new quaternary and ternary sulfides of the form $A/Ga/Sn/S$ (A = alkali metal, Tl, Ag) and $Na/M/S$ (M = Ga, In, Bi) by solid state reactions and molten flux methods and characterized the by X-ray diffraction.

Everta Karen, Sankararaman & Sundararajan developed new zirconium based catalysts that are very effective catalysts for the copolymerization of ethylene and alpha-olefins.

Gandikota Venkataramana & Sankararaman isolated and structurally characterized for the first time using single crystal X-ray crystallography two rotational isomers arising out of the rotation of a acetylenic bond with low rotational barrier.

Jeyakumar & Dilip Kumar Chand developed commercially available MoO_2Cl_2 as a mild and selective catalyst for a variety of oxo-transfer and Lewis acid catalyzed organic transformations which causes tolerance of various sensitive functional groups present in the substrates.

Jobin Cyriac & Pradeep built a low energy ultra high vacuum ion scattering apparatus working at 10^{-11} torr and investigated molecular diffusion through ultra thin ice layers. They discovered a new low temperature phase transition at the very top layers of ice.

Kalpna & Vidyasagar synthesised nineteen new photo-luminescent antimonites of two types, namely $A_2Mo_4Sb_2O_{18}$ rare-earth molybdo-antimnotes and A_2MSbO_6 pyrochlores by solid state reactions and characterized them by X-ray diffraction and spectroscopic techniques.

Mahalingam & Indrapal Singh Aidhen explored the utility of α -aminonitriles as acyl anion equivalents in the development of new strategies for the synthesis of biologically important molecules and observed some interesting and unusual reactivity of few α -aminonitriles for the first time.

Neelima, Sankararaman & Sundararajan synthesised optically pure new chiral aminodiol ligands for use in asymmetric synthesis.

Saieswari & Sanjay Kumar performed high-level quantum mechanical bound-state *ab initio* and quantum dynamics calculations to study the interactions and the energy transfer mechanisms in terms of vibrational inelastic and charge transfer processes for the proton collisions with hydrogen, oxygen and nitric oxide molecules. The present study unravels many intriguing facts and provides much better understanding in comparison with highly refined quantum state-selected experimental results, even settling some long standing discrepancies between the experiment and the theory.

Subramaniam & Pradeep discovered a novel electrokinetic effect which develops an electrical potential when liquids flow over metal nanoparticle assemblies. They observed that metallic carbon nanotubes become semiconducting when metal nanoparticles bind on them and the metal - semiconductor transition makes new radiative transitions possible so that nanotube structures emit light in the visible region.

Suresh, Vancheesan & Varadarajan developed a facile microwave assisted method for the syntheses of chiral C_2 & C_3 - symmetric amino alcohol based Schiff bases and chiral macro - cycles. They showed that the synthetic route required shorter reaction time than the conventional methods & exhibited moderate enantio selectivity for the epoxidation of prochiral unfunctionalised olefins.

Vijai Shankar & Archita Patnaik demonstrated two and three dimensional approaches for the synthesis of functionality encoded supramolecular architectures beginning with bio-compatible chiral amphiphiles and photochromic azobenzene derivatives.

Vivek & Dhamodharan demonstrated the functioning of Graft copolymers as molecular reactors for the synthesis of silver nanoparticles, good templates for self organization and showed that they exhibit reversible change in dimension as a function of pH and temperature.

Civil Engineering

Anil Kumar & Koshy Varghese undertook a study to formulate metrics and identify factors influencing the Sustainable development of Urban Coastal Zones.

Gandhimathi & Mohan developed the groundwater flow and contaminant transport model using Visual MODFLOW and MT3DMS to study the leachate transport through saturated medium and predict the plume behaviour under different scenarios.

Kanagasabapathy & addressed the problem of scheduling resource constrained multiple projects with the consideration of projects having different relative earliness and tardiness costs. They attempted to present scheduling rules that take into account their relative costs in the form of scalar weights.

Makarand Khare & Gandhi evaluated experimentally and analytically the Negative Drag Force on pile foundation. They also developed a design method to predict the field performance of Pile foundation subjected to such a Negative Drag Force.

Mary Kutty Abraham & Mohan carried out a comparative evaluation of different evapotranspiration (ET) models, and estimation of natural recharge for the assessment of artificial recharge. They also studied the effectiveness of different recharge arrangements in the Cuddalore aquifer, by constructing these structures in the field and validating them with a numerical groundwater simulation model. They found the percolation pond with percolation wells was found to be more effective in recharging the aquifer.

Murugesan & Rajagopal demonstrated the concept of geosynthetic encasement of the stone columns in order to improve their stiffness and load carrying capacity by laboratory model tests and finite element analyses.

Om Prakash, Sudheer & Srinivasan studied an adaptive Multi-Objective Framework for Dynamic Flood Control Operation of Multiple River-Reservoir Systems

Pramada & Mohan studied different management measures to prevent/control seawater intrusion into coastal aquifers and proposed a linked simulation-optimization model and a coupled Monte Carlo simulation of a numerical model for complex coastal aquifer systems.

Praveen Kumar & Dodagoudar used mesh free methods (EFGM and RPIM) for the first time for the contaminant transport modeling through unsaturated porous media and landfill liners

Poorna Chandra Nayak & Sudheer studied Improved River Flow Forecasts Through Hybrid Intelligent Systems

Rajib Chowdhury & Rao developed a new stochastic method, referred to as HDMR based response surface, for general reliability analysis of complex engineering systems.

Ramesh Babu & Manu Santhanam investigated the strength and durability properties of High Early Strength Concrete prepared using different cements and curing techniques. They also evaluated the effects of Chemical composition, morphology and heat evolution characteristics of clinker on concrete performance.

Sabumon & Murty developed a high rate combined sulphidogenesis and ammonia removal process for simultaneous removal of organic matter, ammonia, and sulphates / sulphides from tannery effluent.

Shihabudheen Mudampra & Ligy Philip developed, characterized and evaluated the performance of low cost adsorbents for the removal of arsenic and fluoride. They showed that these adsorbents were much efficient than those commonly used today.

Venkaiah Chowdary, Rengaraju & Murali Krishnan investigated the healing of asphalt mixtures seen during rest periods between load applications. They also quantified healing experimentally and developed a thermodynamic framework to model.

Computer Science and Engineering

Devanathan & Kamakoti Presented practical solutions to reduce test-power on system-on-chips as well as test techniques that account for process-variations.

Gururaj Ramadurgam & Sreenivasa Kumar proposed an architecture for value adding XML message brokers that can be used in publish subscribe systems for delivering customized XML content to the subscribers.

Krishna Mohan, Yegnanarayana and Chandra Sekhar proposed new methods for video segmentation based on combination of early and late fusion, and for simultaneous detection of abrupt and gradual transitions for shot boundary detection. The thesis also proposes new edge-based features and neural network models for video classification.

Kumara Swamy, Yegnanarayana and Chandra Sekhar proposed a signal processing approach that uses the characteristics of speech production mechanism and the spatial diversity of multiple microphones to process the multispeaker speech signals in a noisy and reverberant environment, exploiting the knowledge of instants of significant excitation in the speech signal.

Manimegalai & Kamakoti developed algorithms for synthesis and placement targeted towards modern Field Programmable Gate Array architectures, that include three-dimensional FPGAs and hybrid FPGAs with Look Up Tables, Programmable Logic Arrays and Embedded Memory Blocks.

Najeeb & Kamakoti addressed the problem of peak power estimation of digital circuits and proposed novel solutions that used controllability measures for estimation. The thesis also introduced for the first time in literature, the concept of temporal encoding to reduce peak power on system buses.

Saravanan & Ravindran built an end-to-end legal judgment knowledge management system, providing summaries of legal judgments structured according to different rhetorical roles. The system uses a legal ontology to provide the users a way to specify structured queries, allowing them to retrieve the judgments most relevant to their information need.

Shahina, Yegnanarayana & Chandra Sekhar proposed a neural network based mapping technique for transforming both vocal tract system and excitation source information from the throat microphone speech to the normal microphone speech quality.

Venkata Ramana & Siva Ram Murthy, for the first time, proposed a novel machine learning based TCP variant, which works over both multi-hop ad hoc and single-hop (last-hop) wireless networks.

Vijay Srinivas & Janakiram proposed a virtual server based mechanism to integrate structured and unstructured peer-to-peer distributed computing systems and demonstrated the use of this technique in building large scale data grids on the edge nodes of the internet.

Electrical Engineering

Damodharan & Krishna Vasudevan estimated the back-EMF zero crossing instant from sensing only the three terminal voltages of the motor for sensorless operation. They proposed and validated a simple algorithm for triggering the devices even at the estimated zero crossing instants for starting or so as to coincide with the flat-portion of the EMF waveform for continuous running. They carried out the experiments using a DSP based hardware setup developed in the laboratory.

Karthikeyan & Mahesh Kumar used a distribution static compensator (DSTATCOM) to mitigate power quality problems due to the proliferation of unbalanced and non-linear loads in the power system. They proposed and validated a novel control algorithm for DSTATCOM to work under such conditions and a systematic procedure for designing various parameters of voltage source inverter. They carried out the experiments using a DSP based generalized hardware setup developed in the laboratory.

Laxminidhi & Shanthy Pavan addressed some of the issues in the design and characterization of widely programmable high frequency continuous-time filters. They validated the proposed ideas using two filter clips designed and fabricated in a 0.35 μ m cross process and a 0.18 μ m CMOS process.

Mahaveer Sathaiya & Karmalkar developed a model to explain the origin of the gate leakage of AlGaIn/GaN High Electron Mobility Transistors, and the variation of this current over a wide range of electric field and temperature.

Raghavendra, Sri Krishna Bhashyam & Giridhar proposed new channel estimation algorithms for Orthogonal Frequency Division Multiplexing (OFDM) based wireless systems both with and without inter-cell interference. The proposed algorithms take advantage of the sparse multipath nature of the channel to significantly improve channel estimation performance and reduce interference.

Ranjan Kumar Pradhan & Srinivasa Chakravarthy investigated the effect of chaotic nature of vasomotion on tissue oxygenation in skeletal muscle. They investigated a novel hypothesis that vasomotors interact chemically by forming a network and coordinates – their rhythms to optimise oxygen delivery to

surrounding tissues with the help of computational models. They showed that the result of such network interaction is chaotic vasomotion in skeletal muscle.

Sheetal Kalyani & Giridhar used robust estimation and outlier theory to provide pilot-less channel tracking in OFDM systems as well as enhanced error control decoding in the presence of narrow band interference.

Sindhu, Sarathi & Chakravarthy attempted to produce nanoaluminium particles through wire explosion process experimentally based on theoretical studies.

Simi Valsan & Swarup developed and tested algorithms for Wavelet Based Digital schemes for Protection of Bus bar, Transformer and Transmission Lines of a Transmission Network.

Subrahmanyam & Rajagopalan incorporated edge-adaptive MRF priors within the Kalman filter and the unscented Kalman filter framework for noise filtering and image inpainting.

Suresh & Rajagopalan developed super-resolution algorithms that are robust to errors in motion and space-variant blur estimates.

Humanities

Joycee & Srilatha used the case of the folktale to demonstrate the ways in which a contextualized utterance can travel across cultures and generations, absorbing the complexities of literacy and new communication mediums such as the internet even while preserving the dynamics of orality. They demonstrated through field work and textual analysis that there is no sharp break between orality and literacy, that the two exist in a continuum.

Kanthimathi & Devaki Reddy studied the nature of language behaviour of Tamil-English bilinguals and showed that mixing of the two languages, called code mixing, is a result of several factors – sociolinguistic, linguistic, psycholinguistic and neurolinguistic – that are closely tied to each other.

Nalin Kumar & Muraleedhraran showed that the outlook for spices remains positive, suggesting that stringent food safety regulations may not be a major determinant of export competitiveness. This study brings together two analytical models, namely Gravity Model and Constant Market Share model, in analysing the impact of SPS measures on trade.

Pushkala Ratan Lakshmi & Muraleedhraran provided insights into the differential impacts of Power Purchase Agreement and assessed the effect of performance of wind energy sector in Tamil Nadu, Karnataka, Maharashtra and Gujarat.

Management Studies

Ganesh & Rajendran proposed theoretical and simulation models to analyze the value of information sharing in a two-level and multi-level (serial) supply chain with a single product and multiple products in the following scenarios: no information sharing, full information sharing and partial information sharing across stages. They also analyzed the impact of product substitution on the value of information sharing in the case of supply chain with multiple products.

Vijayalakshmi & Sanghamitra Bhattacharyya undertook an empirical study of the phenomenon of spread of emotions among team members in organizations, and its influence on the effective functioning of the team. Their findings highlighted the importance of encouraging positive emotions in teams and managing negative emotions for increasing team effectiveness.

Mathematics

Antony Vijesh & Subrahmanyam studied the Generalized Newton methods for Gateaux differentiable operators systematically to provide existence theorems for the solution of nonlinear integral equations, functional equations and generalized Euler-Lagrange equations.

Chandhini & Sanyasiraju developed a 'local' gridfree scheme based on Radial Basis Functions (RBFs) for solving convection-diffusion equations. The scheme is then extended to solve incompressible viscous flow problems.

Kurmayya & Sivakumar characterized the nonnegativity of Moore-Penrose inverses of Hilbert space operators in various contexts.

Mohammed Rizwan Sadiq & Usha attempted to understand the complex behaviour of waves and the stability characteristics of a thin film flow down an inclined/vertical plane.

Murugan & Subrahmanyam detailed several existence theorems for the solution of nonlinear iterative functional equations in diverse function-spaces. One of the theorems answers an open question of Zhang and Baker on diffeomorphic solutions.

Natarajan, Satyajit Roy & Tanmay Basak performed a finite element analysis of natural convection flows within a trapezoidal enclosure for various thermal boundary conditions to obtain an optimal thermal mixing condition within the trapezoidal enclosure.

Paramjeet Singh & Satyajit Roy transformed the governing boundary layer equations for mixed convection flows over a vertical cone and a rotating slender cylinder to a set of coupled non-linear two-point boundary value problems. They obtained non-similar solutions for velocity and temperature fields at various streamwise locations.

Ramesh & Rama worked on reducing the complexity of membrane structure in P Systems and explored the computational power of bio-Turing Machine Sachindranath Jayaraman & Sivakumar proposed the notion of weak monotonicity for Hilbert space operators and studied its relationship with various other notions of monotonicity. They proved the existence of a nonnegative rank factorization of a certain class of operators.

Sivananthan & Radha addressed the problems of obtaining sampling theorems on the real line and the Heisenberg group, stable and unique reconstruction for a wide class of functions from their nonuniform samples and studied the theoretical aspects of local reconstruction method and its applicability in signal and image processing.

Vasudevan & Parthasarathy explored the connections between branching processes and queues and borrowed the techniques from the theory of continued fractions to study both analytically and numerically the transient behaviour of Markovian queues in a varying environment.

Mechanical Engineering

Anil Kumar Sharma & Balaji developed and experimentally validated an in house code for conjugate, turbulent natural convection in enclosures related to nuclear safety and proposed novel strategies for safe post accident heat removal in fast breeder reactors

Balamurugan & Narayanan developed higher order and degenerated shell finite element models for the vibration analysis of composite, stiffened and functionally graded plates and shells with bonded piezoelectric actuator and sensor layers including the electro-mechanical and thermal coupling effects and used in the active vibration control of these structures subjected to transient, harmonic and random excitations and verified the results by experiment on limited samples.

Chandrasekaran, Ramesh Babu & Rajendran studied Economic Lot Scheduling Problems (ELSP) with deterministic, sequence-independent/ sequence-dependent setup times and costs with/without backorders. They developed new sequencing approaches, tighter lower bounds and metaheuristics, namely, Genetic Algorithm (GA), Simulated Annealing (SA) algorithm and Ant-Colony Algorithm (ACA) with new parameters settings to solve ELSP and also carried out experimental Analyses.

Deiveegan, Venkateshan & Balaji developed for the first time an in-house, fully equipped, polarized microwave radiative transfer code and used it in conjunction with stochastic optimization techniques to retrieve precipitation in the atmosphere from satellite radiances.

Dhanasekar & Ramamoorthy used non contact approaches such as machine vision and interferometric techniques for evaluation of surface roughness of components. They preprocessed surface images and used different statistical techniques to successfully assess the surfaces.

Gopala Rao & Narayanan effected the vibration control of linear and nonlinear vehicle models traversing random rough roads for better ride quality, safety and handling characteristics by use of semi-active shy-hook dampers matching the performance of fully active suspensions based on stochastic optimal control with and without preview. Results of equivalent linearization method of random vibration to linearize the nonlinear model are verified by Monte-Carlo techniques.

Jayaprasad, & Sujatha carried out numerical and experimental studies on active vibration control of a square clamped aluminium plate using classical controllers like proportional and Integral plus double integral force feedback and linear quadratic regulator after identification of (i) optimal layout of discrete PZT sensors/actuators using the principle of modal controllability and (ii) optimal location of the actuator patches based on principle of maximum strain energy.

Kannan & Shunmugham bridged the gap between CAD and CAM used in the manufacture of sheet-metal components with the automation of planning activities. Starting with a neural format like STEP AP-203, the authors identified the manufacturing features and optimised operation sequencing in punch press and bend sequencing in press brake.

Kantha Babu & Shunmugham investigated parameters influencing the surface topography during the rough, finish and plateau honing. They identified the optimal conditions in terms of bearing area parameters using data-mining and non-dominant sorting genetic algorithm. On-line monitoring and control strategies were also studied.

Karthikeyan & Srinivas Reddy developed the unit cell and the collocated parameter models to estimate effective thermal conductivity of wide range of homogeneous and heterogeneous two-phase systems. They designed a steady-state square guarded hot plate measurement system validate the models.

Loganathan & Ramesh developed a novel direct air fuel mixture injection system for a two stroke engine (patent applied for). They studied the characteristics of this system and the influencing parameters that control combustion and emissions. The final configuration resulted in a significant reduction in fuel consumption and emissions.

Porpathan, Nagalingam & Ramesh showed that significant improvements in the performance of a biogas SI engine can be effected by reducing the carbondioxide concentration, enhancing oxygen concentration by a small extent and by using hydrogen to increase flame velocity. This developed a new turbulence generating combustion chamber which significantly reduces HC emissions.

Radhakrishnan, Balaji & Venkateshan combined experimental results synergistically with numerical investigations to maximize heat dissipation from discrete heat sources in a ventilated cavity using the response surface method.

Ramakumar & Prasad investigated systematically the complex interaction among the jet core on wall bounded up-wash and entrained flows for multiple jets impinging on a concave surface.

Rajesh Shrivastava, Sundararajan & Shet carried out numerical analysis and experimental investigation on bio-diesel droplet combustion. They developed and validated a droplet combustion model to enable prediction of soot emission and single droplet burning rate of Karanja oil ester.

Sahaya Grinspan & Gnanamoorthy developed a novel surface modification process called oil jet peening to improve the fatigue performance of metallic components and demonstrated significant improvement in the surface strength in steels and aluminium alloys.

Saji, Sundararajan & Balaji proposed a 17 step reduced chemistry model together with models for soot and radiation for ethylene combustion and employed it in an indigenously developed CFD code. They validated their model with experiments.

Santhosh kumar & Ramamoorthy improved the quality of the surfaces produced in electrical discharge machining by applying axial magnetic field assisted effective debris eviction using maraging steel as work material. Various statistical techniques were used for optimization of parameters to achieve the same.

Sethilkumar & Muthuveerappan successfully developed a novel unconventional approach for the design of external and internal spur gear pairs for their improved fillet bending capacity using asymmetric tooth profiles, which also includes optimum modifications of gear profile.

Shanmugam & Chandramouli developed two new component mode synthesis algorithms for efficient computation of nonlinear response of twin-spool aero-engines with squeeze dampers.

Sridhar Reddy & Raju Sethuraman proposed a novel methodology for the characterization of asymptotic elastoplastic crack tip stress fields by coupling the pseudo-elastic analysis with the element free Galerkin method.

Varatharajan, Malhotra & Vijayaraghavan studied the effect of processing parameters on mechanical properties of glass & carbon fibre reinforced polypropylene and carried out drilling studies on FRTP laminates.

Metallurgical and Materials Engineering

Jatin Bhatt & Murty successfully identified multicomponent bulk metallic glass forming compositions using thermodynamic and topological models and synthesised them by mechanical alloying/casting.

Mohd Ashfaq & Prasada Rao studied the friction welded titanium -austenitic stainless steel joint using different interlayers and recommended the use of tantalum interlayer to improve both mechanical and corrosion properties of the weld joint.

Rajasekaran & Ganesh Sundara Raman described the effect of different surface modification techniques on an Al-alloy (AA 6063) and coating of Cu-Ni-In powder by two different processes and plasma nitriding on a Ti-alloy (Ti-6Al-4V) on plain fatigue and fretting fatigue behaviour of AA 6063 and Ti-6Al-4V. The differences in surface hardness, roughness, residual stress, coating thickness, friction force and porosity in different coatings influenced the plain fatigue and fretting fatigue behaviour of the coated materials.

Sunita Prem Victor & Sampath Kumar synthesised and characterized calcium phosphate cement formulations resulting in porous, injectable and cohesive pastes with specific antibiotic release for hard tissue reconstruction. They showed that the porous cements exhibited good bioactivity and in-vivo stability.

Talari Mahesh Kumar, Prasad Rao & Markandeyulu investigated the interaction of magnetic domains with the microstructural features of Nd-Fe-B for varying chemistry and process methods.

Ocean Engineering

Jayalekshmi, Idichandy & Sundaravadivelu carried out the coupled dynamics analysis of deep water TLPs using a finite element program modified with Hybrid wave force model accounting higher order forces under regular and random waves.

Narasimhulu & Ganesh Babu developed and high strength and high performance concretes to meet the demands imposed by the construction industry in recent times.

Ramanamurthy & Mani studied the long shoal, sand spit parabolic model, wave transmission long period waves, accretion, erosion, remote sensing artificial nourishment and shoreline change.

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

Sriram, Sannasiraj & Sundar developed an efficient numerical code to reproduce the experimental wave tank simulation as close as possible. They successfully simulated the complex wave interaction phenomena such as wave propagation over a continental shelf, submerged bar, and submerged cylinder, and wave interaction with a vertical wall and surface piercing objects.

Venkata Subbaiah, Sundaravadivelu & Anantha Subramanian studied the tension leg counter-weight platform (TLCP), a new generation offshore platform meant for the economic exploration and extraction of oil and gas from marginal reserves in deep water.

Physics

Amrtha Bhide & Hariharan characterised new Na⁺ ion conducting plasticized and composite polymer electrolytes based on (PEO)₆: NaPO₃ with respect to application in a solid state sodium battery.

Bhaskar Chandra Mohanty, Kasiviswanathan & Damodara Das probed the thermal stability of thin films of two silver chalcogenides on silicon and offered a way to improve film adhesion and circumvent agglomeration.

Hari Varma & Deshmukh used relativistic many-body formalism to understand the relative importance of electron correlations, confinement & relativistic effects in confined atoms.

Kailash Jena, Bisht & Kasiviswanathan fabricated various geometries of degenerate four wave mixing (DFWM) and carried out non-linear optical studies of carbon nano-tubes, porphyrines and dyes.

Krishna Kumar, Ramaprabhu & Subrahmanyam demonstrated experimentally the enhancement of hydrogen sensing properties of exfoliated single walled carbon nanotubes using indigenously designed and developed sensor test station.

Madhu, Balakrishnan and Suresh Govindarajan used a discrete trihedral symmetry to classify chiral primaries in the Leigh-Strassler deformation of N=4 supersymmetric Yang-Mills theory and proposed a conjecture on the spectrum of chiral primaries at planar one-loop.

Surya Prakash & Sukhendu Das proposed a method to build a probabilistic framework to integrate the outputs of Snake and GrabCut for the complex problem of segmentation of an object containing holes in it, and with a color distribution of a part of the object similar to that of the background. They achieved Textured Foreground object detection by modeling texture characteristics using the Scalogram obtained using DWT.

Swethalakshmi, Chandra Sekhar & Srinivasa Chakravarthy proposed a stroke-based approach to online handwritten character recognition, suitable for Indian scripts with large size sets of characters and implemented the same for Devanagari and Tamil scripts.

Thanga Prakash & Gonsalves proposed and implemented innovative yet practical techniques to reduce the network overhead of telecom network management based on field experience with the corDECT system from Midas.

Venkata Kiran & Siva Ram Murthy formulated the path selection and wavelength selection problems in Optical Burst Switched Networks as a multi-armed bandit problem and proposed efficient algorithms based on Q-learning to solve these problems.

Venkateswara Reddy & Janakiram developed several unique two-layered grid middleware, namely Vishwa, to provide a dependable grid computing environment over the Internet.

Vimal Mathew & Ravindra worked on automatically learning spatio-temporal abstractions based only on the structural properties of the task at hand, enabling wider applicability of the abstractions learned. They made interesting connections between dynamical systems theory and reinforcement learning.

Vinay Kumar Reddy & Janakiram addressed the problem of software maintenance and provided analysis tools for re-engineering procedural software systems to object oriented systems, demonstrating the approach in the context of re-engineering linux kernel into minimalistic object oriented linux.

Electrical Engineering

Amit Kale & Aravind proposed and analysed techniques for face recognition that combine the outputs of two linear feature extractors thereby improving recognition accuracy over that of the individual extractors.

Balaji & Karmalkar brought out the role of oxide fixed charge in Superjunction devices and modelled the effect of this charge on breakdown voltage and specific.

Chavan Santhosh Kumar & Jagadeesh Kumar developed Open Standard Protocol for Networking of Energy Meters utilizing Simple Network Management Protocol (SNMP) and implementation of Automatic Meter Reading System (AMR). They also validated and tested the open standard under the Lab View virtual environment, by creating a sample network.

Deepak K. Agrawal, Shanti Bhattacharya developed a technique by which to design and fabricate a micro-electro-mechanical system that can be used to attenuate light.

Denny Joseph & Srinivasa Chakravarthy attempted to build a comprehensive model of Basal Ganglia bringing most of its functions under the framework of reinforcement learning.

Dileep & Sri Krishna Bhashyam studied the spectral efficiency performance of rate adaptation in the presence of quantized feedback for an adaptive Orthogonal Frequency Division Multiplexing (OFDM) system and identified strategies to achieve gains with rate adaptation while maintaining a low feedback rate.

Dipanwita Gangopadhyay & Janakirman proposed a new control scheme for 3-phase inverters, in which the balanced 3-phase current is rotated by the power-factor angle before feed-back in the Current loop.

This helps in decoupling the two loops (Direct and the Quadrature), which are formed with the help of a new 2-phase observer.

Eswar & Bhaskar Ramamurthi designed an extended base station distributor in the broadband CorDECT System to enable range extension to serve a remote pocket of subscribers and to design a new-system and modified the existing system to a new system called ALL-IP broadband CORDECT system to make it scalable for 50-200 subscribers.

Inti Rajesh & Shanthi Pavan designed, fabricated and tested a two channel hybrid filter bank based analog-to-digital converter has been and analysed the limitations of the hybrid filter-bank technique.

Kannan, Nitin Chandrachoodan & Srinivasan prescribed the Rapid Abstract Control (RAC) model to quickly and efficiently estimate resource utilization and architectural models for implementation of signal processing systems. The simulation based approach allowed easy exploration of design tradeoffs for implementation.

Kedarnath & Krishna Vasudevan proposed a novel convertor topology for use in the sensor head of remote sensing systems. They carried out a detailed analysis and design of the convertor and proposed a novel technique "Leading edge Modulation" for voltage control. They used simulation studies to validate the modelling of the converter. They tested the scaled down a prototype converter, validated the analysis, design modeling and control of the proposed convertor topology, suitable for use in full scale HTEM systems.

Murali Shanmugasundaram & Shanthi Pavan proposed novel techniques for simulating high speed current steering digital-to-analog converters and designed, fabricated and tested a 250 Msps 10-bit current DAC.

Paramanand & Rajagopalan proposed model-based pattern matching algorithms using line segments and elliptical arcs as edge features.

Rajesh & Shanti Pavan addressed the optimisation of Velazquez's 2-channel hybrid filter bank ADC to reduce the order of analog analysis filters as well as the number of analog filters used.

Rakesh Tripathi & Aravind proposed a system for recognition facial expressions such as surprise, sadness, happiness and anger that performs feature extraction using a particle filter and employs a hidden Markov model as the recognition engine. This system is able to recognize expressions.

Reddy Karthikeyan & Shanthi Pavan derived the fundamental limitations on the performance of continuous-time delta-sigma modulators due to clock jitter. They designed, fabricated and tested a 300 Msps 11 bit analog-to-digital converter to prove some of the enunciated principles.

Sabarigirivasan, Ashok Jhunjhunwala & Nitin Chandrachoodan designed and implemented a hardware module for handling the video display functionality of a network computer. They explored different architectures including low cost digital to analog converter solutions to obtain a simple and cost effective design.

Sachin Tyagi & Anil Prabhakar developed Variable Optical Attenuation using Silicon on Insulator wafers demonstrating for the first time in India active integrated optic devices using silicon waveguides. They controlled the opacity of a silicon waveguide by changing the excess charge carrier concentration in a p-i-n structure fabricated transverse to the optical waveguide and demonstrated a 3-dB attenuation.

Sankar, Devendra Jalihal & Andrew Thangaraj presented a design using TPC based on extended Hamming Code for Satellite modems which promises improved performance at lower signal-to-noise ratio and implementation on DSPs.

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.

4. ACADEMIC DISTINCTIONS SECURED BY OUR FACULTY MEMBERS AND STUDENTS

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

Awards

T. S. Chandra (BT)	o <i>Indo-US International Professorship in Microbiology 2008, American Society of Microbiology for Research at Harvard University, Cambridge MA, USA</i>
Sathyannarayana N. Gummadi (BT)	o <i>Young Scientist Award, Biotechnology Research Society of India</i> o <i>Mentor Recognition Award, University of California, San Diego</i>
Venkatesh Balasubramanian (BT)	o <i>Endeavour Executive Award, Department of Education, Science and Technology, Australia</i>
Tanmay Basak (CH)	o <i>Diamond Jubilee Young Achiever's Award, Indian Institute of Chemical Engineers.</i>
S. Baskaran (CY)	o <i>CRSI Bronze Medal, Chemical Research Society of India</i>
N. Chandrakumar (CY)	o <i>CRSI Silver Medal, Chemical Research Society of India</i>
B. Viswanathan (CY)	o <i>Gold Medal and the Life Time Achievement Award for the Year 2007, Indian Association of Solid State Chemists and Allied Scientists</i>
S. Mohan (CE)	o <i>Shiksha Rattan Puraskar Award, India-International Friendship Society, New Delhi</i>
A. Ramakrishna (CE)	o <i>Hassib Sabbagh Award 2007, World Federation of Engineering Organizations</i>
A. R. Santhakumar (CE)	o <i>ICI-L&T Life Time Achievement Award</i>
S. Karmalkar (EE)	o <i>IBM Faculty Award 2007</i>
A. Thillai Rajan (MS)	o <i>Ramaswamy P. Aiyar Best Young Teacher Award</i> o <i>Endeavour Executive Award, Department of Education, Science and Training, Government of Australia.</i>
C. Balaji (ME)	o <i>Prof. K. N. Seetharamu Medal and Prize, ISHMT</i>
T. Sundararajan (ME)	o <i>Astronautical Society of India Award 2006</i>
Budaraju Srinivasa Murty (MM)	o <i>Shanti Swarup Bhatnagar Award, Council of Scientific and Industrial Research.</i>

Fellowships

o R. I. Sujith (AE) o Budaraju Srinivasa Murty (MM)	Fellow, Indian National Academy of Engineering
T. S. Sampath Kumar (MM)	Fellow, International Medical Sciences Academy
D. R. G. Achar (MM)	Honorary Fellow, Indian Welding Society

Membership of the Editorial Boards

Aysha Iqbal Viswamohan (HS)	o Editor, Asian ESP Journal
R. Swamalatha (HS)	o Editor, Indian Journal of Ecocriticism
Harish Chandra (Lib)	o Member, National Editorial Board, Indian Journal of Library and Information Science
V. Damodara Das (PH)	o Member, Editorial Board, Indian Journal of Pure and Applied Physics

Books

K. Ramesh (AM)	<i>e-Book on Engineering Fracture Mechanics</i>
Mukeh Doble (BT) (Gummadi)	<i>Biochemical Engineering Principles, Prentice Hall</i>
B. Viswanathan (CY) (Chakraborty)	<i>Heterogeneous Catalysis, New Age International (P) Ltd.</i>
Devdas Menon (CE)	<i>Structural Analysis, M/s. Narosa Publishing House, New Delhi</i>
Aysha Iqbal Viswamohan (HS)	<i>English for Technical Communication, Tata McGraw Hill</i>
K. Srilata (HS) (Subashree)	<i>An anthology – Short Fiction from South India, Oxford University Press, New Delhi.</i>
Babu Vishwanathan (ME)	<i>Fundamentals of Gas Dynamics, Ane Books, India</i>
P. Chandramouli (ME) (Thomson Dahleh)	<i>Theory of Vibration with Applications, Pearson India</i>
<u>Ganesan (ME)</u>	<i>Internal Combustion Engines, Tata McGraw Hill (3rd Edition), New Delhi</i>
S. P. Venkateshan (ME)	<i>Mechanical Measurements, Ane Books India & CRC Press, USA</i>

Best Paper / Thesis / Research Awards :

o E. Rajasekar o A. Ramachandriah (CE)	Best Paper Award, Conference on Challenges and Application of Mathematical Modeling Techniques in Building Science and Technology, CBRI, Roorkee
o S. Mohan o M. G. Devamane o V. Jothiprakash (CE)	The Union Ministry of Water Resources – Department of Irrigation Award, Institution of Engineers (India), Kolkatta.
o R. Ravi o Ligi Philip (CE) o T. Swaminathan (CH)	Best Paper Award, IWA Biofilm Technologies Conference 2008, NTU Singapore
o Sunando Sengupta o Sukhendu Das (CS)	Best Paper Award, National Conference of Computer Vision, Artificial Intelligence and Robotics
o S. Balaji o S. Karmalkar (EE)	Outstanding Research Award, Taiwan Semiconductor Manufacturing Corporation (TSMC)

o Sandipan Bandyopadhyay (ED)	Prof. B. K. Subba Rao Medal for the year 2006-2007 for the best thesis in Mechanical Engineering, Council of the Indian Institute of Science, Bangalore
o Apurv Shrivastava o Vineet Bhandari, (ED)	<i>Design Innovation Award</i> , International Design Exhibition, Brunel University
o S. Senthilvelan o R. Gnanamoorthy (ME)	Innovative Student Project Award 2007, INAE
o M. Sreekumar (ME)	First Prize, Essay Competition, International Conference on Advances in Manufacturing Technology, INAE and DAE
o P. Alagusundaramoorthy o K. A. B. Lakshman Kumar o R. V. S. Reddy (CE)	ING-IABSE Medal for the year, Seminar on Long Span Bridge and Roof Structures, Indian National Group (ING) of the Indian Association of Bridge and Structural Engineers (IABSE)
o M. Preethi o P. Shanmugam o R. Natarajan o V. Subramanya Sarma (MT)	First Prize, International Conference on Microstructure and Texture of Steels (MATS-2008), Tata Steel, Jamshedpur
o Krishna Mohan Nandigana et al (PH)	Hari Ohm Ashram Prerit Harivallabhdas Chunilal Shah Research Endowment Prize for the Year 2003-2004

Patents Filed

o Sreenivas Jayanti (CH)	A method of, and an apparatus for, combusting hydrocarbon fuels for providing a clean heat/energy source
o Pradeep (CY)	A method to transform metallic single walled carbon nanotubes into semiconducting nanotubes
	A method to use single walled carbon nanotube composite gas sensing applications
o Viswanathan (CY)	An electrode based on Ru-polyoxometalate for a supercapacitor
	Electrode based on Tungsten Trioxide Nanorods for a supercapacitor
o Jagadeesh Kumar (EE)	Non-invasive method and device for the measurement of Oxygen Saturation in Arterial Blood (I)
	Non-invasive method and device for the measurement of Oxygen Saturation in Arterial Blood (II)
o Anil Prabhakar (EE)	Analog Digital Theremin interface useful as Augmentative Communication Device for Individuals with Multiple Disabilities
o Krishnan Balasubramaniam (ME)	Transient eddy current heating thermography
	Non-dispersive Higher Order Modes Cluster ultrasonic Guided Wave (HOMC-GW) technique for medium range inspections
o Ramesh (ME)	An Air-fuel mixture injection system for two stroke internal combustion engines Engg.

o Ramaprabhu (PH)	Large scale synthesis of multiwalled carbon nanotubular coils over alloy hydride catalyst
	Electrochromic Mmo ₂ Tbo.8 thin film as electrochemical optical switch
	A Process for the manufacture of Pt/Multiwalled nanotubular coils (MWNC) electrocatalysts
	Flexible carbon nanotube based field emitters
	Synthesis of carbon nanotube based magnetic nanofluids

Patents Granted

▪ Narayanan (CH)	Microfines fluidized bed jet mill for producing ultra-fine powders
▪ Ashok Jhunjhunwala (EE)	A direct internet access system
▪ Ashok Jhunjhunwala ▪ Bhaskar Ramamurthi (EE)	A device for simultaneously providing permanent internet access and normal voice telephony to subscribers
▪ Venkatarathnam (ME)	A refrigerant composition for a single stage refrigerant system
▪ Viswanathan (ME)	A Process for the homogeneous oxidation of alkylbenzene catalyzed by heteropoly compounds
▪ Pradash Maiya (ME)	A dual space split air conditioner
▪ Mayuram (ME)	A multi axial fatigue testing machine
▪ Gokularathnam (ME)	A method of manufacture of articles of glazed ceramic/ceramic composites on metal substrates
▪ Krishnamurthy (ME)	A method of manufacture of ceramic bodies by micro wave joining
▪ Venkatarathnam (ME)	A Refrigerant composition for a single stage refrigeration system
▪ Subrahmanyam (PH)	Scratch Resistant coated plastic ophthalmic lenses and a method of its manufacture

5. INDUSTRIAL CONSULTANCY AND SPONSORED RESEARCH

Industrial consultancy not only provides technological solutions towards industrial development, but also brings a sense of relevance to the teaching-learning processes. Sponsored research is an important part of IITM's activities. Since 1973, we have maintained a steady and sustained growth in our interaction with industry and other agencies, both in terms of the number and value of sponsored research and consultancy projects. The number of active sponsored projects during the year is 139 for a total value of Rs.673 millions including 21 international projects for a value of Rs.39 millions and 6 Industry projects for Rs.14 million. Of these were 61 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 107.

Some high value sponsored projects are worth mentioning here :

- DST has sanctioned the project for "Establishment of a Nano Functional Materials Technology Centre (NFMTC) with Murugappa group and Orchid Chemicals and Pharmaceuticals as contributing partners for a total value of Rs.24 crores.
- DST has sponsored a project on "Mechanical Micromachining of metals and non-metals" for a total value of Rs.3.5 crores
- National Technical Research Organization (NTRO) has sanctioned an eight node consortium project titled Smart and Secure Environment for a value of Rs.8 crore.

The number of active consultancy projects during the year is 549, for a total value of Rs.191 million including 55 Research Based Industrial Consultancy projects for Rs.67 million. The number of faculty members involved in these consultancy projects is 88 while 23 have been retained as consultants in various industries at a cost of Rs.6 million. Industrial consultancy not only provides technological solutions towards industrial development, but also brings a sense of relevance to the teaching-learning processes.

The ISRO-IITM Space Technology Cell renewed 15 projects and sanctioned 5 new projects during this year. Under the IGCAR-IITM Cell, 4 new projects have been initiated and 10 projects were continued. Joint monitoring and regular technical review of projects have made the cell concept a success and model for other agencies sponsoring R & D.

The Industrial Associateship Scheme fostering close interaction with industry has 252 members this year. Three Technology Appreciation programmes were conducted during the year for the benefit of the Industrial Associate Members.

During the current financial year IIT Madras received royalty from Benchmark Electronic Systems Pvt. Ltd. for the technology transfer made to them for the Fibre Optic Communication Experimenter developed by Prof. Ashok Jhunjunwala, Prof. T.A. Gonsalves and Prof. Bhaskar Ramamurthi.

Prof. Krishnan Balasubramaniam developed the technology required for Sonic Module used in Sonic Pre Sorter, and Contamination Control System CCS, for removal of contamination in cotton. M/s Siger Spintech Equipment (P) Ltd. has successfully commercialized the above product. IIT Madras has entered into a technology transfer royalty agreement for the above technology development.

We have signed 26 Memoranda of Understanding during the year under review with industries such as Reliance Communication, Ltd. & Department of Telecommunication, AMADA Co. Ltd, & AMADA Soft (India) Pvt. Ltd, The Procter & Gamble Company, USA, Tata Chemicals Ltd., Mumbai, BHEL (R&D), Hyderabad, Shell Technology India Private Limited, Intel India Pvt. Ltd. Microsoft Corporation (India) Private Limited, Chennai Petroleum Corporation Limited, Chennai.

The IIT Madras Research Park initiative is well on track. Phase I comprising a 12 storeyed structure with 2 basements with a built-up area of 420,000 sq ft is scheduled to be ready for occupancy by December 2008. A vehicle over-bridge will be constructed to connect the Research Park to the IIT campus. Space is being rented to industries that collaborate with IIT and for companies incubated by the faculty and students of IITM. It is hoped that this Park will emerge as a hub of collaborative R&D and innovation activity. It has received a very enthusiastic response from the industry and the companies that have committed to take space include International Advance Research Center for Powder Metallurgy & New Materials (ARCI), The Neutraceuticals division of E.I.D. Parry, TCS, CTS, Ashok Leyland, Mahindras, Tatas, Amada Soft (Japan), Maverick, Think Equity (an investment banking firm), Lattice Bridge, Lucid Software etc.

The Institute is thankful to the Ministry of Human Resource Development for the support and help that is being extended for this initiative. In particular MHRD will provide an interest free loan of Rs.100 crores towards this project. It is also thankful to the Honorable Chief Minister Government of Tamil Nadu for providing the land to start such a prestigious project - the first of its kind in India.

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.

6. CONTINUING EDUCATION

The Centre for Continuing Education (CCE) has been very active in promoting activities for the benefit of working professionals in industries and faculty members of other technical institutions. During the year, our faculty members organized several courses / training programmes: 14 under the Quality Improvement Programme and 79 under Continuing Education which benefited 2335 participants. The CCE generated a revenue of Rs.195 Lakhs.

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 81 courses in the year 2007-08.

Under the Book Writing Scheme, 5 proposals have been received. 3 books have been published during the year. 54 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 Resource Development, Government of India. The objective is to provide the faculty expertise and the resources of IIT Madras to the Students of Educational Institutions, Industrial and R & D organizations across the country by means of audio-visual media. At present ETC comprise of two TV studios (one with a capacity of 100 and another with 50 seats) with state-of-the-art digital equipment and post-production facility with a line-up of non-linear work-stations. Apart from these, two ENG out-door unit cameras which are being used to cover laboratory experiments, seminars / conferences, extra-mural lectures and in video-streaming of events / programmes.

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. Initially, over 30 courses comprising of 1200 hours of video-based lectures have been produced in ETC. These video-based lectures are being telecast through Doordharsan GD-3 "Eklavya", an exclusive free-to-air Channel. In addition, these video lecture series are also being distributed to interested Engineering colleges across the country.

The ETC has designed and setup a "Virtual Classroom facility" in the Classroom complex and also installed systems to facilitate interaction in large classes.

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. ETC provides & supports regular video-conferencing request of faculty, and also Virtual classes for distance-learning activities.

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

7. OUR CONTRIBUTIONS TO THE 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 on 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 129 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 sanctioned a total of Rupees 20.47 crores for the first phase of the project which has been completed on June 30, 2007. The web courses were made available freely to everyone following the formal inauguration by Shri. Arjun Singh, Honorable Minister for the HRD on September 3rd, 2006 in a function held in IIT Madras.

IIT Madras has proposed the continuation of NPTEL into the second phase from the year 2008 onwards. This proposal, which has been included in the National Mission on ICT by the Ministry of Human Resource Development has been formally approved. The activities of the second phase of NPTEL will include :

- Setting up eight distributed national video servers for delivering lectures on demand in each of the eight partner institutions.
- Creation of additional 500 web and video based courses in all major branches.
- Creation of discussion forum for each course prepared under the NPTEL programme using a grid of computer servers and setting up interactive / collaborative learning programmes using NPTEL content.

Google Inc is using YouTube for free hosting of videos-on-demand. So far more than 2000 one hour lectures from about 50 engineering courses from NPTEL Phase I have been made available through broadband. The remaining 3000 hours will be uploaded before the end of this year. Apple Inc has also offered its podcasting and I-Tunes library services in the free dissemination of NPTEL lectures worldwide as podcasts. Discussions are underway with major affiliating Universities as Visvesvaraya Technological University in Karnataka, Biju Patnaik University of Technology in Orissa and West Bengal Institute of Technology in West Bengal for a University supported dissemination of NPTEL contents to all academic institutions.

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; 72 students participated in the programme this year.

8. INTERNATIONAL COLLABORATION

IITM has been interacting with several international organizations for collaborative research, exchange of faculty and students, etc. During the year, we have signed MoUs with international universities in Australia, Canada, France, Germany, USA, Korea, Japan, Singapore, Taiwan and Thailand. So far IITM has signed 108 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 122 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 8 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, 10 students from EPFL did their course work in IITM. 3 Ethiopian students joined the M.Tech. programme in this institute in August 2007.

9. HUMAN RESOURCES TRAINING

HR training is a planned activity at IIT Madras and systematic efforts are made to provide training to our technical and administrative staff to upgrade and acquire new knowledge, skills and attitude through learning experience. During this year 12 in-service training programs were conducted covering 287 staff and faculty members. In addition 82 staff and faculty members were nominated for 46 external training programs.

10. OUR QUALITY INITIATIVES

We are setting up Review Committees for the various departments of our Institute, on the lines of the best practices obtaining at leading institutions world-wide. The Review Committee for Civil Engineering and Humanities and Social Sciences Departments completed their visit and have provided us valuable inputs this year.

International Organization for Standardization (ISO) is a world-wide federation that certifies the operation and existence of a Quality Management System, and ISO 9001:2000 is an international standard for quality systems. ISO 9001:2000 certification is one of the ways of demonstrating the existence and implementation of a Quality Management System. It shows the ability to supply according to quality needs of customers, and it provides a basis to follow an internationally accepted standard. ISO 9001 :2000 standard focuses on five important aspects. These are Process Approach, Resources Management, Continuous Improvement, Customer Satisfaction and Data Analysis. The Process approach concentrates on responsibility and ownership for the entire process than merely defining responsibility and ownership for the various procedures that constitute the process. IIT Madras was awarded ISO-9000 certification for academic and support services (QSM I : Academic Section, User Oriented Programmes, Central Workshop, Central library, Computer Centre and IC & SR) since 1999, and for administrative support services (QSM II: Central Electronic Centre, Finance & Accounts, Administration, Stores & Purchase, Engineering Unit and Security Section) since 2001. The certificate is valid until August 2008 for QSM I and January 2011 for QSM II. In addition to ISO 9001:2000 certification, the Central Electronic Centre is NABL-accredited for its Testing and Calibration laboratories since 2004.

11. INFRASTRUCTURE DEVELOPMENT & BIODIVERSITY MANAGEMENT

The P.G. Senapathy Centre for Computing Resources, which houses the Institute's modern computing and network facilities, was inaugurated in August 2007 by Mr.K. Gopalakrishnan, CEO and Managing Director, Infosys Technologies Ltd., an illustrious alumnus who has contributed handsomely to the Institute.

The Centre will very soon host a 2000-core cluster, the second most powerful in Indian academia, and amongst the top 500 in the world.

As part of the continuing efforts of the Institute to improve and modernize its infrastructure, several new works have progressed significantly and many others have been initiated in the academic year 2007-

2008. A third floor has been added to the ME&MH building to improve the facilities in the Department of Mechanical Engineering. The Central Lecture Theatre in the Humanities and Sciences Block has been completely renovated with a new roof, strengthened frame, improved acoustic treatment and state-of-the-art seating. The revamping of the low-tension cable network has continued throughout the campus for the third year with new power lines installed in most of the academic and residential zones. The four-storey Engineering Design building is nearing completion and will provide considerable space for new classrooms, laboratories, workshops, studios and offices. Four blocks of residential apartments for faculty members, providing 96 new quarters, are being constructed and are expected to be allotted for occupation early next year. The entire campus is being given a facelift through the painting of the façades, re-topping of roads and removal of debris from the campus. Among the new projects that have begun are the modern indoor sports complex with facilities such as squash courts and yoga centre, and the 60 flats for married students that replace four blocks of obsolete quarters.

The National Safety Council of India has awarded the *Bronze Safety Award* for the year 2006 to IIT Madras in appreciation of the safety measures adopted during the construction of the four new boys hostels.

IIT Madras is blessed with a beautiful campus rich in biodiversity. Managing this ecosystem, even while expanding to handle the increased student intake, is a challenge. Two years ago, the Institute commissioned a biodiversity assessment study to determine the state of its flora and fauna. Based on the findings, some immediate corrective steps were taken. There has been an increase in the black buck population from 12 to 20 in these two years. A long term Campus Ecology Management Plan is now being finalized, which will ensure the sustainability of our campus environment in the years to come.

12. STUDENT CO-CURRICULAR AND EXTRA-CURRICULAR ACTIVITIES

For the student's sector the academic year 2007-08 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 fifth edition of the IIT Madras OPEN QUIZ 2007 was held on October 2, 2007. The programme was attended by about 1300 people. Eight teams of four people per team were selected for the finals. Questions were of very high standard and the final was fiercely contested. IIT Open Quiz is one of the major quizzes of the country for its high standards and nation-wide participation.

SHAASTRA-the technical festival of IITM was held from 4th to 8th of October 2007 with primary focus on design events leading to increased number of entries. Two SoEs were successfully implemented this year- first one being the Bio Diesel Plant & the other one is Yu Fly which is based on Coanda effect. Among the firsts was a theme for Shaastra (this year it was Energy), Open House, and lectures by eminent personalities like Dr. Meloth, Dr. Narendra Karmarkar to name a new, Shaastra for schools & a panel discussion. *Video conferences were held with prominent scientists from across the globe, which included nobel laureates. Dr. Tyler Cowen, Dr. Kroto, Dr. John C. Mather and Dr. Chris Adami, enthralled the students during the VCs.* The number of workshops was increased, as workshops tend to be more educative and Shaastra is a platform to enlighten curious students. This year's list included workshops on Chandrayaan, Advanced Materials, Bio Engineering, Radio Circuitry, Rubik's Cube, Open Source, MAV and DSP. Shaastra continues to be sponsor's paradise, where events get sponsored well in advance. Bosch was this year's main sponsor.

SAARANG 2008 was conducted with usual fanfare from 23rd of January to 27th of January. This year's Saarang saw an unprecedented increase in events and participation in Proshows. 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 programs, the ambience of the OAT adding to their exuberance. A highlight of this year's Saarang was the Saarang Village with folk art performances and native culinary delights and ethnic handloom displays.

2. ADMINISTRATION

2.1 General

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

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

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

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

2.2 Staff Position:

As on 31.03.2008, 392 Faculty, 59 Group A Staff, 12 Scientific Staff, 2 Design Staff, 246 Technical Staff and 256 Administrative Staff and 224 Group D staff were in position totalling 1191. During the period under report 93 faculty / staff members comprising 2 Professors, 2 Associate Professors, 26 Assistant Professors, 6 Visiting Faculty and 57 other staff were appointed. 29 staff members comprising 2 Faculty members, 7 Officers and 20 Staff retired from their services. 2 Staff members expired. 16 faculty members and 2 staff members were on long leave. The details of all the above are given below:-

2.2.1 Faculty / Staff appointed from 01.04.2007 to 31.03.2008:

List of faculty members appointed during the period April 2007 to March 2008

Sl. No.	Name	Designation	Dept./ Section	DOJ
1.	Dr. A. Jayakrishnan	Professor	Biotechnology	16.04.2007
2.	Dr. Sudhir Chellarajan	Professor (on contract)	Humanities	09.07.2007
3.	Dr. Krishna Moorthy Sivalingam	Associate Professor	Computer Science	19.07.2007
4.	Dr. S. Mahalingam	Associate Professor	Biotechnology	16.05.2007
5.	Dr. Sankaran Shanmugam	Asst. Professor	Metallurgy	02.04.2007
6.	Dr. Madhulika Dixit	Asst. Professor	Biotechnology	16.08.2007
7.	Dr. A. Arockiarajan	Asst. Professor	Applied Mechanics	03.03.2008
8.	Dr. V. Raghavan	Asst. Prof. (on contract)	Mechanical	20.06.2007
9.	Dr. Debdeep Mukhopadhyay	Asst. Professor	Computer Science	02.04.2007
10.	Dr. Ranjit Bauri	Asst. Professor	Metallurgy	16.04.2007
11.	Dr. G. Suresh Kumar	Asst. Professor	Civil Engg.	16.05.2007
12.	Dr. Nitish Ranjan Mahapatra	Asst. Professor	Biotechnology	17.05.2007
13.	Dr. Sanjeev Kumar Gupta	Asst. Professor	Biotechnology	21.05.2007
14.	Dr. Ravikiran Sangras	Asst. Professor	Mechanical Engg.	22.05.2007
15.	Dr. Sayan Gupta	Asst. Professor	Applied Mechanics	11.06.2007
16.	Dr. Sonika Gupta	Asst. Professor	Humanities	13.06.2007

Sl. No.	Name	Designation	Dept./ Section	DOJ
17.	Dr. Sunetra Sarkar	Asst. Professor	Aerospace	20.06.2007
18.	Dr. Niket S. Kaisare	Asst. Professor	Chemical	22.06.2007
19.	Dr. Sandipan Bandyopadhyay	Asst. Professor	Engg. Design	02.07.2007
20.	Dr. Sudharsan Padmanabhan	Asst. Professor	Humanities	25.07.2007
21.	Dr. R. Nirmala	Asst. Professor	Physics	10.10.2007
22.	Dr. Kottada Ravi Sankar	Asst. Professor	Mett. & Matls. Engg.	12.10.2007
23.	Dr. Madhu Mutyam	Asst. Professor	Computer Science	19.11.2007
24.	Dr. B. Kalyan Kumar	Asst. Professor (on contract)	Electrical Engg.	03.05.2007
25.	Dr. Rajshri Kisan Kumar Jobanputra	Asst. Professor (on contract)	Humanities	06.06.2007
26.	Dr. Rahul Ratnakar Marathe	Asst. Professor (on contract)	Management Studies	20.07.2007
27.	Dr. Rinku Mukherjee	Asst. Professor (on contract)	Applied Mechanics	29.08.2007
28.	Dr. Parag Ravindran	Asst. Professor (on contract)	Mechanical Engg.	30.08.2007
29.	Dr. Balaji Narasimhan	Asst. Professor (on contract)	Civil Engg.	29.10.2007
30.	Dr. Srinivasa Rao Manam	Asst. Professor (on contract)	Mathematics	12.12.2007
31.	Dr. Sujatha Srinivasan	Visiting Assistant Professor	Mechanical Engg.	21.01.2008
32.	Dr. Mohan Gopalakrishnan	Visiting Associate Professor	Management Studies	09.01.2008
33.	Dr. Sonjoy Majumdar	Visiting Asst. Professor	Physics	26.04.2007
34.	Dr. Shailesh Vaya	Visiting Asst. Professor	Computer Science	07.06.2007
35.	Dr. Arun R. Srinivasa	Visiting Professor	Applied Mechanics	09.01.2008
36.	Dr. Vojislav Radojevic	Visiting Professor	Physics	14.01.2008

List of Staff Members joined during the period from April 2007 to March 2008

Sl. No.	Name	Designation	Dept./ Section	DOJ
1.	Ms. N.R. Vineetha	Asst. Exe. Engineer	Engineering Unit	23.04.2007
2.	Mr. R. Prakash	CEC Trainee	CEC	14.11.2007
3.	Mr. S.Abdul Samadh	CEC Trainee	CEC	14.11.2007
4.	Mr. R.Gopalakrishnan	CEC Trainee	CEC	14.11.2007
5.	Mr. L.Sivaramakrishnan	CEC Trainee	CEC	14.11.2007
6.	Mr. K. Arul Singh	CEC Trainee	CEC	14.11.2007
7.	Mr. E.R. Jothilingam	CEC Trainee	CEC	14.11.2007
8.	Mr. M. Balaji	CEC Trainee	CEC	14.11.2007
9.	Mr. K.P. Sivaramji	CEC Trainee	CEC	14.11.2007
10.	Ms. A. Ajitha	CEC Trainee	CEC	10.12.2007
11.	Dr. V. Kumaravel	Consultant (Endocrinology)	Institute Hospital	04.06.2007
12.	Dr. Jaishree Vasudevan	Consultant (Pediatrics)	Institute Hospital	03.05.2007
13.	Dr. S. Srividhya	Consultant (Pediatrics)	Instt. Hospital	05.06.2007
14.	Dr. Nilima Jayakar	Consultant Anaesthetist	Instt. Hospital	20.09.2007
15.	Dr. D. Sankar	Consultant Oral Surgeon	Institute Hospital	14.02.2008
16.	Dr. Jayshree Kailasam	Consultant Physician	Institute Hospital	02.08.2007
17.	Dr. A. Mohan Rao	Consultant Surgeon	Instt. Hospital	07.12.2007
18.	Mr. N. Arun Kumar	Graduate Apprentice	Mechanical Engg.	07.03.2008
19.	Mr. U. Prema Deiva Sivakumar	Graduate Apprentice	Mechanical Engg.	07.03.2008
20.	Ms. P. Muthulakshmi	Graduate Apprentice	Mechanical Engg.	07.03.2008

Sl. No.	Name	Designation	Dept./ Section	DOJ
21.	Ms. G. Thenmozhi	Graduate Trainee	Central Library	23.01.2008
22.	Mr. D. Rethinasamy	Graduate Trainee	Central Library	23.01.2008
23.	Mr. Ram Laut	Graduate Trainee	Central Library	29.01.2008
24.	Ms. Bhageshwari Jah	Graduate Trainee	Central Library	29.01.2008
25.	Mr. Satish Kumar	Graduate Trainee	Central Library	29.01.2008
26.	Mr. Ravindra Pratap	Graduate Trainee	Central Library	29.01.2008
27.	Mr. Mrutyunjay Sethy	Graduate Trainee	Central Library	04.02.2008
28.	Ms. R. Lalitha	Graduate Trainee	Central Library	24.03.2008
29.	Ms. M. Ananthi	Helper Nursing (on contract)	Institute Hospital	07.05.2007
30.	Ms. N. Beula Arputharmy	Helper Nursing (on contract)	Institute Hospital	07.05.2007
31.	Ms. P. Anuradha	Helper Nursing (on contract)	Institute Hospital	08.05.2007
32.	Ms. M. Uma Priya	Helper Nursing (on contract)	Institute Hospital	09.05.2007
33.	Ms. P. Alaguthayee	Helper Nursing (on contract)	Institute Hospital	03.07.2007
34.	Ms. D. Lakshmi	Helper Nursing (on contract)	Institute Hospital	04.07.2007
35.	Ms. S. Shanthi	Helper Nursing (on contract)	Institute Hospital	25.07.2007
36.	Dr. B. Sampathkumar	Junior Medical Officer (on contract)	Instt. Hospital	01.06.2007
37.	Dr. K. Gayathri	Junior Medical Officer (on contract)	Instt. Hospital	01.06.2007
38.	Dr. R. Gangaiamaran	Junior Medical Officer (on contract)	Instt. Hospital	01.06.2007
39.	Dr. A.J. Tamilmani	Junior Medical Officer	Institute Hospital	07.09.2007
40.	Dr. V. Thenral	Junior Medical Officer	Institute Hospital	01.08.2007
41.	Dr. N. Porchelvi	Junior Medical Officer	Institute Hospital	01.08.2007
42.	Dr. T.A.R. Vinoth	Junior Medical Officer (on contract)	Institute Hospital	13.02.2008
43.	Dr. S. Sabitha	Medical Officer	Institute Hospital	31.07.2007
44.	Ms. R. Nishandhani	Nurse (on contract)	Institute Hospital	04.05.2007
45.	Ms. A. Devi Padmavathi	Nurse (on contract)	Institute Hospital	07.05.2007
46.	Ms. J. Thenmozhi	Nurse (on contract)	Institute Hospital	08.05.2007
47.	Ms. Ajitha Rajan	Nurse (on contract)	Institute Hospital	10.05.2007
48.	Ms. Y. Sasikala	Nurse (on contract)	Instt. Hospital	19.11.2007
49.	Mr. T. Thiagarajan	Optometrist (Part-time)	Institute Hospital	27.06.2007
50.	Shri T.V. Raghunathan	Supdt. (on deputation)	IC & SR	05.04.2007
51.	Shri S. Chandran	Supdt. (on deputation)	Engineering Unit	09.04.2007
52.	Shri T. Rajendran	Supdt. (on deputation)	Academic	07.05.2007
53.	Mr. E. Kailasa Rajan	Technician Apprentice	Engineering Unit	05.04.2007
54.	Mr. V. Thirumoorthy	Technician Vocational Apprentice (Machinist)	Central Workshop	03.08.2007
55.	Mr. V. Senthilmadhan	Technician Vocational Apprentice (Turner)	Central Workshop	03.08.2007
56.	Mr. G. Balaji	Technician Vocational Apprentice (Turner)	Central Workshop	16.08.2007
57.	Mr. P. Balasubramaniam	X-ray Technician (on contract)	Institute Hospital	18.05.2007

Faculty / Staff retired from 01.04.2007 to 31.03.2008

Sl. No.	Name	Designation	Department	Date of Retirement
1	Udayakumar K	Sr. Mechanic	CPS	16.04.2007 F.N. (VR)
2	Sridharan N	Sr. Mechanic	CWS	30.04.2007
3	Gopal T V	SSO Gr.I	EE	31.05.2007
4	Subathra V P N	Jr. Supdt.	IC & SR	31.05.2007
5	Samuel A	Sr. Attendant	Dean Students Office	31.05.2007
6	Raja Rao S	SO Gr.II	Mech. Engg.	30.06.2007
7	Murugan M	Asst. Librarian	Central Library	30.06.2007
8	Bhaskaran M	Sr. Attendant	Dean Admn.Office	30.06.2007
9	Bakthavatsalam R	Sr. Attendant	Engg. Unit	30.06.2007
10	Kalyanasundaram V	Jr. Supdt.	Internal Audit	31.07.2007
11	Ganesh V	SO Gr.I	Applied Mechanics	31.08.2007
12	Mohandoss S V	Jr. Supdt.	Academic	31.08.2007
13	John Thomas	Jr. Supdt.	CCE	31.08.2007
14	Ramachandran K	Conductor (SG)	Transport Cell	31.08.2007
15	Chinnaiah R	Sr. Attendant	Engg. Unit	31.08.2007
16	Karuppaiah A.R	Sr. Attendant	Elec.Engg.	30.09.2007
17	John De Britto F	AEE	Engg. Unit	31.10.2007
18	Gowri P	Helper	Finance & Accounts	31.10.2007
19	Subramanian B Dr.	Professor	HSS	01.11.2007 F.N. (VR)
20	Kesavan T R Dr.	S.O. Gr.II	Physics	30.11.2007
21	Alamelu V	Attendant	Hospital	30.11.2007
22	Kuppan N	Sr. Attendant	Mech. Engg.	31.12.2007
23	Ramiah P	Sr. Attendant	Engg. Unit	31.12.2007
24	Anantharaman R N Dr.	Professor	Mngt. Studies	23.01.2008 F.N.(VR)
25	Rani P	Jr. Attendant	Engg. Unit	31.01.2008
26	Sainathan S	S.O. Gr.II	Physics	29.02.2008
27	Samuel S	Sr. Mechanic	Placement Off.	29.02.2008
28	Ardhanari S	Superintendent	Administration	31.03.2008
29	Ramakrishnan S	Jr. Supdt.	Finance & Accounts	31.03.2008

Expired: (while in service)

S.No	Name	Designation	Department	Date
1	Manickam M	Sr. Attendant	Trg. & Placement Office	11.06.2007
2	Lakshmanan S	Superintendent	Stores & Purchase	12.07.2007

Faculty/ Officers/ Staff on long leave:

S.No	Name, Designation & Department	From	To	Nature of Leave
1.	Dr. S.S. Gokhale Professor / Aerospace Engg.	19.10.2005	18.10.2010	EOL
2.	Dr. M. Chidambaram Professor / Chemical Engg.	27.10.2005	26.10.2010	EOL
3.	Sri M. Koteswara Rao Deputy Librarian / Central Library	05.04.2006	05.04.2008	EOL
4.	Dr. T. Suryakumar Deputy Registrar / Administration	01.06.2006	31.05.2008	EOL
5.	Dr. K. Sridharan Associate Professor / Electrical Engg.	08.12.2006	15.05.2008	EOL
6.	Dr. Kavita Dorai Assistant Professor / Physics	01.08.2007	31.07.2008	EOL
7.	Dr. Arvind Assistant Professor / Physics	01.08.2007	31.07.2008	EOL
8.	Dr. P.R. Parthasarathy Professor / Mathematics	06.10.2007	30.09.2008	EOL
9.	Dr. M.N. Sudheendra Rao Professor / Chemistry	10.11.2007	11.11.2012	EOL
10.	Shri B. Nagarajan Assistant Registrar / Academic Section	09.02.2008	10.02.2009	EOL
11.	Dr. B. Nageswara Rao Assistant Professor / Civil Engg. (EOL)	02.06.2007 21.11.2007	20.11.2007 31.07.2008	Sabbatical Leave
12.	Dr. Prema Rajagopalan Assistant Professor / Hum. & Soc. Sciences	01.08.2007	31.07.2008	Sabbatical Leave
13.	Dr. R. Natarajan Professor / Ocean Engg.	28.07.2007	30.06.2008	Sabbatical Leave
14.	Dr. A.N. Rajagopalan Associate Professor / Electrical Engg.	01.08.2007	31.07.2008	Sabbatical Leave
15.	Dr. R. Usha Professor / Mathematics	01.09.2007	31.08.2008	Sabbatical Leave
16.	Dr. Alagusundaramoorthy Associate Professor / Civil Engg.	14.08.2007	13.08.2008	Sabbatical Leave
17.	Dr. Sarit Kumar Das Professor / Mechanical Engg.	28.08.2007	27.06.2008	Sabbatical Leave
18.	Dr. K. Chandraraj Assistant Professor / Biotechnology	08.02.2008 08.12.2008 (EL)	07.12.2009 07.02.2009 (EL)	Sabbatical Leave

No. of faculty / staff members resigned/ Relieved:

S. No.	Name	Designation	Department	Date of Relief
1.	Dr. Subir Kumar Saha	Professor	Engineering Design	05.12.2007

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.

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.

The HRD activities were initiated at the Institute in 1997 under the charge of a Professor. In the period of reporting, the total number of in-service training program conducted was 6 and staff members have been nominated for 16 various training programmes organized by other Institutions/ Organisation. The impact of the various programs, as seen from the feedback at the end of each program, appears to be advantageous to the Institute as the employees were able to upgrade their knowledge through these programs as the programs were designed on need based.

HRD Programmes conducted:

Various types of Programmes attended by our staff members organized by the other organizations during April 2007 to March 2008

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
1.	Mr. K. Ponnambalam	Jr. Supdt.	Admn.	ISO 9000	09.04.2007 to 13.04.2007	Foremen Training Institute, Bangalore
2.	Mr. V. Govindarajan	Sr. Asst.	F & A	ISO 9000	09.04.2007 to 13.04.2007	Foremen Training Institute, Bangalore
3.	Mr. M. Sathyanarayana	Sr. Asst.	Acad.	ISO 9000	09.04.2007 to 13.04.2007	Foremen Training Institute, Bangalore
4.	Mr. P. Ramasamy	Jr. Asst.	Admn.	ISO 9000	09.04.2007 to 13.04.2007	Foremen Training Institute, Bangalore
5.	Mr. N. Mohan	Jr. Asst.	S & P	ISO 9000	09.04.2007 to 13.04.2007	Foremen Training Institute, Bangalore
6.	P. Sadasivam	TA	CEC	Workshop on Estimation and Evaluation of Total Uncertainty in Measurements as per NABL requirements	24.05.2007 & 25.05.2007	IDEMI Mumbai
7.	G. Saravanan	TA	CEC	Workshop on Estimation and Evaluation of Total Uncertainty in Measurements as per NABL requirements	24.05.2007 & 25.05.2007	IDEMI Mumbai

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
8.	S. Veeraraghavan	Jr. Mech.	CEC	Workshop on Estimation and Evaluation of Total Uncertainty in Measurements as per NABL requirements	24.05.2007 & 25.05.2007	IDEMI Mumbai
9.	Mr. T. Karunakaran	Sr. A/cs Officer	IA	Import and Export Procedures, Documentation & Formalities	29.05.2007 & 30.05.2007	Small Industries Service Institute, Guindy
10.	Mr. V. Thatchinamoorthy	Sr. Supdt.	S & P	Import and Export Procedures, Documentation & Formalities	29.05.2007 & 30.05.2007	Small Industries Service Institute, Guindy
11.	Mr. M. Balakrishnan	Sr. Asst.	S & P	Import and Export Procedures, Documentation & Formalities	29.05.2007 & 30.05.2007	Small Industries Service Institute, Guindy
12.	Mr. N. Mohan	Jr. Asst.	S & P	Import and Export Procedures, Documentation & Formalities	29.05.2007 & 30.05.2007	Small Industries Service Institute, Guindy
13.	Mr.K.K. Muthuswamy	STA	CEC	Process Instrumentation	28.05.2007 to 31.05.2007	IDEMI, Mumbai
14.	Dr. M. Kumaravel	Chief Design Engineer	CEC	Measurement Uncertainty in Electrical Testing	04.06.2007 to 06.06.2007	NITS Noida
15.	Mr. C.R. Jeevandoss	Instrumentation Engineer	CEC	Measurement Uncertainty in Electrical Testing	04.06.2007 to 06.06.2007	NITS Noida
16.	Mr. P. Sadasivam	TA	CEC	Measurement Uncertainty in Electrical Testing	04.06.2007 to 06.06.2007	NITS Noida
17.	Ms.G. Amutha	TA	CEC	Measurement Uncertainty in Electrical Testing	04.06.2007 to 06.06.2007	NITS Noida
18.	Mr. P. Amavasaiyan	STA	CWS	Supervisory Development	25.06.2007 to 08.07.2007	Foreman Training Institute, Bangalore
19.	Mr. A. Prakash	Technician	CWS	Tool & Cutter Grinding	02.07.2007 to 06.07.2007	Foreman Training Institute, Bangalore
20.	Mr. P.M. Ekambaram	Sec. Inspector	Security Section	Industrial General Safety and Workers Motivation	10.07.2007	Omega School of Industrial Mgt., Chennai
21.	Mr. P.N. Raghu Rajan	Helper	Security Section	Industrial General Safety and Workers Motivation	10.07.2007	Omega School of Industrial Mgt., Chennai
22.	Mr.D Rajavelu	Jr. Engineer	Engg. Unit	Construction Safety-Prevention of Accidents	02.08.2007	Hotel Savera

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
23.	Mr.S Dinakaran	A S O	Security Section	Construction Safety-Prevention of Accidents	02.08.2007	Hotel Savera
24.	Mr.K Chinnaraj	S I	Security Section	Construction Safety-Prevention of Accidents	02.08.2007	Hotel Savera
25.	Mrs.Roslin Gilda	Jr. Engineer	Engg.Unit	Destructive and Non-Destructive testing of Engg. materials	27.09.2007 & 28.09.2007	National Test House (SR) Taramani
26.	Mrs.P Sarala	Jr. Engineer	Engg.Unit	Destructive and Non-Destructive testing of Engg. materials	27.09.2007 & 28.09.2007	National Test House (SR) Taramani
27.	Mr.G Saravanan	Tech.Asst.	CEC	Certified Calibration Professional	24.09.2007 to 29.09.2007	CETE, Bangalore
28.	Mr.S Veeraraghavan	Jr. Mechanic	CEC	Certified Calibration Professional	24.09.2007 to 29.09.2007	CETE, Bangalore
29.	Mr.S Gopal	Helper(Mali)	Engg. Unit	Operation of shredder	03.11.2007	Auroville, Pudhucherry
30.	Mr.K Venkataiah	Jr.Attendant	Engg. Unit	Operation of shredder	03.11.2007	Auroville, Pudhucherry
31.	Mr.G Bala Ganesan & 35 others	STO, Team in-charge	CWS	Industrial Visit	28.11.2007	SHAR Centre, Sriharikota
32.	Mr.S Dinakaran	Dy.Security Officer	Security Section	One day seminar on 'Dynamics of Security and latest trends'	05.12.2007	Organized by IISM (Madras Chapter) Venue at Hotel Marina Towers, Chennai - 8.
33.	Mr.R Thiruvengadam	Sr.Security Inspector	Security Section	One day seminar on 'Dynamics of Security and latest trends'	05.12.2007	Organized by IISM (Madras Chapter) Venue at Hotel Marina Towers, Chennai - 8.
34.	Sri Ajay Krishnan	Jr. Engineer	Engg. Unit	One day Workshop on " Seismic Retrofitting"	12.01.2008	EPICONS Friends of Concrete, Thane 400 601. Venue at Jubilee Hall, CIRCOT, Matunga, Mumbai 19.
35.	Dr.Rahul Ratnakar Marathe,	Asst. Professor (on Contract)	Management Studies	Five days Trg. Prog. on "IRCA Registered Lead Auditor Trg on ISO 9001:2000"	12.01.2008 to 01.02.2008	TUV India, Chennai

Sl. No.	Name	Designation	Dept. / Section	Course Title	Duration	Venue
36.	R Balakumar	Senior Asst.	TGH	CEP Short Course on "Delivering High Quality Services in Guest House"	14.03.2008 & 15.03.2008	IIT Bombay 76.
37.	K Hariharan	Senior Asst.	Admn.III	CEP Short Course on "Delivering High Quality Services in Guest House"	14.03.2008 & 15.03.2008	IIT Bombay 76.
38.	K Raman	Senior Asst.	CCE	CEP Short Course on "Delivering High Quality Services in Guest House"	14.03.2008 & 15.03.2008	IIT Bombay 76.
39.	Sri D Bhaskaran	Sr. Security Inspector	Security Section	One day Seminar on " New Horizons in Fire Safety "	20.03.2008	IISM (Madras Chapter) Hotel Marina Towers, Chennai-8
40.	Sri C Ramasamy	Sr. Security Inspector	Security Section	One day Seminar on " New Horizons in Fire Safety "	20.03.2008	IISM (Madras Chapter) Hotel Marina Towers, Chennai-8

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

Sl. No.	Name of the Staff Member	Course Title	Duration	Venue
1.	23 Staff Members	Pay Fixation and Pension Rules	30.04.2007	IIT Madras
2.	17 Staff Members	Computer Training Programme at Basic Level	21.05.2007 to 25.05.2007	IIT Madras
3.	17 Members	Atma Gnana Yoga	29.10.2007 to 07.11. 2007	IIT Madras
4.	Faculty members	"Improving Interpersonal Effectiveness"	23 .11.2007 to 24.11.2007	IIT Madras
5.	25 Members	Training programme in Spoken English	10.12.2007 to 14.12.2007 (9.00 to 12.00 noon)	IIT Madras
6.	A G Elumalai , Junior Assistant & 22 others	Two days HRD training program on " Written Communication & Spoken English"	01.02.2008 & 02.02.2008	Visweswaraya Seminar Hall, Civil Engg. Dept.

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 2007-2008, 137 staff members were attended the Hindi Examination. As on 31.03.2008, 1121 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 43 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 2007-2008, 285 children were benefited. From 10.02.2008, free transport facilities have been provided for the benefit of all users within the campus.

2.3.5 Advances:

During the period under report a sum of Rs.32.08 lakhs was sanctioned for the following:

S.No.	Advance	No. of Employees	Amount sanctioned in Rs.
1.	House Building Advance	3	14,51,000
2.	Car Advance	2	3,60,000
3.	Two Wheeler Advance	16	4,35,504
4.	Personal Computer Advance	20	6,26,010
5.	Cycle Advance	1	1,500
6.	Festival Advance	223	3,34,500
Total			32,08,514

Insurance:

GROUP MEDICLAIM INSURANCE SCHEME FOR THE PERIOD FROM 01.02.2007 TO 31.01.2008

SI.No.	Category	No. of Persons covered	Premium Paid Rs.
1	Employees & Dependants	1219 + 3266	1,09,01,265.00
2	Pensioners & Spouses	666	
3	Family Pensioners	426	
4	Fire Insurance		1,72,220.00
Total		2311 + 3266	1,10,73,485.00
Additional Coverage:			
5	Employees & Dependants	64	4,80,349.00
6	Pensioners & Spouses		
7	Family Pensioners		
Total Premium paid		64	1,15,53,834.00

GROUP TERM INSURANCE SCHEME FOR THE PERIOD FROM 10.02.2007 TO 09.02.2008

SL.NO.	GROUP	No. of Employees covered	Sum Insured per employee	Annual Premium/employee	Total Premium Paid	Death Claims made during period
			Rs.	Rs.	Rs.	Rs.
1	A	400	20 Lakh	5612	22,44,800	40 Lakh
2	B	213	10 Lakh	2806	5,97,678	10 Lakh
3	C	336	7 Lakh	1964	6,59,568	7 Lakh
4	D	94	4 Lakh	1122	1,05,468	
		1043			36,07,514	57 Lakh

2.3.7 Meetings of the Authorities:

Board of Governors	:	Five meetings were held on 24.05.2007, 27.07.2007, 10.10.2007, 17.12.2007 & 25.03.2008.
Finance Committee	:	Three meetings were held on 27.07.2007, 17.12.2007 & 25.03.2008.
Buildings & Works Committee	:	Two meetings were held on 17.07.2007 & 20.03.2008.
Senate	:	Four meetings were held on 08.05.2007 (Special), 13.07.2007, 01.10.2007, 10.12.2007 & 19.03.2008.

ISO 9001:2000 in IITM:

ISO (International Organization for Standardization) is a world-wide federation that certifies the operation and existence of a Quality Management System, and ISO 9001:2000 is an international standard for quality systems. ISO 9001:2000 certification is one of the ways of demonstrating the existence and implementation of a Quality Management System. It shows the ability to supply according to quality needs of customers, and it provides a basis to follow an internationally accepted standard. ISO 9001:2000 standard focuses on five important aspects. These are Process Approach, Resources Management, Continuous Improvement, Customer Satisfaction and Data Analysis. The Process approach concentrates on responsibility and ownership for the entire process than merely defining responsibility and ownership for the various procedures that constitute the process. IIT Madras was awarded ISO-9000 certification for academic and support processes (QSM I: Academic Section, User Oriented Programmes, Central Workshop, Central Library, Computer Centre and IC & SR) since 1999, and for administrative support processes (QSM II: Central Electronic Centre, Finance & Accounts, Administration, Stores & Purchase, Engineering Unit and Security Section) since 2001. The certificate is valid until August 2008 for QSM I and January 2011 for QSM II. In addition to ISO 9001:2000 certification, the Central Electronic Centre is NABL-accredited for its Testing and Calibration Laboratories since 2004.

The following ISO activities have been carried out during April 2007 - March 2008:

- Re-certification Audit for QSM II was carried out in February 2008, by TUV India Private Limited.
- During this Re-certification Audit, no non-conformities were observed and the certificate is renewed, and it is valid up to January 2011.
- Surveillance Audit for QSM I was carried out in March 2008, by TUV India Pvt. Ltd.
- No non-conformities were observed during the Surveillance Audit.
- Initiatives have been taken to get the ISO certification for the Institute's Guest House, Placement Office and Hospital.
- As the part of this initiative, the training programme was conducted by an external Lead Auditor for the staff in Institute's Guest House, Placement Office and Hospital to give an overview of ISO 9001:2000

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

(i) Academic Administration:

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

Deans:

Academic Courses	:	Dr. S. Santhakumar
Academic Research	:	Dr. K. Krishnaiah
Administration	:	Dr. M. Singaperumal
Industrial Consultancy & Sponsored Research	:	Dr T T Narendran
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. Shankar Narasimhan
Chemistry	:	Dr. S. Sankararaman (in-charge from 23.02.2007 to 16.04.2007) Dr. R. Dhamodharan (from 17.04.2007)
Civil Engg.	:	Dr. S. Mohan (from 30.11.2004 to 31.01.2008) Dr. K. Rajagopal (from 01.02.2008)
Computer Sci.& Engg.	:	Dr. T.A. Gonsalves
Electrical Engg.	:	Dr. S. Srinivasan (from 06.08.2004 to 17.06.2007) Dr. V. Jagadeesh Kumar (from 18.06.2007)
Engineering Design	:	Dr. Nilesh Jayanthilal Vasa (in-charge from 05.01.2007 to 05.02.2008) Dr. R. Krishna Kumar (from 06.02.2008)
Humanities & Soc. Sci.	:	Dr. V.R. Muraleedharan
Management Studies	:	Dr. L.S. Ganesh
Mathematics	:	Dr. S.A. Choudam
Mechanical Engg.	:	Dr. M.S. Shunmugam
Metallurgical & Materials Engg.	:	Dr. S.D. Pathak (from 02.08.2004 to 14.06.2007) Dr. P. Kesavan Nair (from 15.06.2007)
Ocean Engg.	:	Dr. R. Sundaravadivelu
Physics	:	Dr. P.C. Deshmukh

Heads of Research Centre:

Composite Technology Centre	:	Dr. S.K. Malhotra (Merged with Aerospace Engg. From 28.02.008)
Materials Sciences Research Centre	:	Dr. S. Sankararaman (in-charge from 23.02.2007 to 16.04.2007) Dr. R. Dhamodharan (from 17.04.2007)
Sophisticated Analytical Instrument Facility	:	Prof. A.K. Mishra (from 01.09.2004 to 22.08.2007) Prof. S. Pushpavanam (from 23.08.2007)

Head of Special Facilities for interaction with Other Institutions:

Centre for Industrial Consultancy & Sponsored Research	:	Dr. T.T. Narendran
Centre for Continuing Education	:	Dr. K. Ramamurthy
Central Electronics Centre	:	Dr. M. Kumaravel

Central Administration

Director	:	Prof. M.S. Ananth
Registrar	:	Dr. Usha Titus, IAS (upto 31.07.2007) Dr. K. Panchalan (from 19.12.2007) (in-charge from 01.08.2007 to 18.12.2007)

Deputy Registrars

Academic	:	Dr. K. Panchalan (upto 31.07.2007)
Administration	:	Sri. A. Thirunavukkarasu (upto 31.07.2007)
Finance & Accounts	:	Sri. J. Rammohan
Stores & Purchase	:	Sri. R. Esakkimuthu
Internal Audit	:	Sri. A. Thirunavukkarasu (from 01.08.2007)
Training & Placement	:	Sri. Jayakumar

Assistant Registrars

Stores & Purchase	:	Sri. A.V. Sudarsanam
Finance & Accounts	:	Sri. S. Sambasivam Sri. D. Ravee
Administration	:	Sri. S. Sundaravinayagam Sri. B. Ramaswamy
Engineering Unit	:	Sri. G. Ravichandran (up to 10.02.2008)
IC & SR	:	Smt. Prema Chakrapani
Hostels	:	Sri. B. Nagarajan i/c (up to 10.02.2008)
Academic	:	Sri. B. Nagarajan (up to 10.02.2008) Sri. J. Lazar (from 01.08.2007) Sri. G. Ravichandran (from 11.02.2008)
Internal Audit Section	:	Sri. J Lazar (up to 31.07.2007)
Chief Security Officer	:	Sri. G. Selvamani
Secretary i/c to Director	:	Sri. N. K. Seshadri

Head of Central Services, Facilities and Section

Central Library	:	Dr. Harish Chandra
Chief Medical Officer in-charge	:	Dr. Usha Titus (from 01.01.2007 to 31.07.2007) Dr. S. Sabitha (from 01.08.2007)
Central Gas Supplies Unit	:	Dr. T K Varadarajan
Central Glass Blowing Section	:	Dr. T K Varadarajan
Central Workshop	:	Dr. L. Vijayaraghavan (upto 07.10.2007) Prof. M. Govardhan (08.10.2007)

National Service Scheme	:	Prof. K. Giridhar
Advisor, Sports	:	Dr. K. Srinivasan (upto 02.05.2007) Dr. M. Kamaraj (from 03.05.2007)
Advisor, Cultural	:	Dr. M. Prakash Maiya (upto 02.08.2007) Dr. S. Sundar (from 03.08.2007)
Foreign & Weaker Section Students	:	Dr. R. Gnanamoorthy
Vigilance	:	Dr. M. Govardhan
Placement & Training	:	Dr BVSS Prasad
Guidance & Counselling Unit	:	Dr. G. Srinivasan (upto 13.09.2007) Dr. P. Sriram (from 14.09.2007)
Prof-in-charge (Alumni Affairs)	:	Dr. K.N. Satyanarayana
Engineering Unit		
Chairman, Engg. Unit	:	Dr. Ravindra Gettu
Superintending Engineer	:	R. Arumugam
Executive Engineers	:	K. Viswanath L. Venkataraman
Assistant Executive Engineers	:	F. John De Britto (upto 31.10.2007) V. Seenivasan K. Dharmaraj M. Ramachandran M. Murali Prakash H. Anandaram N.R. Vineetha K. Rizwan Ali
Public Health Officer	:	V. Veerasamy

3. ACADEMIC PROGRAMMES AND AWARD OF DEGREES

The Institute offered Ph.D. programme in all the 16 departments, M.S. programme in 12 departments, M.Tech programme in 24 streams/ specialisations, M.Sc. programme in 3 branches, B.Tech programme in 10 branches, Dual degree (B.Tech and M.Tech) programme in 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 2007-08 :

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 2007.

The number of students and scholars admitted to various programmes both in July 2007 and in January 2008 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.	21	14	--	22	--	--	10	12	79
2.	Applied Mechanics	--	--	--	18	--	--	08	07	33
3.	Biotechnology	25	13	--	27	--	--	05	26	96
4.	Chemical Engg	46	12	--	--	--	--	08	12	78
5.	Chemistry	--	--	28	--	--	--	--	23	51
6.	Civil Engg.	41	23	--	83	--	--	08	19	174
7.	Comp. Sc. & Engg.	20	16	--	42	--	--	23	07	108
8.	Electrical Engg.	42	43	--	59	--	--	24	23	191
9.	Engg. Design.	--	28	--	--	--	--	06	05	39
10.	Hum. & Soc. Sci.	--	--	--	--	--	29	--	07	36
11.	Management Studies	--	--	--	--	62	--	08	10	80
12.	Mathematics	--	--	30	07	--	--	--	05	42
13.	Mechanical Engg.	50	43	--	80	--	--	23	16	212
14.	Met. & Mat. Engg.	24	09	--	18	--	--	07	06	64
15.	Ocean Engg.	21	11	--	16	--	--	07	04	59
16.	Physics	16	--	26	06	--	--	--	22	70
	Total	306	212	84	378	62	29	137	204	1412

In addition to the above, 24 ST students joined Preparatory Course.

SC/ST Students under Fresh Admission

Sl.No	Programme	SC	ST
1.	B.Tech	48	18
2.	Dual Degree	33	08
3.	M.Tech	40	20
4.	M.Sc.	08	--
5.	M.B.A	11	--
6.	M.A.	05	02
6.	M.S	02	01
7	Ph.D	02	01
	Total	149	50

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

Foreign Nationals	8	User-oriented Programme (M.Tech)	37
Scheduled Castes	149	Q.I.P. M.Tech 10 Ph.D. 16	26
Scheduled Tribes	50	Sponsored M.Tech.	21
Physically Handicapped	–	Project M.S. 18 Ph.D. 13	31
Women Students	161	External Registration M.S. 25 Ph.D. 17	42
Defence Officers (M.Tech)	28		

3.2 Students/Scholars Enrolment:

The total numbers of students on roll in various programmes of the Institute in the academic year 2007-08 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.	81	55	--	34	--	--	26	29	225
2.	Applied Mechanics	--	--	--	31	--	--	23	39	93
3.	Biotechnology	114	65	--	12	--	--	21	77	289
4.	Chemical Engg.	186	58	--	51	--	--	24	56	375
5.	Chemistry	--	--	57	--	--	--	--	146	203
6.	Civil Engg.	171	76	--	164	--	--	38	119	568
7.	Comp. Sc.& Engg.	111	67	--	88	--	--	111	61	438
8.	Electrical Engg.	225	230	--	109	--	--	116	90	770
9.	Engg, Design	--	76	--	--	--	--	07	07	90
10.	Hum. & Soc. Sc.	--	--	--	--	--	57	--	41	98
11.	Management Studies	--	--	--	--	123	--	25	67	215
12.	Mathematics	--	--	59	18	--	--	--	51	128
13.	Mechanical Engg.	245	212	--	153	--	--	93	198	901
14.	Met. & Mat. Engg	101	44	--	33	--	--	22	62	262
15.	Ocean Engg.	76	28	--	23	--	--	19	30	176
16.	Physics	43	--	49	12	--	--	--	108	212
Total		1353	911	165	728	123	57	525	1181	5043

The above total includes the following:

Foreign Nationals	11	QIP M.Tech 23 Ph.D. 110	133
DASA (Indian origin)	01	Sponsored M.Tech 35 M.S. 02	37
Scheduled Castes	533	Project M.S. 78 Ph.D. 89	167
Scheduled Tribes	149	External Registration M.S. 80 Ph.D. 132	212
Physically Handicapped	03	Registration Kept Alive M.S. 52 Ph.D. 36	88
Women students	648	User-oriented Programme (M.Tech)	83
Defence Officers (M.Tech)	75	Part -Time Programme (Ph.D)	11

SC/ST Students on roll:

Sl.No	Programme	SC	ST
1.	B.Tech	208	63
2.	Dual Degree	122	39
3.	M.Tech	79	36
4.	M.Sc.	22	02
5.	M.B.A	14	--
6.	M.A.	10	04
6.	M.S	10	01
7	Ph.D	68	04
Total		533	149

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	2007	2006	2005	2004	2003 & earlier batch	Total
1.	Aerospace Engineering	18	22	20	20	01	81
2.	Biotechnology	22	27	28	32	05	114
3.	Chemical Engineering	47	42	49	47	01	186
4.	Civil Engineering	40	43	46	41	01	171
5.	Computer Sc. & Engg.	22	28	28	30	03	111
6.	Electrical Engineering	45	51	62	62	05	225
7.	Engineering Physics	14	11	10	07	01	43
8.	Mechanical Engineering	54	54	58	70	09	245
9.	Met. & Mat. Engineering	23	28	22	27	01	101
10.	Naval Architecture	20	19	15	21	01	76
Total		305	325	338	357	28	1353

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

Sl. No.	Branch	2007	2006	2005	2004	2003	2002 & others	Total
1.	Aerospace Engineering	14	11	10	12	08	--	55
2.	Biotechnology	12	13	15	16	09	--	65
3.	Chemical Engineering	12	11	10	13	11	01	58
4.	Infrastructural Civil Engg.	22	16	13	13	11	01	76
5.	Computer Science & Engg.	18	12	12	12	11	02	67
6.	Micro Elec. & VLSI Design	17	17	18	19	17	--	88
7.	Communication Engg.	17	17	17	15	15	--	81
8.	Power Sys. & Power Electronics	13	11	10	17	10	--	61
9.	Engineering Design	26	24	26	--	--	--	76
10.	Energy Technology	14	16	14	16	08	--	68
11.	Intelligent Manufacturing	14	17	15	18	10	--	74
12.	Product Design	15	17	15	15	08	--	70
13.	Metallurgical & Materials Engg.	09	09	08	13	05	--	44
14.	Naval Arch. & Ocean Engg.	09	06	04	06	03	--	28
Total		212	197	187	185	126	04	911

TABLE 5 - M.Sc students on roll

Sl. No.	Branch	2007	2006 & others	Total
1.	Chemistry	28	29	57
2.	Mathematics	28	31	59
3.	Physics	23	26	49
Total		79	86	165

TABLE 6 - M.Tech students on roll

Sl. No.	Department \ Discipline \ Batch	2007	2006 & others	Total
1.	Aerospace Engineering	20	14	34
2.	Applied Mechanics:	18	13	31
3.	Biotechnology	--	12	12
4.	Chemical Engineering	29	22	51
5.	Civil Engineering:			
	CE 1 - Building Technology	10	09	19
	CE 2 - Environmental Engineering	07	06	13
	CE 3 - Geotechnical Engineering	08	10	18
	CE 4 - Hydraulic & Water Resource Engg.	06	04	10
	CE 5 - Structural Engineering	20	22	42
	CE 6 - Transportation Engineering	04	09	13
6.	CE 7 - Construction Technology & Mgmt.	26	23	49
7.	CS 1 - Computer Science & Engineering	42	46	88
8.	Electrical Engineering:			
	EE 1 - Communication Systems	33	24	57
	EE 2 - Power Systems and Power Electronics	09	12	21
	EE 3 - Micro Electronics and VLSI Design	17	13	30
9.	Mathematics:			
	Industrial Maths & Scientific Computing	07	11	18
10.	Mechanical Engineering:			
	ME 1 - Thermal Engineering	32	29	61
	ME 1 - Thermal Engineering	24	23	47
	ME 2 - Design			
	ME 3 - Manufacturing Engineering	14	13	27
11.	ME 4 - Automotive Engine Technology	07	12	19
12.	MM - Metallurgical & Materials Engg.	17	16	33
13.	OE - Ocean Engineering	15	08	23
14.	Physics:			
	PH - Solid State Technology	06	06	12
	Total	371	357	728

TABLE 7 - M.B.A. students on roll

Sl. No.	Branch	2007	2006	Total
1.	Management Studies	62	61	123

TABLE 8 - M.A. students on roll

Sl. No.	Branch	2007	2006	Total
1.	Humanities and Social Sciences	29	28	57

TABLE 9 - M.S scholars on roll

Sl. No.	Branch	Jan 2008	2007	2006	2005	2004 & others	Total
1.	Aerospace Engg.	04	06	06	08	02	26
2.	Applied Mechanics	05	07	04	05	02	23
3.	Biotechnology	03	03	08	06	01	21
4.	Chemical Engg	03	08	07	06	0	24
5.	Civil Engg.	02	07	07	11	11	38
6.	Comp. Sc. & Engg.	11	19	26	30	25	111
7.	Electrical Engg.	06	23	27	34	26	116
8.	Engineering Design	02	05	--	--	--	07
9.	Management Studies	02	06	07	08	02	25

10.	Mechanical Engg.	12	26	22	17	16	93
11.	Met. & Mat. Engg.	02	05	08	04	03	22
12.	Ocean Engg.	02	05	05	02	05	19
	Total	54	120	127	131	93	525

TABLE 10 – Ph.D scholars on roll

Sl. No.	Branch	Jan 2008	2007	2006	2005	2004	2003 & others	Total
1.	Aerospace Engg.	04	11	02	07	04	01	29
2.	Applied Mechanics	04	06	10	06	05	08	39
3.	Biotechnology	13	19	10	23	08	04	77
4.	Chemical Engg.	11	06	08	11	11	09	56
5.	Chemistry	10	22	21	23	27	43	146
6.	Civil Engg.	04	19	19	25	23	29	119
7.	Comp. Sc. & Engg.	03	09	09	14	13	13	61
8.	Electrical Engg.	10	15	14	18	18	15	90
9.	Engineering Design	03	04	--	--	--	--	07
10.	Hum. & Soc. Sci.	04	04	06	11	10	06	41
11.	Management Studies	07	07	10	11	14	18	67
12.	Mathematics	02	05	06	09	16	13	51
13.	Mechanical Engg.	04	22	33	32	48	59	198
14.	Met. & Mat. Engg.	02	10	13	12	14	11	62
15.	Ocean Engg.	01	04	03	07	08	07	30
16.	Physics	03	27	20	13	09	36	108
	Total	85	190	184	222	228	272	1181

In addition to the above, 6 CSIR Research Associates and 24 preparatory Course students were on the rolls.

3.3 Courses Offered:

In the academic year 2007-08, 1101 courses were offered of which 538 courses in July–Nov. 2007 and 563 courses in Jan–May 2008. The Department-wise details of the courses offered are given below:

TABLE 11 – No. of Courses offered

Sl. No.	Department	No. of courses offered in July – Nov 2007				No. of courses offered in Jan – May 2008			
		Core	Elect.	Lab.	Total	Core	Elect.	Lab	Total
1	Aerospace Engineering	14	06	04	24	06	15	03	24
2	Applied Mechanics	06	05	02	13	11	05	03	19
3	Biotechnology	09	10	03	22	07	09	02	18
4	Chemical Engineering	11	15	01	27	10	21	02	33
5	Chemistry	12	02	05	19	07	13	02	22
6	Civil Engineering	29	26	05	60	26	34	07	67
7	Computer Sc. & Engg.	13	13	05	31	07	22	04	33
8	Electrical Engineering	24	24	06	54	18	29	12	59
9	Hum. & Soc. Science	10	23	--	33	11	25	01	37
10	Management Studies	21	26	--	47	12	31	01	44
11	Mathematics	15	11	01	27	04	23	01	28
12	Mechanical Engineering	32	33	06	71	34	32	07	73
13	Met. & Mat. Engineering	12	17	04	33	10	19	05	34
14	Ocean Engineering	14	09	03	26	11	13	03	27
15	Physics	12	16	07	35	15	14	06	35
16	Engineering Design	10	--	02	12	05	01	04	10
	Total	244	236	54	534	194	306	63	563

3.4 Convocation:

The 44th Convocation was held on 27th July 2007. Dr. R. Chidambaram, Principal Scientific Adviser to the Govt. of India delivered the Convocation address. 1209 candidates were awarded various degrees. 910 candidates received degrees in person. The department-wise details of degrees awarded are given below:

TABLE 12 – Degrees awarded

Sl. No.	Department	B.Tech.	Dual Degree	M.B.A.	M.Sc.	M.Tech.	M.S.	Ph.D.	Total
1.	Aerospace Engineering	22	11	-	-	11	06	02	52
2.	Applied Mechanics	-	-	-	-	13	04	03	20
3.	Biotechnology	34	07	-	-	13	02	04	60
4.	Chemical Engineering	40	11	-	-	19	04	07	81
5.	Chemistry	-	-	-	31	0	-	17	48
6.	Civil Engineering	44	08	-	-	77	11	11	151
7.	Computer Sc. & Engg.	26	05	-	-	53	25	06	115
8.	Electrical Engineering	75	33	-	-	51	13	09	181
9.	Humanities & Social Sciences	-	-	-	-	-	-	04	04
10.	Management Studies	-	-	66	-	-	01	05	72
11.	Mathematics	-	-	-	30	09	-	02	41
12.	Mechanical Engineering	75	24	-	-	70	24	23	216
13.	Metallurgical & Materials Engg	29	08	-	-	12	04	14	67
14.	Ocean Engineering	18	04	-	-	05	10	07	44
15.	Physics	11	-	-	31	04	--	11	57
Total		374	111	66	92	337	104	125	1209

With this Convocation, the total number of degrees awarded so far by the Institute is 30799, the details of which are given below:

S.No.	Programme	No.
1	Ph.D.	2806
2	M.S.	2110
3	M.Tech	10336
4	M.Sc.	2298
5	M.B.A.	226
6	Dual Degree (B.Tech & M.Tech)	432
7	B.Tech	12326
8	B.Sc(Tech)	020
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 44th Convocation:

- President of India Prize . K Bharath Kumaran, B.Tech, Mechanical Engineering
- Governor's Prize .. Siddhartha Banerjee, B.Tech, Electrical Engineering

□ **Other Prizes:**

Sl.No.	Donor	Department	Name of student
Doctor of Philosophy – Ph.D.			
1.	Prof Werner Prize	Chemistry	Chintalapati Siva Kesava Raju Sivakumar V [Joint Winners]
2.	Prof C N Pillai Prize	Chemistry	Udaya Nath Aich
3.	Prof Langmuir Prize	Chemistry	M Arun Prasad
4.	Shree Gaayathree Devi Award	Civil Engineering	Revathi P
5.	Prof A L Lashkar Prize	Physics	C Suresh Kumar Bibekananda Sundaray [Joint Winners]
6.	Sudharshan Bhat Memorial Prize	Metal. & Materials Eng	Venu Gopal Thota Nagumothu Ramesh Babu [Joint Winners]
7.	Bhagyalakshmi and Krishna Ayengar Award	Physics	Leela Mohana Reddy A
Master of Technology – M.Tech.			
1.	Air India Prize	Aerospace Engineering	Suresh Nair C G
2.	Institute Merit Prize	Biotechnology	Arunkumar K
3.	Indira Sivasailam Merit Prize	Applied Mechanics	P Selvaganesh
4.	Prof B V A Rao Endowment Prize	Applied Mechanics	G R Balachandran
5.	Usha Kothandaraman Memorial Prize		
6.	Bhagyalakshmi and Krishna Ayengar Award	Mechanical Engineering	Sandeep Kumar Arora
7.	Dr K Subba Raju Memorial Prize	Chemical Engineering	Patrick Arokiaraj Charles F
8.	Valli Anantharamakrishnan Merit Prize	Civil Engineering	M Karpagam Alias Nachammai
9.	K Devarajan Memorial Prize	Civil Engg. – Transportation Engg.	Sandeep Kumar Arora
10.	L & T Endowment Prize	Civil Engg. - Construction Technology and Management	Ashish Goel
11.	Institute Merit Prize	Civil Engg. - Computational Engineering	Sri Kumar C G
12.	CMC Prize	Computer Science & Engg.	Gunturu Srinivas
13.	Prof H N Mahabala Endowment Prize	Computer Science & Engg	Ravi Saini Venkatarreddy Pothireddy (Joint Winners)
14.	Siemens Prize	Electrical Engineering	Arun M
15.	Prof Helmut Neunzert Endowment Prize	Industrial Mathematics & Scientific Computing	Anu Thomas
16.	Prof B Sengupto Prize	Mechanical Engineering	Obulesu Chatakonda
17.	Dr S Vaidyanathan Memorial Prize	Mechanical Engineering	Ravindra Kumar
18.	S Anantharamakrishnan Merit Prize	Mechanical Engineering	Uttam Kumar Sarkar
19.	Prof Ramamohana Rao Memorial Prize	Mechanical Engineering	Gurunathan C
20.	Mico-Bosco Prize	Mechanical Engineering	Srinivas Padala

Sl.No.	Donor	Department	Name of student
21.	Delphi-TVS Diesel Systems Ltd. Prize	Mechanical Engg. – Automotive Engine Tech.	Abhay Madhukar Wakankar
22.	Sudharshan Bhatt Memorial Prize	Metallurg. & Mat. Engg	David Vijayanand V
23.	American Bureau of Shipping Prize	Ocean Engineering	P Sunny Kumar
24.	Institute Merit Prize	Physics-Solid State Technology	Gaurav Gupta
Master of Science – M.Sc			
1.	Dr. S R Ramadas 60 th Birthday Commemoration Award	Chemistry	Rakesh Paul
3.	Mira Paul Memorial Prize	Mathematics	Jishnu Jagannathan
4.	Prof Chilukury Rama Sastry Memorial Prize	Physics	Soumya Bera
Master of Business Administration – M.B.A.			
1.	Coka Parthasarathy Prize	Management Studies	R Siddharth
2.	K V Arunkumar Memorial Prize	Management Studies	Praveen Kakkan
Dual Degree – B.Tech. & M.Tech.			
1.	Institute Merit Prize	Biotechnology	D R Goda
2.	Institute Merit Prize for CE	Civil Engineering	Purva Bhandari
3.	B Ravichandran Memorial Prize	Chemical Engineering	
4.	Institute Merit Prize – Dual Degree	Chemical Engineering	Ankur Gigras
5.	C A Sastry Endowment Prize		
6.	B Ravichandran Memorial Prize		
7.	Bhagyalakshmi and Krishna Ayengar Award	Electrical Engineering	Sagili Anand Reddy
8.	Prof Achim Bopp Endowment Prize	Electrical Engineering	Uthpala Raghavendra Rao
9.	Philips India Prize	Electrical Engineering	Talegaonkar Mrunmay Vyankatesh
10.	Dr V Mohan Raman Prize	Aerospace Engineering	Sivaram A
11.	Alumni Association Prize	Computer Science & Engg	Ramkumar Rangamani
12.	Prof G V N Rayudu Memorial Prize	Mechanical Engineering	R Anand
13.	S Anantharamakrishnan Memorial Prize	Metallurg. & Materials Engg	K Sreeram Krishnamoorthy
14.	Institute Merit Prize	Naval Architecture & Ocean Engineering	Dharmendra Singh Raghuvanshi
Bachelor of Technology – B.Tech.			
1.	President of India Prize	Mechanical Engg.	K Bharath Kumaran
2.	Bharat Ratna M Visvesvaraya Memorial Prize		
3.	Banco Foundation Prize		
4.	Governor's Prize	Electrical Engineering	Siddhartha Banerjee
5.	Motorola Prize		
6.	Siemens Prize	Electrical Engineering	Raghunandan H K
7.	Prof Achim Bopp Endowment Prize	Electrical Engineering	Leo Mariappan
8.	Vaidy Krishnan Memorial Prize	Mechanical Engineering	P S Vignesh
9.	Shankar Dayal Sharma Prize	Electrical Engineering	T M Adithya
10.	HAL Prize	Aerospace Engineering	R Kumar

Sl.No.	Donor	Department	Name of student
11.	Reliance Heat Transfer Pvt. Ltd. Prize	Chemical Engineering	R Vinay
12.	Larsen & Toubro ECC Endowment Prize	Civil Engineering	Arun Lal Gain
13.	Institute Merit Prize	Biotechnology	G Ambhighainath
14.	B Ravichandran Memorial Prize	Computer Science & Engg.	Aravindan V
15.	Institute Merit Prize	Engineering Physics	Rahul R
16.	Sivasailam Merit Prize	Mechanical Engineering	Raghav H V
17.	Dr Dhandapani Memorial Prize	Metallurg. & Materials Engg	Vivek Raghunathan
18.	American Bureau of Shipping Prize	Naval Architecture and Ocean Engineering	Sowmitra Singh

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

On the basis of performance during the academic year 2007-08, the following students were awarded Merit Prizes on the 48th Institute Day held on 13.04.2007 at the Central Lecture Theatre (CLT). Shri M S Srinivasan, IAS, Secretary, Ministry of Petroleum & Natural Gas, Government of India was a Chief guest.

I. Institute Merit Prizes:

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

Computer Science & Engineering	ME05B003	Ananya Sunil Shah
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B.Tech / Dual Degree (5th & 6th Semesters)

Aerospace Engineering	AE03B032	Varun Hiremath – Dual Degree
Biotechnology	BT03B012	N Harish
Civil Engineering	CE03B006	Avinash Voruganti
Computer Science & Engineering	CS03B038	Karthekeyan C
Engineering Physics	EP03B011	Rahul R
Mechanical Engineering	ME03B017	Bharat Prasad Penmecha
Naval Architecture	NA03B015	Sowmitra Singh

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

Aerospace Engineering	AE02B034	Sivaram A
Biotechnology	BT02B010	D R Goda
Chemical Engineering	CH02B054	Ankur Gigras
Civil Engineering	CE02B047	Narinder Puri (Infrastructural Civil Engineering)
Compute Science & Engineering	CS02B037	Ramkumar Rangamani
Electrical Engineering	EE02B098	Neelabh Gupta (Microelectronics and VLSI Design)
Electrical Engineering	EE02B108	Piyush Lohia (Power Systems & Power Electronics)
Mechanical Engineering	ME02B106	Sumit Parwani (Intelligent Manufacturing)
Mechanical Engineering	ME02B099	Challapalli N Kiran Kumar (Product Design)

Mechanical Engineering	ME02B091	R Anand (Energy Technology)
Metallurgical & Materials Engineering	MT02B030	Deepankar Pal
Naval Architecture	NA02B024	Dharmendra Singh Raghuvanshi

II. Donors Prizes:

B.Tech (First Six Semester)

Dr S Chandrasekharan Memorial Prize ME03B017 Bharat Prasad Penmecha

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

Sri S Subramanian Prize CS05B020 N Srivatsan

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

K Srinivasan & Indira Srinivasan Prize CS03B024 Sriram Kalyanaraman
(Cash Prize of Rs.5,000/- with a certificate and Silver Medal)

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

Sri Ramasarma V Kolluri Memorial Prize EE03B042 Raghunandan H K
Ratna Award MT03B036 Abishek Kashinath
Dr R K Viswanath Memorial Prize CH03B037 Srinivas R

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

D Anand Subramanian Memorial Award EE02B082 Anush Mohan

Dual Degree (1st to 9th Semesters)

Prof V Radhakrishnan Endowment Award ME02B106 Sumit Parwani

B.Tech / Dual Degree (Best Project)

ClassNK-100 Award - First Prize NA02B019 Swati Khandelwal
(Cash award of Rs.10,000/- with a silver medal)
ClassNK-100 Award – Second Prize NA02B015 Rajorshi Bandyopadhyay
(Cash award of Rs.5,000/- with a silver medal)
48th Indian Pharmaceutical Congress Prize BT02B014 S Krishna Kumar

M.Sc (upto 3rd Semester)

LVKV Sarma Prize MA05C005 Jishnu Jagannathan

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

T S Rajagopalan Memorial Prize MS05A053 R Siddharth

M.Tech (upto 3rd Semester)

LVKV Sarma Prize MA05M004 Anu Thomas

M.Tech (Best Project)

Prof V Ramamurti Prize	AM04M025	Srinivasan D
Lucas–TVS Limited Prize	AT04M001	Abhijeet Yeshwant Vaze
Bhagyalakshmi & Krishna Ayengar Award (Cash Prize of Rs.15,000/- for faculty having guided the project work of Sri Ambily Mathew, M.Tech)		Dr S Ramaprabhu, PH

M.S (Best Thesis)

Sri K Sreeharsha Memorial Prize	CE02S009	Sreeja Chandran
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M.S (Best Project)

Prof C S Krishnamurthy Endowment Prize	CE02S011	P Sakthivel
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DEPARTMENT LEVEL PRIZES

I. Institute Merit Prizes:

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

Aerospace Engineering	AE04B029	S Harun Thilak
Biotechnology	BT04B007	Ankit Agarwal
Chemical Engineering	CH04B043	Venkata Sravanth Poruri
Civil Engineering	CE04B038	Siriki Hemanth
Electrical Engineering	EE04B022	Gajanana G K
Engineering Physics	EP04B010	Sandeep N
Mechanical Engineering	ME04B055	Srilakshmi L
Metallurgical & Materials Engineering	MM04B030	Verma Divyanshu Brijmohan
Naval Architecture	NA04B032	J Vinay Kumar – Dual Degree

MBA (1st and 2nd Semesters)

Management Studies	MS05A053	R Siddharth
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M.Tech (First Two Semesters)

Aerospace Engineering	AE05M013	Suresh Nair C G
Applied Mechanics	AM05M003	G R Balachandran
Chemical Engineering	CH05M013	Patrick Arokiaraj Charles F
Civil Engineering	CE05M056	Kadhiravan D
Compute Science & Engineering	CS05M012	Gunturu Srinivas
Electrical Engineering	EE05M047	Arun M
Mathematics	MA05M004	Anu Thomas
Mechanical Engineering	ME05M007	M Balaji
	ME05M017	Obulesu Chatakonda (Joint winners)
Automotive Engine Technology	AT05M001	Abhay Madhukar Wakankar
Metallurgical & Materials Engineering	MM05M003	David Vijayanand V
Ocean Engineering	OE05M006	P Sunny Kumar
Physics	PH05M006	Gaurav Gupta

M.Sc. (First Two Semesters)

Chemistry	CY05C014	Rakesh Paul
Mathematics	MA05C005	Jishnu Jagannathan

II. Donors Prizes:**B.Tech / Dual Degree (First Two Semesters)**

Sri Biswajit Sain Endowment Prize CS04B027 Vibhav Bukkapatanam
(Silver Medal & Cash Award of
Rs.2,000/-)

B.Tech (First Four Semesters)

Sri Raghavendra Memorial Prize ME04B055 Srilakshmi L

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

Rajalaskhmi Krishnamurthy English Prize EE04B081 Kedar Prakash Mavinkurve

M.Tech (First Two Semesters)

Prof N Venkatarayulu Memorial Prize ME05M007 M Balaji
ME05M017 Obulesu Chatakonda (Joint winners)

M.Sc. (First Two Semesters)

Chilukuri Ramasastry Memorial Prize PH05C018 Pradip Kumar Pradhan
(A Silver Medal & Cash Award of
Rs.1,500/-)

R Padmanabhan Memorial Prize CY05C002 Animesh Samanta
CFD Award OE05D011 Sri V Sriram
(Silver Medal & Cash Award of
Rs.5,000/-) O.cean Engg. Dr S A Sannasiraj, Associate Professor,
Ocean Engg. Dr V Sundar, 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 2007.

1	EE06B018	Kishore J	15	CS06B014	Padhy Amit
2	EE06B015	Harish R	16	CS06B024	Ujjwal Goel
3	CS06B003	Aditya Shankar	17	EE06B046	Vishal Chandrasekar
4	EE06B004	Arjun Kumar	18	EE06B038	Sathish T
5	CS06B010	Kumar Anand	19	EE06B045	Vikram S
6	CS06B018	Raghav Mishra	20	EE06B031	Rakesh M
7	CS06B013	Neeharika Jana	21	CS06B028	Boddapati Laalithya
8	CS06B037	Wilson Sunny Philip	22	EE06B047	Yashashvi Takallapalli
9	CS06B002	Aditya Gangipamula V	23	EE06B044	Vignesh Gurudutt Shenoy
10	CS06B025	Vasanth Kumar R	24	EE06B028	Raghunandan S
11	CS06B016	Prabhat Jain	25	EE06B008	Ashish Gupta
12	CS06B006	Anirudh S K	26	ME06B048	Vikramaditya A Devaraj
13	CS06B004	Akash Gautam	27	EE06B021	Lokeswara Reddy C
14	CS06B021	Siddharth R	28	EE06B014	Ganesh N

4.1 DEPARTMENT OF AEROSPACE ENGINEERING

4.1.1 Introduction:

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

4.1.2 Academic Programmes:

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

New Courses Introduced:

S.No.	Course No.	Title
1	AS 530	Physical Gas Dynamics
2	AS597	Structural Dynamics and Aero elasticity
3.	AS543	Stability

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	18	22	20	20	01	81
Dual Degree	14	11	10	12	08	55
M.Tech.	20	14	--	--	--	34
M.S.	04	06	06	08	02	26
Ph.D.	04	11	02	07	05	29
Total	60	64	38	47	16	225

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

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conf./ Seminar/ Symposia	Date & Venue
(i)	Conference:			
1.	Mr. Sumit Verma Ph.D. Scholar	International Conference	VI International High Energy Materials Conference and Exhibit	Between 13 th and 15 th December 2007 at Tagore Engg. College, Chennai
2.	Chenthil Kumar	National Conference	ICTACEM 2007	December 27-29 IIT Kharagpur
3.	C. Palani Kumar	International Conference	HEMCE 2007	Between 13 th and 15 th December 2007 at Tagore Engg. College, Chennai

4.1.3 Faculty and their activities:

Faculty:

Sl. No.	Name and Qualification	Major Area of Specialization
1.	Gokhale S. S., Ph.D. (Univ. of Illinois, USA) Director, VNIT Nagpur	Aircraft and missile propulsion, computational methods, simulation and optimization, computer aided instructions
2.	Job Kurian, Ph.D., (IIT Madras)	Gas Dynamics, Combustion, Shock tube flows and measurements
3.	Santhakumar S., Ph.D., IIT Madras	Aerodynamics, flight mechanics, instrumentation
4.	Tulapurkara E.G., Ph.D., IIT Madras – Emeritus Fellowship	Aerodynamics, Fluid mechanics, turbulent flows, CFD
5.	Ramakrishna M., Ph.D., Univ. of Texas at Arlington	Fluid Mechanics, numerical methods, computer solutions
6.	Sriram P., Ph.D. Georgia Inst. Of Technology	Structural mechanics, fatigue & fracture, Parallel computing
7.	Bhaskar K., Ph.D., (IIT Madras)	Structural mechanics, Plants & Shells, composite structures
8.	Sujith R.I., Ph.D., Georgia Inst. Of Technology	Acoustics and combustion Instability Optical Flow Diagnostics
9.	Panchapakesan N.R, Ph.D Cornell University, USA	Fluid Mechanics, Stability and Transition of Fluid Flows, Turbulence.
10.	Chakravarthy., S.R. Ph.D., Georgia Inst. Of Technology	Propulsion, Combustion & Fluid Mechanics
11.	R. Velmurugan., Ph.D. , IIT Delhi	Composite Structures Analysis and Design, Impact Mechanics, 3-D Composites
12.	Luoyi Tao, Ph.D. University of Pittsburgh	Continuum mechanics and its applications (fluids, solids, multiphase flows, etc.)
13.	Rajan S.C, M.Tech. IIT Madras	Aerodynamics, Theory and Computation of Vortex Dominated Flows
14.	H.S.N. Murthy, Ph.D Purdue University	Fatigue and Fracture, Non-destructive evaluation, Tribology, Advanced Materials., Elasticity
15.	Amit Kumar, Ph.D Case Western Reserve Univ.	Combustion, Propulsion, fine research, CFD
16.	K.V. Nagendra Gopal, Ph.D. Ph.D. (Aero) Indian Institute of Science	Computational Mechanics and Multi-scale Modelling, Fracture Mechanics, Structural Dynamics and Aeroelasticity
17.	P.A. Ramakrishna, Ph.D., Indian Institute of Science,	Combustion, Propulsion & Fuel Cells
18.	Nandan Kumar Sinha, Ph.D IIT Bombay	Non linear dynamics, Bifurcation Theory and Continuation methods, Flight Dynamics and Controls
19.	T.M. Muruganandam Ph.D., Georgia Institute of Technology	Combustion, Blowout dynamics, Optical diagnostics, Spectroscopic methods, Vortex breakdown, Dynamics of mode shifting
19.	Dr. Sunetra Sarkar, Ph.D. Indian Institute of Science	Unsteady Aerodynamics, Biomimetic Flows, Particle Techniques

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

S. No.	Co-ordinators	Title	Period
(i) Conference:			
1.	Prof. Job Kurian	59 th Aeronautical Society of India General Body Meeting	Feb. 1-2, 2008.
(ii) Short term Course:			
1.	Prof. E.G. Tulapurkara	Basic Equation and Modeling of Turbulent Flows during short term course on Turbulent Flows organized by CFD Centre, IIT Madras	Jun. 4-8, 2007
2..	HAL Management Trainees (Technical) Program		Jun. 25-30, 2007
3.	Dr. H.S.N. Murthy Dr. K.V.N. Gopal	AICTE - STTP on Mechanics of Fracture and Fatigue,	

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) Seminar:			
1	Prof. Job Kurian	IT in Aviation organized by the Aeronautical Society of India, Chennai Branch and the Department of Aerospace Engineering, IIT Madras	25 th Nov. 2007
(ii) Conference			
1	Dr. P.A. Ramakrishna	Attended the High Energy Materials Conference and Exhibit at Tagore Engg. College, Chennai	Dec. 13-15, 2007
2	Dr. E.G. Tulapurkara	Invited talk on 'Euler Equations and Codes' during the 34 th National Conference on Fluid Mechanics and Fluid Power held at BIT Ranchi	Dec. 10-12, 2007
3	Dr. Amit Kumar	4 th HEMCE Conference at Tagore Engg. College	Dec. 13-15, 2007
4	Dr. H.S.N. Murthy	5th International Symposium on Fretting Fatigue (ISFF5), Montreal, Canada	Apr. 24-26, 2007
5	Dr.K.V.N. Gopal	International Conference on Multi-scale Modelling and Simulation (ICMMS 2008) at IISc., Bangalore, India, And presented a paper titled Finite Element Based Aeroelastic Response of Slender Structures using a Cosserat Rod Model	Jan. 2-4, 2008
(iii) Training :			
1	Dr. P.A. Ramakrishna	Final year B.Tech and 4 th year Dual Degree students attended the Flight Test Training programme at IIT Kanpur	Mar. 1-11, 2008
(iv) Short term Course:			
1	Dr. P.A. Ramakrishna	Combustion of Solid Propellants was conducted at SHAR, Sriharkota (ISRO)	Jun. 8-9, 2007

Special Lectures Delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue & Date
1	Dr. S. Santhakumar	Invited talk on "Comments on DATCOM methods of Drag Prediction" in the One DAY Workshop on "DRAG PREDICTION OF AIR VEHICLES"	ADE Bangalore 6-2-08.
2	Dr. E.G. Tulapurkara	Flight Dynamics	Hindustan College of Engg., Chennai on July 16-18, 2007
3	Dr. P.A. Ramakrishna	Activated Charcoal as a burn rate enhancer in composite propellants	HEMRL, Pune on 13 th September 2007
4	Dr R.I. Sujith	Special lecture on Aerospace Technology	Technische Universität München, Germany [May 7, 2007]
5	Dr R.I. Sujith	Special lecture on Aerospace Technology	IIT Bombay, Dept. of Aerospace Engineering [2008 March]
6	Dr R.I. Sujith	Applied Mechanics Colloquium	IIT Madras [2008 March]
7	Dr R.I. Sujith	JNCASR Fluid Mechanics Colloquium	Hyderabad[2007 October]
8	Dr R.I. Sujith	Physics Colloquium	IIT Madras [2007 October]
9	Dr R.I. Sujith	Science Club Chennai	Institute of Mathematical Sciences [2007 July]
10	Dr. R. Velmurugan	FRP composites and applications, Department of Aerospace Engineering,	Satyabama University, Sep. 2007.
11	Dr. R. Velmurugan	Composites Manufacturing Defects, Special Lecture , A 3-day seminar on NDT and evaluation of composite structures, 25-27 Oct. 2007, Dept. of Aerospace Engg.,	MIT, Madras, 2007.
12	Dr. R. Velmurugan	Application of Nano materials in Bio-Technology, National Seminar-cum-workshop on NanoTechnology and Nano Bio Technology, Department of BioTechnology,	Satyabama University, 15 th Feb. 2008.
13	Dr. R. Velmurugan	Nano Materials and structural applications, One day Workshop at Park Engg. College, Department of Mechanical Engg.	Coimbatore, 29 March 2008.

Visits Abroad by Faculty :

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. S. Santhakumar	South Korea	23 to 25 Oct. 2007.	Attended GLOBAL HR FORUM	IIT Madras
2.	Dr. S. Santhakumar	Fukuoka, JAPAN,	27 to 28 Oct. 2007.	Attended UNIVERSITY SUMMIT	IIT Madras

Sl. No.	Name of Faculty	Country Visited	Date	Purpose of visit	Funding from
3.	Dr. Job Kurian	Beijing, China	2 nd to 7 th Sep. 2007	18 th International Symposium on Air Breathing Engines (ISABE)	PCF/Project funds
4.	Dr. R.I. Sujith	Germany	May 2007	Indo German (DST-DFG) Project	DST & DFG
5.	Dr. R.I. Sujith	Italy	May 2007	to Attend the AIAA/CEAS Aeroacoustics Conference and presented a paper	PCF
6.	Dr. R.I. Sujith	USA	Jan. 2008	to attend the AIAA Aerospace Sciences Meeting and Exhibit and presented 3 papers	IIT Madras
7.	Dr. Luoyi Tao	China	30/5/07 to 28/6/07	Consultant to a research project	Peking University

Honours and Awards obtained:

Sl. No.	Name of Faculty	Name of Award	Awarded by	Award for	Date
1.	Dr. R.I. Sujith	INAE Fellowship –	Awarded by INAE –	Excellence in Research –	Oct, 2007

Fellowships of Academies and Professional Societies: Nil

Sl. No.	Name of Faculty	Level	Year of Admission
(i) ISTE/CSI and others:			
1	Dr. R.I. Sujith	INAE Fellow,	year of admission 2008

Journal Editorial Boards

S.No.	Name of faculty	Position	Journal Name
1.	Dr. R.I. Sujith	Editor-in-Chief of International Journal of Spray and Combustion Dynamics Associate Editor: International Journal of Aerospace Engineering	

4.1.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-codinators
1.	Experimental investigation of burn rate enhancement in hybrid rockets	1 years	ICSR	05.00	Dr. P.A. Ramakrishna
2.	Computational studies on regression rate enhancement in hybrid rocket motors	2 years	ARDB	12.36	Dr. P.A. Ramakrishna Dr. Amit Kumar
3.	Numerical Studies on coke deposit	1 year	ISRO(LPSC)	03.73	Dr. Amit Kumar

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-codinators
4.	Development and behavior of Polymer Nano composites under dynamic loading conditions in marine atmosphere,	2 years	NRB New Delhi	18.35	Dr. R. Velmurugan
5.	Dynamic response of Nano hybrid Composites due to Impact Loading,	3 years	ARDB	07.20	Dr. R. Velmurugan
6.	Stability Analysis of Large Solid Rocket Motors	2005 Sept. - 2008 Sept.	ISRO – IIT M Cell	14.40	Dr. R.I. Sujith
7.	Impedance Tube Technique for the Measurement of Driving Provided by Solid Propellants During Combustion Instabilities	2005 Oct. - 2008 Oct.	ISRO – IIT M Cell	37.26	Dr. S. R. Chakravarthy
8.	Investigation of the Behaviour of Sprays in an Acoustic Field	2006 Sept.- 2009 Sept.	ARDB	15.90	Dr. S. R. Chakravarthy
9.	Investigation of Combustion Instability in Bluff Body Stabilized Afterburners / Ramjet Combustors	2006 Sept- 2009 Sept	ARDB	17.65	DR. R.I. Sujith/Dr. S.R. Chakravarthy
10.	Fund for Improvement of Infrastructure for Science & Technology (FIST)	2006 Mar.- 2011 Mar.	DST	55.00	Dr. R.I. Sujith/ Prof. Job Kurian
11.	Analysis and Identification of Local and Global Nonlinearities in Thermo-acoustic Systems	2006 Oct.- 2008 Oct.	DST-DFG	02.48	Dr. R.I. Sujith/ Dr. W. Polifke, TU Munich, Germany
12.	Investigation of Nonlinearities in Thermoacoustic Systems	2007 Oct. - 2010Oct.	DST	26.95	Dr. T. M. Muruganandam
13.	Investigation of Combustion Instability in Bluff-Body Stabilized Ramjet/Afterburner Combustors	Sep. 06 Sep. 09	ARDB	17.65	DR. S.R. Chakravarthy / R. I. Sujith
14.	Impedance Tube Technique of Driving Provided by Solid Propellants During Combustion Instabilities	Nov. 05 - Nov. 08	ISRO-IIT(M) STC Cell	18.06	DR. S.R. Chakravarthy / R. I. Sujith
15.	Piezo-electric Transducers impedance Tube Technique of Driving Provided by Solid Propellants During combustion Instabilities	Nov. 06 - May 09	ISRO	20.30	Dr. S.R. Chakravarthy / Dr. R. I. Sujith

Industrial Consultancy:

S. No.	Name of the Faculty	Title	Industry	Amount
1.	Dr. R. Velmurugan	Development of Composite Cone	RCI Hyderabad	Rs.11.40 Lakhs
2.	Dr. R. Velmurugan	Synthesis and Characterization of Raw Materials for Canister	DRDL, Hyderabad.	Rs 10.08 Lakhs

RBIC:

Sl. No.	Name of Faculty	Title	Duration	Industry	Amount (Rs. in lakhs)
1.	Dr. K.V. N. Gopal	Development of Computational Models for Predictive Analysis of Dynamic Response of Rolling Resistance in Radial Tyres	2 years	MRF	22.00
2.	Dr. K.V. N. Gopal	Constitutive Modelling of Rubber and Simplified Analysis Procedures for Tyre Design	2 years	MRF	13.00
3.	Dr. R.I. Sujith	Acoustic Analysis of a Solid Rocket Motor	2005 Aug- 2007 Aug	DRDL Hyderabad	09.99
4.	Dr. R.I. Sujith/ Dr. S.R. Chakravarthy	Development of a T Burner Facility for Characterization of Oscillatory Combustion Response of Solid Propellants	2005 Aug- 2007 Aug	DRDL Hyderabad	09.91
5.	Dr. R.I. Sujith	Development & Testing of Composite Propellant Formulations for Control Solid Rocket Motors	2005 Sep-2007 Aug	RCI Hyderabad	09.90
6.	Dr. R.I. Sujith	PDPA Characterization of Binder Spray Nozzles for the TEL Process	2005 Oct -2005 Dec	Saint-Gobain France	02.28 (4000 Euro)
7.	Dr. R.I. Sujith/ Dr. S.R. Chakravarthy	Testing of Annular Combustor Components	2007 Apr -2008 Apr	GTRE	09.93
8.	Dr. R.I. Sujith	PDPA Characterization of the Landenberg Injector	2007 Mar -2007 Sep	Saint-Gobain France	02.28 (4000 Euro)
9.	Dr. R.I. Sujith/ Dr. R. Sarathi	Development and Testing of Composite Propellant Formulations for Control of Solid Rocket Motors	Aug. 05 - July 08	RCI	09.90

Research Publications:

Total No. of papers published in Refereed National Journals	:	7
Total No. of papers published in Refereed International Journals	:	13
Total No. of papers presented in National Conference	:	6
Total No. of papers presented in International Conferences	:	17

In Refereed National Journals:

1. Chakravarthy, S. R., Sivakumar, R., and Shreenivasan, O. J., "Vortex-Acoustic Lock-on in Bluff-Body and Backward-Facing Step Combustors," *Sadhana*, Vol. 32, Nos. 1 & 2 (Special Issue on Flow Control and Diagnostics), February-April 2007, pp. 145-154.
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.
3. R Velmurugan and M Buragohain, " Buckling analysis of grid-stiffened composite cylindrical shells", *Journal Aerospace Sciences and Technologies* 59(4), 282-293, 2007.

4. R Velmurugan, J Chandradass, M Ramesh Kumar. "Effect of clay dispersion on Mechanical, Thermal and Vibration properties of glass fiber reinforced vinyl ester nano composites", *Journal of Aerospace Sciences and Technologies*, 1-9, Feb. 2008.
5. R Velmurugan and N K Gupta, "Perforation of Layered Composite Plates by Impactors of Different Nose Shapes", *Defence Science Journal*, 227-237, March 2008.
6. P.A. Ramakrishna, "Importance of lateral momentum equation to the modeling of sandwich propellant combustion" has been accepted for poster presentation at the 32nd International Symposium on Combustion.
7. P.A. Ramakrishna, "Activated Charcoal as a Burn Rate Enhancer in Composite Solid Propellant" was presented at the VI International High Energy Materials Conference and Exhibit held at Tagore Engg College, Chennai, between 13th and 15th December 2007.

Refereed International Journals

1. 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.
2. Srinivas, V. and Chakravarthy, S. R., "Computer Model of Aluminum Agglomeration on the Burning Surface of a Composite Solid Propellant," *Journal of Propulsion and Power*, Vol. 23, No. 4, July-August 2007, pp. 728-736.
3. Chakravarthy, S. R., Shreenivasan, O. J., Bohm. B., Dreizler, A., and Janicka, J., "Experimental Characterization of Onset of Acoustic Instability in a Non-Premixed Half-Dump Combustor," *Journal of the Acoustical Society of America*, Vol. 122, No. 1, July 2007, pp. 120-127.
4. Banerjee, S. and Chakravarthy, S. R., "Ammonium Perchlorate-Based Composite Solid Propellant Formulations with Plateau Burning Rate Trends," *Combustion, Explosion, and Shock Waves*, Vol. 43, No. 4, July 2007, pp. 435-441 (translated from *Fizika Goreniya i Vzryva*, Vol. 43, No. 4, pp. 7381, July/August, 2007).
5. Sindhu, T. K., Sarathi, R., and Chakravarthy, S. R., "Understanding the Nano-Particle Formation by Wire Explosion Process through Experimental and Modelling Studies," *Nanotechnology*, Vol. 19, No. 2, Jan. 2008 doi:10.1088/0957-4484/19/02/025703).
6. HIRAVENNAVAR S.R, TULAPURKARA E.G, BISWAS G"A note on the flow and heat transfer enhancement in a channel with built-in winglet-pair" *International Journal of Heat and Fluid Flow*, Vol. 28, pp. 299-305, 2007.
7. SRIRAM S, PUSHPAVANAM, S., DESHPANDE, A.P. and TULAPURKARA, E.G. "Experimental and computational investigations of flow in a periodically-driven cavity" in *ICCES online Journal*, Vol.4 , pp. 1-10, 2007.
8. 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*, Volume 44, Issue 10, 15 May 2007, Pages 3136-3155.
9. M Ganesh Babu, R Velmurugan and N K Gupta, Heavy Mass Projectile Impact on thin and moderately thick unidirectional fiber/epoxy laminates, *Latin American journal of Solids and Structures*, 4(3), 247-260, 2007.
10. J. Chandradass, M. Ramesh Kumar and R. Velmurugan , "Effect of nanoclay addition on vibration properties of glass fibre reinforced vinyl ester composites", *Materials Letters*, Volume 61, Issue 22, September 2007, Pages 4385-4388.
11. R. Velmurugan and V. Manikandan , "Mechanical properties of palmyra/glass fiber hybrid composites", *Composites Part A: Applied Science and Manufacturing*, Volume 38, Issue 10, October 2007, Pages 2216-2226.
12. S. Solaimurugan and R. Velmurugan , "Influence of fibre orientation and stacking sequence on petalling of glass/polyester composite cylindrical shells under axial compression", *International Journal of Solids and Structures*, Volume 44, Issue 21, 15 October 2007, Pages 6999-7020.
13. N.K. Gupta, N. Mohamed Sheriff and R. Velmurugan , "Experimental and theoretical studies on buckling of thin spherical shells under axial loads", *International Journal of Mechanical Sciences*, Volume 50, Issue 3, March 2008, Pages 422-432.

In Proceedings of National Conference

1. Paper titled 'Activated Charcoal as a Burn Rate Enhancer in Composite Solid Propellant' was presented at the VI International HEMCE conference and Exhibit held at Tagore Engineering College, Chennai between 13th and 15th December 2007.
2. "Modeling of Deposit Thickness in Rocket Engines with Regenerative Cooling" Proceedings of the 34th National Conference on Fluid Mechanics & Fluid Power.
3. H. Murthy, G. Mseis and T. N. Farris, "Life Estimation of Ti-6Al-4V Specimens Subjected to Fretting Fatigue and Effect of Surface Treatments", Proceedings of 5th International Symposium on Fretting Fatigue (ISFF5), Montreal, Canada, April 24-26, 2007
4. S. Srinivasan, D.B. Garcia, M.C. Gean, H. Murthy and T.N. Farris, "Fretting Fatigue of Laser Shock Peened Ti-6Al-4V", Proceedings of 5th International Symposium on Fretting Fatigue (ISFF5), Montreal, Canada, April 24-26, 2007.
5. N. Hamza and H. Murthy, "Reverse Slip in Remote Stress dominated Cylindrical Contacts", International Conference on Theoretical, Applied, Computational and Experimental Mechanics December 27-29, 2007, IIT Kharagpur, India.
6. R Velmurugan and R.Muralikannan, "Energy absorption characteristics of rectangular aluminium tubes in static and dynamic loading", Nasas 2007, Oct. 2007, Park Engineering College, Coimbatore, 2007.

In Proceedings of International Conference

1. A. Burman, S. R. Mohan, M. Ramakrishna. Improvement of High Alpha Aerodynamics for Compound Delta Wing Aircraft Using Leading Edge Vortex Controller, AIAA 2008-336, 46th AIAA Aerospace Sciences Meeting and Exhibit, 7 - 10 January 2008, Reno, Nevada
2. Raju, K. S., Mahadevan, M., Narasimhan, A., and Chakravarthy, S. R., "Experimental and Analytical Hydrodynamic Studies in Converging Passages Filled with Porous Media," ISHMT-ASME Heat and Mass Transfer Conference, Hyderabad, Jan. 2008.
3. Chakravarthy, S. R., "Experimental Characterization and Numerical Investigation of Fundamental Aspects of Combustion Dynamics," International Workshop on Advances in Combustion Science and Technology, IIT Kanpur, 31 Dec. 2007 - 1 Jan. 2008.
4. Anand, K. V. and Chakravarthy, S. R., "Burning Rate and Agglomerate Size Measurements in Solid Propellants," to be presented in the 6th Asia-Pacific Combustion Conference, Nagoya, Japan, May 20-23, 2007.
5. Jayaraman, K., Anand, K. V., Chakravarthy, S. R., and Sarathi, R., "Production of Nano-Aluminium and its Effect on Burning Rates in Solid Propellant Combustion," presented at the 6th Asia-Pacific Combustion Conference, Nagoya, Japan, May 20-23, 2007.
6. Sandeep, T., Katreddy, R. K., and Chakravarthy, S. R., "External Excitation of Thermal-Diffusive Instability of a Laminar Edge Flame in a Mixing Layer," to be presented in the 6th Asia-Pacific Combustion Conference, Nagoya, Japan, May 20-23, 2007.
7. Chandrasekhar, S. V. and Chakravarthy, S. R., "Response of Non-Premixed Ducted Flame to Transverse Oscillations and Longitudinal Acoustic Coupling," AIAA Paper No. 2007-5655, 43rd AIAA/ASME/SAE/ASEE Joint Propulsion Conference & Exhibit, Cincinnati, Ohio, USA, 8-11 July 2007.
8. Jayaraman, K., Chakravarthy, S. R., and Sarathi, R., "Effect of Nano-Aluminium on Composite Propellant Burning Rate including Catalyzed Formulations," 6th High Energy Materials Conference and Exhibit, Chennai, India, Dec. 2007.
9. M Ganesh Babu, R Velmurugan and N K Gupta, "Effect of Projectile Mass on Fiber Reinforced Epoxy Laminates during Intermediate Velocity Impact", Plasticity and Impact Mechanics 2007, August 2007, Ruhr University Bochum, pp191-199, 2007.
10. S Solaimurugan and R Velmurugan, "Petalling of axially crushed 0/90 glass/polyester composite cylindrical shells", Plasticity and Impact Mechanics 2007, August 2007, Ruhr University Bochum, pp151-159, 2007.
11. S Solaimurugan and R Velmurugan, "Influence of interlaminar fibre orientation on mode I interlaminar fracture toughness of 3-D composites", Int. Conf. on Recent developments in structural Engg., MIT Manipal, PP 276-283, Aug30-Sep01., 2007.

12. B Dhatreji and R Velmurugan, " Non linear analysis of rectangular bars due to torsion ", Int. conference on Computer Aided Engineering, Department of Mechanical Engg., IIT Madras, 2007.
13. KULKARNI, K. BALASUBRAMANIAM and R. I. SUJITH (2008) "The Role of Non-Normality in the Active Control of Combustion Instability", *AIAA Paper Number 2008-1061*, 46th AIAA Aerospace Sciences Meeting, Reno, Nevada, USA, January 7-10.
14. KUMARA GURUBARAN and R. I. SUJITH (2008) "An Experimental Investigation of Non-Evaporative Sprays in Axial Acoustic Fields", *AIAA Paper Number 2008-1046*, 46th AIAA Aerospace Sciences Meeting, Reno, Nevada, USA, January 7-10.
15. MANOHAR A. V, VARUN and R. I. SUJITH (2008) "An Automated Predictor-Corrector Method For Vortex Detection", *AIAA Paper Number 2008-1046*, 46th AIAA Aerospace Sciences Meeting, Reno, Nevada, USA, January 7-10
16. K. BALASUBRAMANIAN and R. I. SUJITH (2007) "Thermoacoustic Instability in a Rijke Tube: Non-Normality and Nonlinearity", *AIAA Paper Number 2007-3428*, 13th AIAA/CEAS Aeroacoustics Conference, Rome, Italy, from May 21-23.
17. K. ARJUN, K. BALASUBRAMANIAN and R. I. SUJITH (2007) "Asymptotic Solution for One-Dimensional Unsteady Flow in Variable Area Ducts", *AIAA Paper Number 2007-4005*, 37th AIAA Fluid Dynamics Conference and Exhibit, Miami, Florida from June 25-28.

Distinguished Visitors to the Department:

S. No.	Name of the Visitor and Designation	Date of Visit	Purpose of Visit
1.	Dr. Sukumar R. Chakravarthy, Metacomp Technologies, USA	18/10/07	Guest Lecture
2.	Prof. Hamsa Balakrishnan, Assistant Professor of Aeronautics and Astronautics and of Engg Systems, MIT, USA	16/1/08	Guest Lecture
3.	Dr .Rajakumar S.Pant, Associate Professor, Aerospace Engg Dept., IIT Bombay	16/4/08	Guest Lecture

5. Other Activities:

International collaboration achievements by the Department

Student Visit: Priya S visited Technische Universität, Munich, Germany in Oct 2007
 Fatih Selimefendigil from Technische Universität, Munich, Germany visited IIT Madras in Nov 2007

4.2 DEPARTMENT OF APPLIED MECHANICS

4.2.1 Introduction:

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

The Department also offers minor streams to undergraduate students.

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

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

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

4.2.2 Academic Programmes:

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

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

New discipline/branch introduced:

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

New Courses introduced:

Sl. No.	Course No.	Title
1.	AM 547	Analysis and design of smart material structures

New lab(s) established:

Active Materials Structures & Systems Laboratory (AMSS Lab)

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Tech.	18	13	--	--	--	31
M.S.	05	07	04	05	02	23
Ph.D.	04	06	10	06	13	39
Total	27	26	14	11	15	93

Endowment prize instituted:

1. Sushruta Award for best M.Tech student in Biomedical Group
2. Prof. V. Ramamurti Award for best Ph.D thesis

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
Abroad					
1.	Mr. K. Ashokan	AM04D001	13 th Intl. conf. on Experimental Mechanics	July 1-6, 2007, Greece	Institute, CSIR, IIT Alumni
2.	Ms. Indira Priyadarshini	AM05S009	13 th Intl. conf. on Experimental Mechanics	July 1-6, 2007, Greece	Institute
3.	R. Malathi	AM02D012	ICCMB	Dec.10-12, 2007 NTU, Singapore	Institute
India					
1.	K. Ashokan	AM04D001	9 th ISMQC	Nov.21-24, 2007 IIT Madras	Institute
2.	Mohamad Ghouse Pasha	AM07S002	Computer Aided Engg 2007	Dec.13-15, 2007 IIT Madras	Institute
3.	K. Jayabal	AM05D003	ICTACEM	Dec. 27-29, 2007 IIT Kharagpur	Institute
4.	Rajesh P Nair	AM06D009	ICTACEM	Dec. 27-29, 2007 IIT Kharagpur	Institute
5.	Benolina Neethi Simon	AM06S012	ICTACEM	Dec. 27-29, 2007 IIT Kharagpur	Institute
6.	Raghurajan. R	AM06S012	ICTACEM	Dec. 27-29, 2007 IIT Kharagpur	Institute
7.	B. Anandagopal	AM05M002	ICTACEM	Dec. 27-29, 2007 IIT Kharagpur	Self
8.	Rajesh P Nair	AM06D009	ICMMS 2008	Jan 2-4, 2008 IISc, Bangalore	Institute
9.	Mohamad Ghouse Pasha	AM07S002	ICMMS 2008	Jan 2-4, 2008 IISc, Bangalore	Institute
10.	M.B.Shyamkumar	AM06D00	NCWE 2007	Oct 30 – Nov 2, 2007, SERC, Delhi	Institute
11.	S. Mohamed Yacin	AM07D003	Winter Symposium 2008	Jan 10-12, 2008 CMC Vellore	Institute
12.	K. Jayabal	AM05D003	IIT Madras	7 January 2008	Institute
13.	S. Mohamed Yacin	AM07D003	BMSW08	Feb.27-Mar. 2, 2008 NCBS, Bangalore	NCBS & TIFR
14.	L. Suganthi	AM07D008	BMSW08	Feb.27-March 2, 2008 NCBS, Bangalore	NCBS & TIFR

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

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
1	A. Yezhilarasu	AM06M016	Silver medal / Merit award	Institute Day

4.2.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization (only 3 areas)
Professor:	
Prof. K. Ramesh [Head]	Digital photoelasticity, Fracture Mechanics, Educational Technology
Prof. C. Lakshmana Rao	Fracture mechanics, Modeling of materials
Prof. J. Lakshmaninarasimhan	Fluid Mechanics, Aerodynamics
Prof. J. Raamachandran	Solid Mechanics, Experimental Stress Analysis, Linear & Nonlinear Vibrations, Plates & Shells, Boundary Element Method, Bio-mechanics
Prof. R. Palaninathan	Structural Mechanics, Composites, FEM, Thermal Structures
Prof. M. Ramasubba Reddy	Biosignal and Image Processing, Bio Instrumentation
Prof. M.S. Sivakumar	Smart Materials & Structures, Plasticity
Assistant Professor:	
Dr. Anuradha Banerjee	Fracture Mechanics, Composites
Dr. A. Arockiarajan	Smart Materials, Finite Elements Mesh Free Methods
Dr. A. Baburaj Puthanveettil	Turbulent convection, Interfacial phenomena
Dr. M. Manivannan	Haptics, Medical simulation
Dr. B.S.V. Prasad Patnaik	Flow Control, CFD
Dr. Rinku Mukerjee	Applied Aerodynamics, CFD
Dr. G. Santhanakrishnan	Engineering Mechanics, Rotor Dynamics
Dr. Sayan Gupta	Dynamics & Random Vibration, Structural, Reliability, Probabilistic mechanics
Dr. N. Sujatha	Biomedical Imaging, Speckle Metrology
Dr. S. Vengadesan	Fluid Mechanics, Turbulent flows and modeling, CFD
Adjunct Faculty:	
Dr. V.B.N. Murthy	Plastic Surgery, Diabetic foot
Visiting Faculty:	
Dr. Arun R. Srinivasa	

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

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1.	Dr. Anuradha Banerjee Dr. Sayan Gupta Dr. K. Ramesh	Module on Mechanics of Solids Module on Fracture Mechanics in Technology Appreciation Program for Murugappa group	Sept. – Dec. 2007 IIT Madras
2.	Dr. M. Manivannan	Panacea 08 – Biomedical Workshop and Business competition	Dec. 27 – 29, 2007
3.	Dr. M.S.Sivakumar	Intl. Workshop on Smart Devices : Modeling of Material Systems	Jan. 10-12, 2008
Short term Course:			
1.	Dr. S. Vengadesan	CFD Turbulent Flows and Modeling	June 4-8, 2007
2.	Dr. M. Ramasubba Reddy Dr. M. Manivannan Dr. N. Sujatha	STTP-QIP short term training prog. For Biomedical Engineering Faculty	June 11-12, 2007
3.	Dr. Anuradha Banerjee	Mechanics of fracture and fatigue	June 25-29, 2007
4.	Dr. M.S.Sivakumar	QIP short term course on 'Smart Devices Material Design & modeling'	Jan. 7-12, 2008

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

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	Dr. R. Palaninathan	39 th AIAA Thermophysics conf.	American Institute of Aeronautics & Astronautics, Florida, US.	June 25-28, 2007
2.	Dr. C. Lakshmana Rao	Workshop on Sisal Fiber Technologies for Sustainable rural employment generation	Adv. Materials & Proc. Res. Inst, Bhopal	Feb. 21-22, 2008
3.	Dr. G. Santhanakrishnan	Workshop on Sisal Fiber Technologies for Sustainable rural employment generation	Adv. Materials & Proc. Res. Inst, Bhopal	Feb. 21-22, 2008
4.	Dr. A.P. Baburaj	Assembly, Organization and Propulsion in Complex Systems 2007	IIT Madras	Feb. 22-24, 2007
Seminar:				
1.	Dr. M. Manivannan	India and MIT : A conversation about the future	New Delhi	19 Nov. 2007
2.	Dr. Arun R. Srinivasa Dr. M.S. Sivakumar	National seminar on health monitoring of structures	Kongu Engg College, Erode	Feb 14-15, 2008
Conference:				
1.	Dr. K. Ramesh	13 th Intl Conf. on Experimental Mechanics	Alexandroupolis, Greece	July 1-6, 2007
2.	Dr. A.P. Baburaj	EUROMECH 493 Interface dynamics, stability and fragmentation	Grenoble, France	Aug. 29-31, 2007
3.	Dr. S. Vengadesan	7 th Asian Computational Fluid Dynamics Conf.	IISc, Bangalore	Nov. 26-30, 2007

Sl. No.	Name of faculty	Title	Institution	Period
4.	Dr. Anuradha Banerjee	ICTACEM 2007	IIT Kharagpur	Dec. 27-29, 2007
5.	Dr. C. Lakshmana Rao	Intl. Conf. on Multiscale modeling and simulations	IISc Bangalore	Jan. 2-4, 2008
Short term Course:				
1.	Dr. A. Arockiarajan	Smart Materials - An Overview	IIT Madras	7 Jan. 2008
2.	Dr. M.S. Sivakumar	Fundamental relationships in electrostatics and magnetostatics	IIT Madras	7 Jan. 2008
3.	Dr. M.S. Sivakumar	General Modeling Strategies for Smart components	IIT Madras	8 Jan. 2008
4.	Dr. M.S. Sivakumar	Shape memory alloy modeling	IIT Madras	8 Jan. 2008
5.	Dr. A. Arockiarajan	A peep into modeling ferroelectric and non linear phenomena	IIT Madras	9 Jan. 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. Prasad Patnaik, BSV	Understanding and control of vortex structures	NUS, Singapore	12 July 2007
2.	Dr. Prasad Patnaik, BSV	Control of bluff body wakes and vortex shedding	CFD Centre Meeting, IIT M	24 July 2007
3.	Dr. A.P. Baburaj	High Rayleigh number convection driven by concentration differences	LEGI-CNRS Grenoble	26 July 2007
4.	Dr. M. Manivannan	Advances in medical engineering	Sairam Engg College, Chennai	16 Dec. 2007
5.	Dr. M. Manivannan	Haptics and surgical simulations	Science Club meet in CLRI, Chennai	2 Feb 2008
6.	Dr. M.S. Sivakumar	Smart Systems – An overview	Kongu Engg College, Erode	14 Feb 2008
7.	Dr. M.S.Sivakumar	Shape memory alloys a wonder alloy	Kongu Engg College, Erode	14 Feb 2008
8.	Dr. Arun R. Srinivasa	An introduction to the design methodology	Kongu Engg College, Erode	14 Feb 2008
9.	Dr. A.P. Baburaj	The fascination of fluids : an invitation to Academics	Govt Engg College, Trissur	25 Feb 2008
10.	Dr. M. Manivannan	Advances in medical simulation	SRM Medical college, Chennai	29 Feb 2008
11.	Dr. M.S. Sivakumar	Smart material systems	NIT Trichy	6-8 Mar 2008
12.	Dr. Arun R. Srinivasa	Designing with smart materials	NIT Trichy	6-8 Mar 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. R. Palaninathan	USA	25-28 June 2007	Paper presentation	Self
2.	Dr. A.P. Baburaj	France	May-July 2007	Visiting Faculty & Invited talk	--
3.	Dr. Prasad Patnaik, BSV	Singapore	15 th June – 14 th July 2007	Visiting Scientist & Invited talk	NUS
4.	Dr. K. Ramesh	Greece	1-6 July 2007	Editorial board meeting of Strain	Institute

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr. K. Ramesh	e-Book on Engineering Fracture Mechanics	IITM	--

Journal Editorial Boards/ Membership:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name / Board
1.	Dr. M. Ramasubba Reddy	Member	Board of Research Studies, Sri Ramachandra University
2.	Dr. K. Ramesh	Editorial Board Member	Strain
3.	Dr. K. Ramesh	Member	Academic Council SCSVMV University, Ennathur
4.	Dr. C.Lakshmana Rao	Member, Academic Audit	NIT, Trichy
5.	Dr. M.Ramasubba Reddy	Member, Board of Studies	Sri Padmavati Mahila Visvavidyalayam, Tirupati
6.	Dr. M. Ramasubba Reddy	Member of Interview Board	UPSC, New Delhi
7.	Dr. J. Raamachandran	Member, Editorial Board	Journal of Mechanics of Continua & Mathematical Sciences, 2008.

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. In lakhs)
1.	Conductivity measurement system	01.50
2..	Data acquisition system	01.25

4.2.4 Research and Consultancy:**Sponsored Research Projects:**

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lakhs)	Co-ordinators
1.	Characterization of polymeric piezoelectric thin films used as sensors in Aerospace applications.	2 years	ARDB	23.00	Dr. C.Lakshmana Rao Dr. Anuradha Banerjee Dr. M.S. Sivakumar
2.	Diagnosis through three radial artery pulse	3 years	DBT	13.25	Dr. M. Manivannan
3.	Isoclinic unwrapping and colour adaptation in digital photoelasticity	2 years	ISRO	07.74	Dr. K. Ramesh

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lakhs)
1.	Dr.S.Vengadesan Dr.M.S.Sivakumar	Testing of Lubrication in Bearings	M/s Tech Passion, Chennai	0.19
2.	Dr.S.Vengadesan Dr.B.V.S.S.S.Prasad	Air flow through False tiles	M/s HiTech office system	0.50
3.	Dr. K. Ramesh	Stress Analysis of Chains, Phase I	TI Cycles	0.90

RBIC projects:

SI.No.	Name of faculty	Title	Industry	Amount (Rs. In lakhs)
1.	Dr. M.S.Sivakumar Dr. Abhijit Deshpande	Mathematical modeling of SMPs and preparation of material design guidelines	General Motors	16.00

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

SI.No.	Name of faculty	Exchange Programme	Institute	Name of the Scholar
1.	Dr. M. Manivannan	Master Student Exchange	EPFL, Switzerland	Marco Martin

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals:	--	5
Total No. of papers published in Refereed International Journals:	--	17
Total No. of papers presented in National Conferences:	--	1
Total No. of papers presented in International conferences:	--	9

In Refereed National Journals:

SI.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Dr. S. Vengadesan	Hybrid LES – Review & assessment	Sadhana, Vol.32, pp501-511, 2007.
2.	Dr. K. Ramesh	Photoelasticity - Current practice and Recent developments	Annals of the Indian National Academy of Engg, Vol.IV, pp 111-120, 2007.
3.	Dr. K. Ramesh	Assessment of autonomous phase unwrapping of isochromatic phase maps in digital photoelasticity	Sadhana, 33(1), 27-44, 2008.
4.	Dr. K. Ramesh	Stress separation in digital photoelasticity Part B – Digital implementation of shear difference	Journal of Aerospace Science & Technologies, 60(1), 16-25, 2008.
5.	Dr. K. Ramesh	Stress separation in digital photoelasticity Part A – Photoelastic data unwrapping and smoothing	Journal of Aerospace Science & Technologies, 60(1), 5-15, 2008.

In Refereed International Journals:

SI.No.	Name of the faculty	Title of the paper	Name of the Journal
1.	Dr. K. Ramesh	New initiatives on comparison of whole-field experimental and numerical results	Strain, Black well publishing Ltd, Vol.43, pp. 119-124.
2.	Dr. K. Ramesh	New initiatives on comparison of whole-field experimental and numerical results	Strain, 43(2), 119-124, 2007.
3.	Dr. K. Ramesh	Colour adaptation in three fringe photoelasticity	Experimental Mechanics, 47(2), 271-276, 2007.
4.	Dr. K. Ramesh	Plotting of isoclinic phasemap from finite element results and its use in digital photoelasticity	Applied Mechanics and Materials, 7-8, 89-94, 2007.
5.	Dr. M.S. Sivakumar	Non-uniform heat generation in rods with hysteretic damping	Intl. Journal of sound and vibration, 302 (4-5), pp 892-902, 2007.
6.	Dr. M.S.Sivakumar	A combined r-h adaptive strategy based on material forces and error assessment for plane problems and biomaterial interfaces	Computational Mechanics, Vol.41, No.1, Pages 49-72

Sl.No.	Name of the faculty	Title of the paper	Name of the Journal
7.	Dr. M.S.Sivakumar Dr. Arockiarajan	Two models to simulate rate-dependent domain switching effects application to ferroelastic polycrystalline ceramics	Smart Materials & Structures
8.	Dr. M.S. Sivakumar	Structural arrangement effects of mineral platelets on the nature of stress distribution in bio-composites	Computer modeling in Engg & Sciences
9.	Dr. M.S. Sivakumar Dr. C.Lakshmana Rao	Design and testing of a pvdf hydrophone	Intl. J. COMADEM
10.	Dr. S. Vengadesan	Flow characteristics behind rectangular cylinders placed near a wall	Numerical heat transfer- Part A, Vol.57, 22, 2007
11.	Dr. S. Vengadesan	Interference effect of two equal size square cylinders in tandem arrangement : with planer shear flow	IJNMF, Online, 2007
12.	Dr. M. Manivannan	Rendering stiffer walls : A hybrid haptic system using continuous and discrete time feedback	Advanced robotics vol. 21, no. 11 August 2007
13.	Dr. M. Manivannan	Spectral analysis of EEG signals during Hypnosis	IJSCI, no. 9, 75-80, Oct 2007
14.	Dr.M.S.Sivakumar Dr. A.R. Srinivasa	On smeared and micromechanical approaches to modeling martensitic transformations in SMA	Intl. J. of Nonlinear Analysis : Real world applications
15.	Dr.C.Lakshmana Rao Dr. M.S.Sivakumar	Modeling of the visco-elastic properties of PVDF through the fractional differential model	COMADEM Vol. 11(1), pp 2-8
16.	Murukeshan, V. M., Sujatha, N.,	Ong, L. S., Sing. A. and Seah, L. K. (2007) Effect of image fiber on speckle fringe pattern in image fiber guided DSPI endoscopy.	Optics and Laser Technology, 39 (3), pp. 527-531.
17.	Murukeshan, V. M. and Sujatha, N. Unni.	All fiber optic based multi-speckle modality endoscopic system for imaging medical cavities (2007)	Review of Scientific Instruments, 78 (5), pp. 053106-1 to 053106-8.

In Proceedings of National Conferences:

Sl.No.	Name of the faculty	Title of the paper	Institution	Period
1.	Dr. S.Vengadesan	Large EDDY simulation of the high Reynolds number flow past two square cylinders in side by side arrangement, NCWE 2007	SERC, Delhi	30 th Oct – 1 st Nov 2007

In Proceedings of International Conferences:

Sl.No.	Name of the faculty	Title of the paper	Institution	Period
1.	Dr. K. Ramesh	Smoothing of digital photoelastic data using robust outlier algorithm	Alexandroupolis, Greece	1-6 July 2007
2.	Dr. K. Ramesh	Digital photoelastic evaluation of isochromatic fringe order in a 3D model of complex rocket motor strap-on joint.	Alexandroupolis, Greece	1-6 July 2007
3.	Dr. Puthenveetil, B.A & Hopfinger, E.J.	Drop ejection from parametrically forced capillary-gravity waves	EUROMECH	29 – 31 August 2007
4.	Dr. K. Ramesh	Plotting of isoclinic phasemap from finite element results and its use in	Univ of Manchester, UK	4-6 Sep. 2007

Sl.No.	Name of the faculty	Title of the paper	Institution	Period
		digital photoelasticity		
5.	Dr.S.Vengadesan	Numerical investigations of interference effects on wind forces on square prismatic cylinders in side-by-side arrangement	SERC, Chennai	Oct 30 – Nov. 2, 2007.
6.	Dr. K. Ramesh	Smoothing of isochromatic data of stereo-lithography built spline shaft	IIT Madras	Nov.21-24, 2007.
7.	Dr. K. Ramesh	For evaluation of stress intensity factors for Bi-material interfacial crack problems	IIT Kharagpur	Dec. 27-29, 2007
8.	Dr. K. Ramesh	Numerical and digital photoelastic assessment of bi-material interfaces in electronic packages	IIT Kharagpur	Dec. 27-29, 2007
9.	Dr. R. Palaninathan	Studies on metallic thermal protection system	IIT Kharagpur	Dec. 27-29, 2007

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. P. Nithiarasu	21.05.2007	Talk on Electro-smotic flow through micro-channels
2.	Dr. Arnab Roy	18.06.2007	To visit the FM lab.
3.	Mr. Krishna Jonnalagadda, Univ. of Illinois	06.09.2007	Guest Lecture
4.	Prof. Alireza Baghai-Wadji, RMIT Univ, Australia	20.09.2007	Guest Lecture
5.	Dr. S. Ramakrishnan, Anna University	21.11.2007	Guest Lecture
6.	Dr. S. Viswanath, Dy. Dir, (Retd), NAL, Bangalore	23.11.2007	Guest Lecture
7.	Dr. A. Sameen, Intl. Centre for Theoretical Physics, Italy	03.01.2008	Guest Lecture
8.	Prof. U.Gopala Rao, John Hopkins University	07.01.2008	Guest Lecture
9.	Dr. Vidyashankar Buravalla, ISL, Bangalore	09.01.2009	Guest Lecture
10.	Dr. Kaushik S.Das, Univ. of Pennsylvania	09.01.2008	Guest Lecture
11.	Prof. K.R. Rajagopal, Texas A&M Univ, USA	10.01.2008	Intl. Workshop
12.	Dr.A.R. Upadhyya, National Aerospace Lab.	10.01.2008	Intl. Workshop
13.	Dr. P.D. Mangalgiri, GM, R&D, India	10.01.2008	Intl. Workshop
14.	Prof. Prakash Thamburaja, NUS, Singapore	10.01.2008	Intl. Workshop
15.	Prof. Srikanth Vedantam, NUS, Singapore	10.01.2008	Intl. Workshop
16.	Prof. Arun Srinivasa, Texas, A&M Univ, USA	10.01.2008	Intl. Workshop
17.	Prof. Roy D. Mahapatra, IISc, Bangalore	10.01.2008	Intl. Workshop
18.	Prof. Hui Hui Dai, Univ of Hong Kong	10.01.2008	Intl. Workshop
19.	Dr. G.N. Dayananda, NAL, India	10.01.2008	Intl. Workshop
20.	Prof. S. Krupanidhi, IISc, Bangalore	12.01.2008	Intl. Workshop
21.	Prof. Binu Mukherjee, Royal Military college of Canada	12.01.2008	Intl. Workshop
22.	Dr. D.D. Ebenezer, Naval physical and oceanographic laboratories, India	12.01.2008	Intl. Workshop
23.	Dr. S.Sen and Dr. A. Sen, Central Glass and Ceramic Res. Institute, India	12.01.2008	Intl. Workshop
24.	Dr. Prashant Purohit, Univ. of Pennsylvania	17.01.2008	Guest Lecture
25.	Dr. S.Madhusudana Rao, Univ. of Mississippi	31.01.2008	Guest Lecture

Other Activities of the Department/Centre:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name / Board
1	Dr. M. Ramasubba Reddy	Member	Board of Research Studies, Sri Ramachandra University
2	Dr. K. Ramesh	Member	Academic Council SCSVMV University, Ennathur
3	Dr.C.Lakshmana Rao	Member, Academic Audit	NIT, Trichy
4	Dr. M.Ramasubba Reddy	Member, Board of Studies	Sri Padmavati Mahila Visvavidyalayam, Tirupati
5	Dr. M. Ramasubba Reddy	Member of Interview Board	UPSC, New Delhi
6	Dr. J. Raamachandran Dr. S. Radhakrishnan Dr. R. Palaninathan Dr. J. Lakshminarasimhan	Re-employed	
7	Dr.Arun R. Srinivasa	Visiting Professor, Jan. – May 2008	
8	Dr. M. Manivannan	Visiting Faculty, CMC Vellore	

Inter disciplinary group achievements of the Departments.

Introduction of Clinical Engineering in collaboration with CMC Vellore & Sri Chithirai Thirunal, Trivandrum.

International collaboration achievements by the Department**Student visit**

Sl.No.	Name of faculty	Exchange Programme	Institute	Name of the Scholar
1.	Dr. M. Manivannan	Master Student Exchange	EPFL, Switzerland	Marco Martin

Faculty visit - Dr. A.P. Baburaj was a visiting faculty in LEGI-CNRS in Grenoble France from 1.06.07 to 31.07.07

- Dr. Prasad Patnaik was invited as Visiting Scientist & for invited talk from 15 June – 14th July 2007.

Major infrastructure development made in the Department

Closed circuit wind tunnel which remained inactive in the last ten years has been reactivated through FIST project.

4.3. DEPARTMENT OF BIOTECHNOLOGY

4.3.1 Introduction:

The Department of Biotechnology came into formal existence in 2004. The first batch of B.Tech. students graduated in July 2006, and the first dual degree batch graduated in July 2007.

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 (Cancer and Cardiovascular aspects) and Bioprocesses. The Department has 22 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. In addition, we play a major role in the new, multi-institute M.Tech. (Clinical Engineering) and Ph.D. (major: Biomedical Devices and Technology) programmes begun in collaboration with Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum and Christian Medical College, Vellore. 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. The M.Tech. (Clinical Engineering) programme is designed to suitably train students to address the complete management of the technology aspects in a hospital as well as the Medical Technology needs of the country.

4.3.2 Academic Programmes:

New discipline/branch introduced:

M.Tech. in Clinical Engineering and Ph.D. (major: Biomedical Devices and Technology) programmes in collaboration with Departments of Management Studies and Applied Mechanics at IIT Madras as well as with Sree Chitra Tirunal Institute of Medical Sciences and Technology, Trivandrum and Christian Medical College, Vellore.

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	22	27	28	32	05	114
Dual Degree	12	13	15	16	09	65
M.Tech.	--	12	--	--	--	12
M.S.	03	03	08	06	01	21
Ph.D.	13	19	10	23	12	77
Total	50	74	61	77	27	289

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. M. Sivakumar	BT05D004	The 5th International Conference on Materials Processing for Properties and Performance (MP3)	11th – 15 Dec 2006, Grand Copthorne Waterfront Hotel, Singapore	Project
2.	P. M. Sivakumar	BT05D004	Optimizing Drug Therapy: An Imperative for World Health	20th -25th Apr. 2007, RAI center, Amsterdam, The Netherlands	IITM and alumni association

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
3.	T. Vajayanthi		Biotrans 2007	8th -13th July 2007, Oveido, Spain	IITM Alumni Association
4.	D. Titu	BT04D014	Biotrans 2007	8th -13th July 2007, Oveido, Spain	IITM Alumni Association
India					
1.	M. Madhupriya	BT06S002	International Neuroscience Conference	November, 2007, BHU	IITM
2.	B.Kiranmayee S.Santosh	BT04S003 BT06S005	INSA-CAS Workshop on Structural Biology	21st-23rd Dec. 2007, IISc Bangalore	DST
3.	B.Kiranmayee	BT04S003	International Symposium on Recent Trends in Macromolecular Structure and Function	7th -11 th Feb 2008, University of Madras	IIT Madras
4.	B.Kiranmayee	BT04S003	CCP4 workshop on Protein Crystallography	18-22 nd Feb 2008, IISc Bangalore	DST
5.	N.Kamesh	BT05S005	International Conference on Bioinformatics	20-22 nd Dec 2007, University of Hyderabad	DBT
6.	Senthil Kumar	Project staff	International Society of Heart Research	29 th Feb- 2 nd Mar, 2008. PGIMER, Chandigarh.	IDRP
7.	A.Trishul	BT05D001	7th Asia Pacific Marine Biotechnology Conference	02 -05 Nov. 2006, Regional Centre, NIO, Kochi,	IITM
8.	M. Sudhakar		7th Asia Pacific Marine Biotechnology Conference	02 -05 Nov. 2006, Regional Centre, NIO, Kochi,	Project .
9.	A.Trishul	BT05D001	International conference on antifouling technology	NIOT, Chennai - 306, India 06 -08 November 2006	IITM
10.	M. Sudhakar		International conference on antifouling technology	NIOT, Chennai - 306, India 06 -08 November 2006	Project
11.	M. Sudhakar		International conference on antifouling technology	6th -8 th Nov. 2006, NIOT, Chennai	Project
12.	P. M. Sivakumar	BT05D004	International conference on New horizons In Biotechnology (NHBT 2007)	26th -29 th Nov. 2007- NIIST, Trivandrum	IITM
13.	P. M. Sivakumar	BT05D004	International conference on Bioinformatics	18th -20th Dec. 2006, New Delhi	Ranbaxy

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
14.	P. K. Prabhakar	BT06D001	12 th International Conference on the Interface of Chemistry-Biology in Biomedical Research 2008	22nd -24th Feb. 2008, BITS-Pilani	IITM
15.	Sri Lakshmi Puliga		International Conference (Indo-Swedish) on Biotechnology for Sustainable Development (BSD)	2008, NCL, Pune	Project
16.	Ambika Arkatkar		International conference on New horizons In Biotechnology (NHBT 2007)	26-29 th Nov 2007, NIIST, Trivandrum	Project
17.	Hema Ishwarya	BT05D007	National conference on Health care Biotechnology	20th -21st April 2007, IISC Bangalore	UGC
18.	Anand P Khandwekar	BT06D013	National conference on medical material (NCMM) 2007	13-14 th Dec 2007, IIT Madras	NA
19.	J. Arutchelvi	BT08D008	5 th National Conference of Indian Association of Applied Microbiologists	11th-12 th Jan. 2007, Kanchipuram	Project
20.	Hema Ishwarya	BT05D007	Chemical Biology: its Impact on drug discovery and development	46. 29 th Jan, 2008 Institute of Life Sciences, Hyderabad	Institute of Life Sciences (Hyderabad)
21.	P. K. Prabhakar	BT06D001	Chemical Biology: its Impact on drug discovery and development	46. 29 th Jan, 2008, Institute of Life Sciences, Hyderabad	Institute of Life Sciences (Hyderabad)
22.	P. K. Prabhakar	BT06D001	Continuing medical education on cardiac cell therapy	16 th Feb 2008, IIT Madras	NA
23.	Dilip Kumar Bishi	BT05M011	IX national Conference Hospital Infection Society of India	15th -18th Feb. 2007 Govt Medical College Hospital, Chandigarh	Self
24.	Bijesh Biswal	BT04D007	75th annual meeting of the Society of Biological Chemists	8th -11th Dec. 2006	CSIR Contingency
25.	D. Santhosh Kumar	BT05D019	International Conference on Biotechnology for sustainable development	7th -9th Jan. 2008, NCL, Pune	Institute
26.	D. Titu	BT04D014	2 nd Mid Year symposium of the Chemical Research Society of India	21 st July, 2007, IIT Guwahati	IIT/Project
27.	V. Prasanna Kumar		9 th National Symposium in Chemistry	1st- 4th Feb. 2007, CRSI, University of Delhi	IIT/Project
28.	Renny Edwin Fernandez		Proc. IWPSD	16th -20th Dec. 2007, Mumbai	IIT/Project

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
29.	V. Hareesh		Proc. of IUMRs-ICAMS 2007; Intl. conference on advanced materials	8th-13th Oct. 2007, Bangalore	IIT/Project
30.	Sujoy Bera	BT06S001	Annual Conference of the Association of Microbiologists of India	18th – 21 st Dec, IIT-Madras	IIT/Project
31.	Shashibala Prasad	BT05D016	Annual Conference of the Association of Microbiologists of India	18th – 21 st Dec, IIT-Madras	IIT/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.	B.Kiranmayee	BT04S003	Best Poster Award	International Symposium on Recent Trends in Macromolecular Structure and Function, University of Madras
2.	Hema Ishwarya	BT05D007	Second Prize-Poster	IcBIO, Bangalore
3.	Sujoy Bera	BT06S001	Best Poster Award in Industrial Microbiology	Association of Microbiologists of India

4.3.3 Faculty and their activities:

Faculty:

Name and Designation	Major area of specialization (only 3 areas)
Balasubramanian Venkatesh, AP	Ergonomics, Biomedical devices, Biomechanics and Psychophysics
Baskar, R, AP	Developmental Genetics
Bera . Amal K., AP	Electrophysiology
Chadha, Anju, Prof.	Biocatalysis & Enzyme Mechanisms; Biodiesel and Biosensors
Chakravarthy, Srinivas. V. AsP	Computational Neuroscience
Chandra, T.S. Prof.	Microbial Biotechnology, Food Biochemistry
Chandraraj, K. AP	Biochemistry, Genetic Engineering
Dixit, Madhulika. AP	Vascular Biology, Molecular and cellular Biology
Doble, Mukesh. Prof.	Biodegradation, Biomaterials
Gopala Krishna, A. AP	Signal Transduction, Protein Biochemistry
Gummadi, Sathyanarayana. AP	Bioprocess Engineering, Caffeine Degradation, Phospholipid Translocators
Jayakrishnan, A. Prof.	Biomaterials Science and Technology
Jayaraman, Guhan. AsP	Biological Engineering; Recombinant Microbial Bioprocesses; Downstream Processing
Karunagaran, D. Prof.	Cancer Biology, Signal transduction, Apoptosis
Kesavan, V. AP	Chemical Biology, RNAi interference and Asymmetric Synthesis
Mahalingam, S. AsP	Molecular Virology, Cancer Biology and Cell biology
Mahapatra, Nitish. AP	Molecular Genetics of Cardiovascular Diseases

Manoj, N. AP	Structural Biology
Ramachandran, K. B. Prof.	Bioprocess Engineering , Bioreactor Design and Analysis, Bio-refinery
Senapati, Sanjib. AP	Computational Biophysics, Computational Green Chemistry
Suraishkumar, G. K. Prof. [Head]	Biochemical Engineering, Reactive Oxygen Species, LPOS
Verma, Rama . S. AsP	Biochemistry and Molecular Biology

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

Sl. No.	Coordinator(s)	Title	Period
Conference:			
1.	Prof. T. S. Chandra (Chairperson) Dr. Rama Shankar Verma, Dr. S. N. Gummadi, Prof. K.B. Ramachandran	48 th Annual Association of Microbiologists of India	Dec. 2007
Seminar:			
1.	Dr. Rama S Verma	Training on Waste Management for R&D Labs in Biotechnology	Sept. 2007
Workshop:			
1.	Dr. B. Sunil Kumar and Dr. Sanjib Senapati	The Interface of Life: An International School on Biomembrane Physics	Jan. 2008
2.	Prof. T. S. Chandra	Co organized Workshop on Bioentreprenuership with BCIL	Sept. 2007
Short term Course:			
1.	Dr. Rama S Verma	CME On "Cardiac Cell Therapy& Failing Heart"	Feb. 2008
2.	Dr. Venkatesh Balasubramanian	Ergonomics in Manufacturing and Product Design	June, 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.	Prof. G. K. Suraishkumar	Curriculum Development for B.Tech., Biotechnology	NIT, Warangal	Oct. 2007
2.	Prof. G. K. Suraishkumar	Curriculum Development for B.Tech., Biotech	NIT, Calicut	Feb. 2008
3.	Dr. Amal K. Bera Dr. A. Gopala Krishna Dr. Nitish R. Mahapatra	Workshop on Cardiovascular Biology	Srichitra Medical Centre, Trivandrum	Nov. 2007
4.	Dr. Nitish R. Mahapatra	DST-PAC Brainstorming Session on "Chemistry-Biology-Medicinal Chemistry interfaces	IIT Madars	Nov. 2007
5.	Dr. Sanjib Senapati	Reverse Micellar Self Assembly and Ligand-induced Protein Motions: Insights from Molecular Dynamics Simulations	JNCASR, Bangalore	Nov. 2007
6.	Dr. N.Manoj	INSA-CAS Workshop on Structural Biology	IISc, Bangalore	Dec. 2007

Sl. No.	Name of faculty	Title	Institution	Period
7.	Prof. D. Karunakaran	UNSW International Research workshop	University of New South Wales, Sydney, Australia	Feb. 2008
8.	Prof. D. Karunakaran	Indo-Canada Workshop	Department of Biotechnology, Government of India	Feb. 2008
9.	Prof.K.B. Ramachandran	Research Opportunities in Industrial Biotechnology	University Technology MARA, Malaysia	Feb. 2008
10.	Dr. S. Mahalingam	International Workshop on Molecular Microbial Pathology	Bharathidasan University, Tiruchirapalli	Mar. 2008
11.	Dr. Rama S Verma	International Workshop on Joint Biology and Disease	Indian Institute of Technology Kanpur	Mar. 2007
12.	Prof. A. Chadha	Indo-China workshop on Science [Biotechnology] policy	JNU, New Delhi	Nov. 2007
13.	Dr. Guhan Jayaraman	Annual Conference of the Association of Microbiologists of India	IIT Madras	Dec. 2007
Seminar:				
1.	Dr. Rama S Verma	National seminar on New Horizons in Biological Sciences	N V Patel Collge of Pure & Applied Sciences, Gujarat And Gujarath State Biotechnology Mission	Sept. 2007
Symposia:				
1.	Dr. Amal K. Bera	American Society for Cell Biology, Washington, USA	---	Dec. 2007
2.	Dr. Amal K. Bera Dr. A. Gopala Krishna Dr. Nitish R. Mahapatra	Joint Annual Meeting of International Society of Heart Research, International Academy of Cardiovascular Sciences and Heart Failure Society of India	Postgraduate Institute of Medical Education and Research, Chandigarh	Mar. 2008
3.	Dr. Sanjib Senapati	In-situ Click Chemistry: An Approach to Synthesize Protein's own Inhibitors	NUS, Singapore	Nov. / Dec. 2007
4.	Dr. G. K. Suraishkumar	Indo-American Frontiers of Engineering Symposium	NAE, USA and Indo-US Forum	Feb./Mar. 2008
5.	Dr. Venkatesh Balasubramanian	Modeling the Cervical Spine for High Fidelity ATD's – Issues and Opportunities	International Symposium on Quality Aspects of FEA & CFD, EDAF-NAFEMS Bangalore	Oct. 2007
Conference:				
1.	D. Karunakaran	76 th Annual meeting of Society of Biological Chemists (India)	SV University, Tirupati.	Nov. 2007
2.	Prof. K.B. Ramachandran	48 th Annual Association of Microbiologists of India	Indian Institute of Technology : Madras	Dec.2007
3.	Dr. Rama S Verma	International Conference on Nanomedicine	Institute of life sciences, Bhuwaneswar	Feb. 2007
4.	Dr. Venkatesh Balasubramanian	International Ergonomics Conference HWWE 2007	CIAE, Bhopal	Dec. 2007

Sl. No.	Name of faculty	Title	Institution	Period
Training:				
1.	Dr Rama S Verma	Fundamentals of Laboratory Health and safety and Laboratory Design	Indian Institute of Chemical Technology, Hyderabad	June 2006

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. Amal K. Bera	Ion channels and Heart Disease	PGIMR, Chandigarh	2 nd Mar. 2008
2.	Dr. Madhulika Dixit	Chronic Hyperinsulinemia uncovers motogenic ability of Nitric Oxide, BIOINSPIRE Talk	SASTRA University, Tanjavur	Sept. 2007
3.	Dr. N. Manoj	The repertoire of GPCRs in <i>Ciona intestinalis</i> : a comparative genomics perspective	NUS, Singapore	2 nd Dec. 2007
4.	Dr. N. Manoj	Comparative genomics of G protein-coupled receptors in <i>Ciona intestinalis</i>	Bharathiar University	25 th Jan. 2008
5.	Dr. N. Manoj	G-protein coupled receptors in <i>Ciona Intestinalis</i> : A comparative genomics study	Pondicherry University	15 th Feb. 08
6.	Dr. A. Gopala Krishna	Cardiac GPCRs	PGIMER, Chandigarh	2 nd Mar. 2008
7.	Prof. D. Karunakaran	Molecular biology of cancer	Stella Maris college	8 th Jan. 2008
8.	Prof. D. Karunakaran	Role of microRNAs in cancer	University of Kerala, Trivandrum	19 th Jan. 2008
9.	Prof. D. Karunakaran	Molecular Biology of Cancer	DG Vaishnav College, Chennai	28 th Sept. 2007
10.	Prof. D. Karunakaran	Molecular Biology of Cancer	The New College, Chennai	23 rd Aug. 2007
11.	Prof. D. Karunakaran	What is Bioinformatics?	AU-KBC Research Centre, Anna University, Chennai	22 nd May 2007
12.	Prof. D. Karunakaran	Apoptosis induced by phytochemicals: curcumin and emodin	Vivekananda college, Chennai	6 th Dec. 2007
13.	Prof. K.B. Ramachandran.	"Application of Innovative Downstream Processing Techniques for Isolation and Purification of Biomolecules", Seminar on "Biotechnology": UK and Indian Perspectives.	Organized by British Council, Anna University,	11 th and 12 th Sept. 2007
14.	Prof. K.B. Ramachandran	Industrial Biotechnology: Innovations and Development", Symposium on "New Concepts in Biotechnology"	Kalasalingam University	11 th Feb. 2008
15.	Dr. V. Kesavan	Drugging the Un-druggable	National University of Singapore	2 nd Feb. 2007
16.	Prof. Mukesh Doble	Drug design	Chemical engineering department, NUS, Singapore	11 th Nov. 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
17.	Prof. Mukesh Doble	Green chemical reactors	Conf on Green chemistry, UICT, Mumbai	21 st Mar. 2008
18.	Dr. Nitish R. Mahapatra	Chromogranin A is a novel candidate gene for hypertension	PGIMER, Chandigarh	1 st Mar. 2008
19.	Dr. Nitish R. Mahapatra	Principles of Genetic Engineering	Science City, Chennai	6 th Aug. 2007
20.	Dr. Nitish R. Mahapatra	Chromaffin cell biology approach to unravel the molecular and genetic basis of hypertension	Sree Chitra Tirunal Institute for Medical Sciences and Technology, Trivandrum	18 th Nov. 2007
21.	Dr. Rama S. Verma	Molecular Basis of Microbes	National Biological Association for Students	29 th Mar. 2008
22.	Dr. Rama S. Verma	Hazards in waste management	IIT Madras	1 st Oct. 2007
23.	Dr. Rama S. Verma	Drug Delivery; Receptor Mediated Approach	National Institute of Pharmaceutical Education and Research (NIPER)	Dec. 2007
24.	Dr. S.N. Gummadi	Process development for biodegradation of caffeine	J.K.C. college, Guntur	22 nd Feb. 2008
25.	Dr. S.N. Gummadi	Bioprocess Development for Industrial applications	International Conference on New Horizons in Biotechnology (organized by BRSI), Trivandrum	26 th Nov. 2007
26.	Dr. Venkatesh Balasubramanian	Use of Biofeedback to Enhance Simulator Performance and Assist in User Evaluation	Simulator Development Division, Army Training Command, Hyderabad	30 th June 2007.
27.	Dr. Venkatesh Balasubramanian	Bio-signal Based Human System Interface – A RBG Experience	The Frontiers of Dementia Care & Research [13th Congress of the Alzheimer's and Related Disorders Society of India & 1st Congress of the Asian Society Against Dementia	28 th Sept. 2007
28.	Dr. Venkatesh Balasubramanian	Introduction to Biomechanics	Shaastra, IIT Madras,	5 th Oct. 2007
29.	Dr. Venkatesh Balasubramanian	Introduction to Ergonomics	M/s Aqua Pumps, Coimbatore	18 th Feb. 2008
30.	Dr. Venkatesh Balasubramanian	Biomechanical Evaluation of Yoga Asanas	Swami Vivekananda Yoga Anusandhana Samsthana, (Yoga University), Bangalore	1 st Jan. 2008
31.	Dr. Venkatesh Balasubramanian	Introduction to Rehabilitation and Sports Biomechanics	Vellore Institute of Technology	1 st Sept. 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
32.	Prof. A. Chadha	Whole cell deracemisation for the preparation of optically pure alpha- and beta- hydroxy esters Biotechnology, Metal Complexes and Catalysis [BMC-IX]	Inner Mongolia University; Xilinhot; China	2 nd Aug. 2007
33.	Prof. A. Chadha	Priorities in Food Processing using Biotechnological Approaches	DBT, New Delhi	13 th Oct. 2007
34.	Dr. Guhan Jayaraman	Technological Challenges in the Production of Ethanol from Ligno-Cellulosics	Annual Conference AMI IIT-Madras	21 Dec. 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr. Amal K. Bera	USA	Dec. 2007	To attend the American Society for Cell Biology Conference, Washington	IITM
2.	Dr. Sanjib Senapati	Singapore	30 th Nov.- 1 st Dec. 2007	International Symposium at NUS	NUS, Singapore
3.	Dr. R. Baskar	Princeton, USA	May - July 2007	Collaborative visit	Company of Biologists, UK
4.	Dr. N. Manoj	Singapore	2 nd Dec 2007	Invited Lecture at NUS-IISc Symposium on Structural Biology, NUS, Singapore	NUS, Singapore
5.	Prof. G. K. Suraishkumar	USA	27 th Feb. - 1 st Mar. 2008	To attend Indo-American Frontiers of Engineering Symposium	Indo-US Forum
6.	Dr. A. Gopala Krishna	Germany	Dec. 2007	Research collaboration	DBT
7.	Prof. D. Karunakaran	Australia	20 th -22 nd Feb. 2008	UNSW International Research workshop	UNSW
8.	Prof. K.B. Ramachandran	Malaysia	19 th -20 th Feb. 2008	To deliver two invited talks in the workshop on Research Opportunities in Industrial Biotechnology, organized by University Technology MARA, Malaysia	University Technology, Malaysia
9.	Dr. V. Kesavan	Singapore	2 nd Feb 2007	To give a seminar	National University of Singapore
10.	Dr. S. Mahalingam	Germany	1 st - 3 rd Dec. 2007	Indo-German Bilateral collaboration	ICMR

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
11.	Prof. Mukesh Doble	Taiwan	4 th – 10 th Nov. 2007	Present papers at the Asia-Pacific Biochemical Engineering Conference 2007 (APBioChEC 2007)	From RBIC Project
12.	Dr. V. S. Chakravarthy	Korea	July 2007	Invited lecture at a conference	IIT-M
13.	Dr. V. S. Chakravarthy	Australia	Nov. 2007	Conference	DST+ Project
14.	Prof. A. Chadha	China	26 th July-2 nd Aug 2007	Conference	---
15.	Dr. Guhan Jayaraman	Germany	26th Nov. -12th Dec. 2007	DAAD Exchange programme	DAAD

Honours and Awards obtained by faculty:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Honours:					
1.	Prof. Mukesh Doble	Expert member for NAC accreditation committee, AICTE	AICTE, New Delhi	Committee member	2008
ii. Awards:					
1.	Dr. S.N. Gummadi	Young Scientist	Biotechnology Research Society of India	Achievements, pioneering work in biotechnology	Nov. 26, 2007
2.	Dr. S.N. Gummadi	Mentor Recognition Award	University of California, San Diego	Commitment and decaction to mentoring students in the preparation for graduate study	Dec. 2007
3.	Sanjib Senapati	BOYSCAST Fellowship	DST, New Delhi	Research on HIV-1	Feb. 2008
4.	G. K. Suraishkumar	Lupin Visiting Fellowship Award	UICT, Mumbai	Expertise in Biotechnology	4 th Aug. 2007
5.	Prof. D. Karunagaran	Visiting Research Fellow	University of New South Wales, Sydney, Australia	Expertise in Cancer Biology	22 nd Feb. 2008
6.	Prof. T. S. Chandra	American Society for Microbiology International Research professorship award 2008	American Society for Microbiology	Expertise in Microbiological Research	Dec. 2007
7.	Dr. Venkatesh Balasubramanian	Endeavour Executive Award	Department of Education, Science and Technology, Australia	Academic	Nov. 2007

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Prof. Mukesh Doble	Biochemical Engineering Pirnciples	Prentice Hall	Dr. S. N. Gummadi

2.	Dr. Guhan Jayaraman	Book Chapter: "Dynamics of Cellular Response to Recombinant Protein Over-expression in Escherichia coli" in Bioseparation and Bioprocessing – A Handbook (G. Subramanian ed.) 2 nd Edn.	Wiley-VCH	Balaji Balagurunathan
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Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Others:		
1.	Prof. Mukesh Doble	American Institute of Chemical engineers, USA
2.	Prof. Mukesh Doble	Indian Institute of chemical engineers

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	Dr. S. Mahalingam	Editorial Member	International Journal of Virology
2.	Prof. Mukesh Doble	Editorial Board	Chemical Engineering, McGraw Hill, USA
3.	Prof. Mukesh Doble	Editorial Board	J Open Enzyme Inhibition
4.	Prof. Mukesh Doble	Editorial Board	Open Petroleum
5.	Dr. Rama S. verma	Associate Editor	Australian Journal of Basic and applied Sciences

4.3.4 Design and Development Activities:

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	Patch clamp set up	30.00
2.	48 Core Computer Cluster in Dept. of Biotechnology	20.00
3.	Upright fluorescence microscope	20.00
4.	Inverted microscope with Hoffman modulation	15.00
5.	GPC System	15.00
6.	Goniometer	05.50
7.	Deep freezer (-20 ^o)	00.57
8.	7L Fermentor	07.00
9.	Analytical HPLC	12.00
10.	Fluorescence Spectrometer	11.00
11.	UV/Vis Spectrophotometer	04.00

4.3.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Exploring the basis of drug resistance of HIV-1 protease mutants: Useful insights for rational drug design	3 years	DST	19.97	Dr. Sanjib Senapati
2	The properties of protein hydration water and their connection to protein motions	3 years	DST	20.38	Dr. Sanjib Senapati
3.	Exploring the basis of differential binding of inhibitors to active and inactive CDK2	3 years	DBT	30.22	Dr. Sanjib Senapati Dr. D. Karunakaran Dr. V. Kesavan
4.	Biochemical and structural studies on a putative lipase	2006-2009	DST	15.00	Dr. N. Manoj Dr. Gummadi S.N
5.	Infrastructure Facility in Bioinformatics	2006-2008	DBT	24.00	Dr. N. Manoj

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
6.	Functional characterization and rejuvenation of diabetes associated dysfunctional circulating endothelial progenitor cells (EPCs) for therapeutic neovascularization	2007 - 2010	DBT	24.00	Dr. Madhulika Dixit
7.	Biosurfactants and enhanced Biodegradation of polymers	2007-2010	DST	31.85	Prof. Mukesh Doble
8.	Production and biodegradation of curdlan	2006-2008	DBT	09.28	Prof. Mukesh Doble Dr. S. N. Gummadi
9.	Potential TB drug.....marine actinomycetes	2008-2010	DST	04.75	Prof. Mukesh Doble
10.	Performance of polymers in marine environment	2008-2010	NRB	34.58	Prof. Mukesh Doble
11.	Understanding adhesion and characterization of barnacles	2008-2010	NRB	28.13	Prof. Mukesh Doble Dr. Ravi (Metallurgy Dept, IITM)
12.	Biogas from nonedible seed cakes	2007-2009	Alumni project under Socially Relevant project cell at IIT Madras	08.50	Dr. T. S. Chandra Dr. K. B. Ramachandran
13.	Studies of assessing the differentiation potential of adult stem cells into cardiomyocytes.	2007 onwards	DBT	31.02	Dr. Rama S Verma
14.	Characterization and cloning.....haematopoietic stem cells	2005-2008	DBT	42.58	Dr. Rama S Verma
15.	Efficacy ofRetinoblastoma.	2007-2010	DBT	24.05	Dr. Rama S Verma
16.	ATP- Substrate transition state analogs:A rational approach to target insulin like growth factor receptor-1 Kinase	2007-2010	CSIR	14.46	Dr. Rama S Verma Dr. K. M. Muraleedharan (Dept of Chemistry)
17.	To study the effect of SiRNA on the EpCAM expression of Y&(Ratnoblasteroma cell line and its co-relation with invasion and migration properties of cell line	2007-2010	DST	22.39	Dr. Rama S Verma Dr. Krishakumar
18.	Development of online handwriting recognition system for Indian languages	2006 - 2008	DIT	40.00	Dr. V. S. Chakravarthy DR. C. Chandrasekhar (CS Dept)
19.	Digital Monitoring of Soldier Posture and Weapon Position	2007	Army Technology Board	18.00	Dr. Venkatesh Balasubramanian
20.	SAHA - A Semi-Automatic Mechanical Hammer for Quarry Workers	2007	RuTAG, DST/ IIT Madras	02.02	Dr. Venkatesh Balasubramanian
21.	A study on the transforming growth factor- β signaling intermediate, Smad3, in human cervical cancer	2005-2008	DST	22.65	Dr. D. Karunakaran
22.	A Study on the Activators and Targets of NF- κ B in Human Cancer Cells	2006-2009	DBT	43.35	Dr. D. Karunakaran
23.	Programme support in cancer biology	2008-2011	DBT	356.81	Dr. D. Karunakaran Dr. S. Mahalingam Dr. Sanjib Senapati Dr. V. Kesavan DR. Nitish R Mahapatra
24.	Structure-function studies on human GNL3L	2007-2010	DBT	88.16	Dr. S. Mahalingam (PI) Dr. D. Karunakaran (Co-PI)

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
25.	Host-cell kinase MAPk/ERK-2... HIV-1 Pathogenesis	2007-2010	DBT	91.17	Dr. S. Mahalingam
26.	Development of surrogate virus--- HIV pathogenesis	2008-2011	DBT	48.34	Dr. S. Mahalingam
27.	HIV-1 pathogenesis: role of integrase on reverse transcription and viral genome transport	2005-2008	DBT	98.23	Dr. S. Mahalingam
28.	Role of Gap junctions in ischemic heart disease	2007-2010	DBT	68.12	Dr. Amal K. Bera Dr. Nitish R. Mahapatra
29.	Acid sensing ion channels	2007-2009	DST	47.00	Dr. Amal K. Bera
30.	Rapid Monitoring of Transesterification and Assessing Biodiesel Fuel Quality by Estimation of Glycerol	2004-2007	DST	Extended to July 2009 with extra Rs. 5 lakhs	Prof. Anju Chadha
31.	Biocatalytic Production of a precursor of L-Carnitine: Process Development and Optimisation Studies	2006-2009	DBT	27.00	Prof. Anju Chadha and Dr. S. N. Gummadi
32.	Applications of the Biosensor developed in-House	20-11-06 onwards	DBT	38.00	Prof. A. Chadha
33.	Sperm cell Specification in Flowering plants	2007-2009	DBT	35.00	Dr. R. Baskar
34.	Cell fate determination in cellular slime molds.	2007	CSIR	14.50	Dr. R. Baskar Dr. V. Kesavan
35.	Subcellular localization and biochemical characterization of human phospholipid scramblases	2007-2010	CSIR	09.00	Dr. S.N. Gummadi
36.	Physiological and Molecular studies on salt tolerance of <i>Debaryomyces nepalensis</i>	2007-2010	DBT	17.20	Dr. S.N. Gummadi
37.	Identification and characterization of key enzymes involved in the degradation of caffeine by <i>Pseudomonas sp</i>	2006-2009	DST	22.00	Dr. S.N. Gummadi
38.	Ocular Albinism 1: Overexpression, Characterization & Mechanism of Activation of a Novel G-protein Coupled Receptor (GPCR).	2006-2009	CSIR	15.00	Dr. A. Gopala Krishna
39.	Mechanism of Signal transduction by Ocular Albinism type 1 protein (OA1).	2006-2009	DST	20.00	Dr. A. Gopala Krishna
40.	OA 1 protein: a novel and orphan G protein coupled receptor. Structure-function relationship and mechanism of signal transduction	2006-2009	DBT	47.30	Dr. A. Gopala Krishna
41.	Molecular Genetics of conotruncal anomalies	2007-2010	DBT	36.30	Dr.A. Gopala Krishna Dr. N. Manoj
42.	Structural Biophysics of G protein coupled receptors	2008-2011	DBT	26.30 (Indo-German collaboration)	Dr. A. Gopala Krishna Dr. Karim Fahmy (Germany)
43.	Quantum-dot modified nucleotide analogs as probes to understand the mechanism of activation	2008-2011	DBT	41.70	Dr. A. Gopala Krishna Dr. P. N. Santhosh (Dept. of Physics, IITM)
44.	Design and Synthesis of Oligosulfonamide for the inhibition of Tat-TAR interaction	2006-2009	IC & SR, IITM	05.00	Dr. V. Kesavan

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
45.	Inhibition of Gene Expression in HIV: Design and Synthesis of novel nucleobase oligomers for the inhibition of protein-nucleic acid interactions	2007-2010	DBT	23.91	Dr. V. Kesavan
46.	C ₂ -symmetric bis(imidazoline)s derived from tartaric acid: novel and versatile ligands for asymmetric transformations	2007-2010	DST	22.92	Dr. V. Kesavan
47.	Miniaturisation of the Biosensors developed in-house	2007-2010	DST	38.00	Prof. A. Chadha (Co-PI)
48.	Deracemisation using <i>C. paprapsilosis</i> ATCC 7330: Understanding the enzymes involved	2008-2011	DST	37.00	Prof. A. Chadha
49.	Recombinant Fermentation Processes for Production of Streptokinase in <i>Lactococcus lactis</i>	2005-2008	Technology Transfer Research Projects, IIT-Madras	03.40	Dr. Guhan Jayaraman

Industrial Consultancy projects:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr. Guhan Jayaraman	Production of Clean Energy from Biomass	Nagarjuna Chemicals and Fertilizers Ltd., Hyderabad	15.12

RBIC projects:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr. V. S. Chakravarthy	Development of Automatic Defect Recognition (ADR) System for Real Time Radioscopy (RTR) of Hancock Valve Welds	BHEL, Trichy	14.90
2.	Prof. K. B. Ramachandran	Consolidated Bioprocessing	Reliance Industries Limited	05.62
3.	Prof. K. B. Ramachandran	Enzyme Production	Opereon Biotech	01.40
4.	Prof. Mukesh Doble	Biodegradation of polymers	RIL, Mumbai	32.00
5.	Prof. Mukesh Doble	Fermentation S9	Kemin Nutritional, Chennai	03.20

Retainer Consultancy:

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

Faculty members participation with other institution under MoU:

Sl. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
1.	Dr. Guhan Jayaraman	DAAD Sandwich Programme	Max Planck Institute for Complex Technical Systems, Magdeburg, Germany
2.	Dr. Guhan Jayaraman	DAAD Sandwich Programme	Institute for Technical Chemistry, Leibniz University, Hannover, Germany

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	...	48
Total No. of papers presented in National Conferences	...	04
Total No. of papers presented in International conferences	...	12

Details:

In Refereed National Journals:

1. J Arutchelvi, M Sudhakar, Ambika Arkatkar, Mukesh Doble, Sumit Bhaduri and Parasu Veera Uppara (2007) Biodegradation of polyethylene and polypropylene, *Indian Journal of Biotechnology* 7:9-22.

In Refereed International Journals:

1. Groß-Hardt, R., Kägi, C., Baumann, N., Moore, J.M, Baskar, R., Gagliano, W.B., Jürgens, G. and Grossniklaus, U. (2007) LACHESIS restricts reproductive cell fate in the female gametophyte of *Arabidopsis*. *PLoS Biology* 5:e47.
2. Ngo, Q.A., Moore, J.M., Baskar, R., Grossniklaus, U. and Sundaresan, V. (2007) *Arabidopsis* GLAUCE promotes fertilization-independent endosperm development and expression of paternally inherited alleles. *Development* 134: 4107-4117.
3. Chen, Y.H., Li, H.J., Shi, D.O., Yuan, L., Liu, J., Sreenivasan, R., Baskar, R., Grossniklaus, U. and Yang, W.C. (2007) The central cell plays a critical role for pollen tube guidance in *Arabidopsis*. *Plant Cell* 19: 3563-3577.
4. Chaitanya, V. S. V. and Senapati, S. (2008) Self-assembled Reverse Micelles in Supercritical CO₂ Entrap Protein in Native State. *J. Am. Chem. Soc.* 130: 1866-1870.
5. Senapati, S. (2007) How strongly can calcium ion influence the hydrogen-bond dynamics at complex aqueous interfaces? *J. Chem. Phys.* 126: 204710
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2. G.Ujjeevanam*, Arun Sudha, V.S.Murty and T.S.Chandra. Standardization of Iron based Siddha Formulations Using Modern Analytical Techniques paper presented at the National Seminar on Metal-based medicines organized by CARISM, August 3-4,2007. SASTRA University, Tanjavore.
3. Kondepudi Kanthi Kiran and Chandra.T.S. Identification of osmolytes from a newly isolated moderately halophilic and alkalitolerant *Bacillus* sp. strain TSCVKK. Abstract MA-11. This presentation won the Best Poster presentation prize in the Marine Microbiology section during the 48th Annual Conference of Association of Microbiologists of India. 18-21st Dec 2007, IIT Madras.
4. Sujoy Bera and Guhan Jayaraman. Development of Bioprocess Strategies for Enhancing Production of Recombinant Streptokinase in *Lactococcus lactis* MG1363 (Poster), *Annual Conference of Association of Microbiologists of India*, December 18-21, 2007, IIT-Madras.

In Proceedings of International Conferences:

1. Arumugam Senthilkumar , T. N. Padma Sree, Gopala Krishna Aradhyam and Sathyanarayana N. Gummadi. *In vitro* studies on *Terminalia arjuna* Bark Extract: Its effect on antioxidant enzyme catalase. International Society of Heart Research, PGIMER, Chandigarh, India. 2008.

2. J. Krishnan, V S Chakravarthy, "The Heart as a learning Machine," Joint 52nd Annual Meeting of the Biophysical Society and 16th IUPAB International Biophysics Congress, Long Beach, CA, February 2-6, 2008.
3. Ranjan K. Pradhan, V. S.Chakravarthy, Desynchronized fiber activation pattern and Desynchronized Vasomotion enhances Oxygenation in a Computational Model of skeletal Muscle, Proceedings of 8th World Congress for Microcirculation, Vol.14, No4-5, pp 487: Ox-7, 2007.
4. V.S. Chakravarthy, "What do the Basal Ganglia Do?" Neurobiology and Neuroinformatics Conference, Jeju, Korea, July 2007 (Invited lecture).
5. G. Gangadhar, D. Joseph, V. S. Chakravarthy, "A computational neuromotor model of Parkinsonian handwriting," Proceedings of the 13th Conference of the International Graphonomics Society," Melbourne, Australia, November 11-14, 2007.
6. S. Dubey, S. Sambaraju, Sarat C., V. S. Chakravarthy, "The enigmatic two-peak orientation error structure in copying simple line diagrams," Proceedings of the 13th Conference of the International Graphonomics Society," Melbourne, Australia, November 11-14, 2007.
7. Jayaraman, A., Chandra Sekhar, C., Chakravarthy , V.S., "Modular approach to recognition of strokes in Telugu script", *Proceedings of the Ninth International Conference on Document Analysis and Recognition Recognition*, September 23-26, 2007, Pp 501-505.
8. Venkatesh Balasubramanian. A sEMG based analysis of muscle activity during mobile phone SMS. International Ergonomics Conference HWWE 2007. December 10-12, 2007
9. Venkatesh Balasubramanian. Measurement of driver's fatigue using dynamic body pressure distribution. International Ergonomics Conference HWWE 2007. December 10-12, 2007.
10. Venkatesh Balasubramanian. Human computer interactions and their influence on high performance manufacturing systems – A simulation study. International Ergonomics Conference HWWE 2007. December 10-12, 2007.
11. Venkatesh Balasubramanian. A Study of Ergonomics in the Leather Cutting Workplace. International Ergonomics Conference HWWE 2007. December 10-12, 2007
12. Venkatesh Balasubramanian. Processing of Xenograft Conduit As Cardiovascular Implants. Tongariro National Conference of Cardio Thoracic and Vascular Surgery, New Zealand and Australia. April 20-22, 2007

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. Hakim Djaballah, Director, Sloan-Kettering Institute, New York, U.S.A	17.03.08	Interactions
2.	Dr. Federica Chiellini, Professor, University of Pisa, Italy	27.02.08	Interactions
3.	Dr. Ajit Varki	14.01.08	Interactions
4.	Dr. Hartmut Michel		Interactions

Other Activities of the Department/Centre:

a. Inter disciplinary group achievements of the Departments.

Dr. Rama Shankar Verma: Faculty for institutional Nano-sciences courses

4.4 DEPARTMENT OF CHEMICAL ENGINEERING

4.4.1 Introduction:

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

4.4.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1	CH535	Applied Time Series Analysis
2.	CH620	Environmental Chemodynamics
3.	CH531	Molecular Science and Engineering

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	47	42	49	47	01	186
Dual Degree	12	11	10	13	12	58
M.Tech.	29	22	0	0	0	51
M.S.	03	08	07	06	0	24
Ph.D.	11	06	08	11	20	56
Total	102	89	74	77	33	375

Foreign Nationals	--	QIP	M.Tech Ph.D.	4
DASA (Indian origin)	--	Sponsored	M.Tech M.S.	1
Scheduled Castes	PhD	3	Project	M.S. Ph.D.
Scheduled Tribes	PhD	1	External Registration	M.S. Ph.D.
Physically Handicapped	PhD	2	Registration Kept Alive	M.S. Ph.D.
Women students	MS PhD	3 8	User-oriented Programme (M.Tech)	--
Defence Officers (M.Tech)	--	--	Part Time Programme (M.Tech)	--

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	K.Krishna Sankeerth (Dual Degree)	International Conference On Nano Science and Technology	International Conference On Nano Science and Technology sponsored by DST, IGCAR	27 th -29 th February 2007 Chennai Trade Centre
2.	R.Prasanna Venkatesh (Ph.D)	CHEMCON 2007	Indian Institute of Chemical Engineers.	26 th -31 st December HIT calcutta Regional Centre. Kolkatta.2007
3.	R.Manivannan (M.S)	CHEMCON 2007	Indian Institute of Chemical Engineers	26 th -31 st December HIT calcutta Regional Centre. Kolkatta.2007
4.	Jaganathan T.K(Ph.D)	CHEMCON 2007	Indian Institute of Chemical Engineers	26 th -31 st December HIT calcutta Regional Centre. Kolkatta.

Sl. No.	Name of the Student	Programme	Name of the Conference/ Seminar / Symposia	Date and Venue
5.	S.Mohan Kumar (Ph.D)	CITICOMS 2007	International Conference On Modeling and simulation	27 th -29 th August 2007 Coimbatore.
6.	B.Ashraf Ali (Ph.D)	CITICOMS 2007	International Conference On Modeling and simulation	27 th -29 th August 2007 Coimbatore
7.	Vinoj Kurian(M.S)	CITICOMS 2007	International Conference On Modeling and simulation	27 th -29 th August 2007 Coimbatore
8.	S.B.Subramanian(M.S)	CITICOMS 2007	International Conference On Modeling and simulation	27 th -29 th August 2007 Coimbatore
9.	Srinivasarao Modekurti (Ph.D)	NMRL	Visit to Naval Materials Research Labs, Mumbai	7 th -11 th August 2007
10.	P.V.Suresh (Ph.D)	FCT 2007	National workshop on fuel Cell Technology and professional Development Course.	11 th -16 th July 2007 SRM University Chennai.
11	P.Kanakasabai (Ph.D)	International Conference	International Conference on Polymeric materials eu power Engineering.	4 th -6 th October 2007 Bangalore.
12	S.Anbudayanidhi (ph.D)	ICAM 2008 International Conference	International Conference on Advanced Materials	17 th -22 nd February 2008 Mahatma Gandhi University, Kottayam, Kerala.
13	S.Babji (M.S)	International Conference	International Conference on Sensors, Signal Processing Communication & Instrumentation.	1 st -6 th January 2008 SSPCC IN Secretariat Bibwewadz, Pune.
14	Vasu Gollangi (Ph.D)	International Conference	International Conference on Sensors, Signal Processing Communication & Instrumentation	1 st -6 th January 2008 SSPCC IN Secretariat Bibwewadz, Pune.
15	B.Ashraf Ali (Ph.D)	Conference	23 rd National Convention of Chemical Engineers.	1 st -9 th October 2007 IIT Roorkee.
16	Majid Aman Siddiqui (M.S)	National Conference	National Conference on Frontier in Chemical Engineering- 2007	12 th -14 th December 2007 IIT Guwahati
17	S.Selvanathan (Ph.D)	National Conference	National Conference on Frontiers in Chemical Engineering 2007	12 th -14 th December 2007 IIT Guwahati
18	S.Selvanathan(PhD)	Conference	CHEMCON IICChE Indian Chemical Engineering Congress 2007	25 th Decmeber 2007 to 1 st January 2008 Heritage Institute of Technology, Kolkatta.
19	M. Subramanian(PhD)	Workshop	Indo-German workshop on Advances in Reaction and Separation Processes	February 18-20, 2008, MGM Beach Resort, Chennai
20	D. K. Sandilya(PhD)	Workshop	Indo-German workshop on Advances in Reaction and Separation Processes	February 18-20, 2008, MGM Beach Resort, Chennai
21	D. K. Sandilya(PhD)	Paper Presentation	CHEMVIGOR-2008	Vignan's Engineering College, Guntur, Andhra Pradesh, India, March 2008
22	Mr. Suresh K. (PhD)	Training	Training programme on Fluent and Gambit	3 rd -6 th March 2008, IIT Madras
23	Mr. Suresh K. (PhD)	Webinar	Ansys solver customization	20 th May, 2008

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

Sl.No	Name of the Student/Scholar	Roll Number	Name of Prize	Name of Donor
1.	Ankit Bhatnagar	Ch05B051	Institute Merit Prize-2007	litm.

4.4.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor:

Dr. A.R.Balakrishnan

Transport Processes, Energy Conservation

Dr.M.Chidambaram

Process Control

Dr.K.Krishnaiah

Chemical reactor analysis and design fluidization

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

Modeling and simulation, non linear dynamics, flow visualization

Dr.V.S.Ramachandra Rao

Advanced Control strategies, Neuro Fuzzy Control

Dr.Shankar Narasimhan(Head)

Process design, data mining, fault diagnosis

Dr.T.Swaminathan

Environmental Management, Biotechnology, Membrane technology, Environmental risk assessment

Dr.PST Sai

Chemical reactor analysis and design

Dr.R.Ravi

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

Dr.Sreenivas Jayanti

Computational fluid dynamics

Associate Professor:

Dr.Abhijit Deshpande

Rheology of complex fluids, polymers and polymeric composites

Processing flow visualization

Dr.A.Kannan

Rate enhancement of Reaction and Transport Processes

Assistant Professor:

Dr.Susy Varughese

Physics & mechanics of polymeric materials, polymeric nano composites

Dr.S.Ramanathan

Semiconductor processing, Electrochemistry, Chemical Reaction Engineering

Dr.Tanmay Basak

Microware application, mathematical modeling and simulation

Dr.Arun K Tangirala

System identification and parameter estimation

Dr.R.Ramnarayanan

Integrated Chemical Systems, Photoelectrochemistry, Solidstate synthesis.

Dr.R.Ravikrishna

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

Dr. Niket S Kaisare

Micreactor Technology, Multiscale modeling , Process control, Fuel Processing, Fuel cells.

Visiting Faculty:

Dr.Upendra Natarajan

Polymer Science & Engineering, Molecular simulation, statistical thermodynamics of complex fluids, nanostructured hybrid composite materials.

Scientific Officers / Engineers:

Dr. K. Krishnamurthy

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

Sl. No.	Coordinator(s)	Title	Period
Workshop:			
1.	Dr. S.Pushpavanam	Indo-German workshop on Advances in Reaction and Separation Processes	17 th -19 th February 2008 MGM Beach Resort, Chennai.
2.	Dr. Shankar Narasimhan	IITM-NUS Joint Research Collaboration	25 th & 26 th February 2008
3.	Dr. S.Ramanathan	ALCHEME Chemical Engineering Student Society(Sponsored by KLA Tencor India.	7 th & 8 th March 2008 IIT Madras.
4.	Dr. R.Nagarajan	L-RAMP awards of Excellence presided over the function	28 th November 2007 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	Period
Workshop:			
1.	Dr. R Nagarajan	L-RAMP awards of Excellence	28 th November 2007 IIT Madras
2.	Dr. Kannan A.	Indo-German workshop on Advances in Reaction and Separation Processes (Organized by Prof. S. Pushpavanam)	17 th -19 th February 2008 MGM Beach Resort, Chennai.
Conference:			
1.	Dr.Ramnarayanan	Indo-Japan Conference on Ferroics and Multiferroics	February 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	Dr.T. Panda	Plenary Lecture and parallel Technical session	28 th & 29 th September 2007 Al-Ameer College of Engineering & Information Technology, Visakhapatnam.
2.	Dr.Ramachandra - Rao	Given Lecture as a Visitor	10 th October 2007 Sri Venkateswara Engineering College, Chennai.
3.	Dr.Niket S Kaisare	Invited Lecture at Microreaction Technology	11 th January 2008 NIT Trichy
4.	Dr.Ramnarayanan	Lecture and Discussions	18 th January 2008 DMRL Hyderabad
5.	Dr.Sreenivas Jaynti	Multiphase Flows Concept CFD-Course Lecture	24 th January 2008 BHEL, Trichy
6.	Dr.Arun K Tangirala	Lecture on Control System and MAT Labs	29 th January 2008 Honeywell, Bangalore.
7.	Dr.T.Panda	Consultancy in the area of Biochemical Engineering.	2 nd February 2008 Engineering Faculty Development Centre BMS College of Engineering.
8.	Dr.Niket S Kaisare	Invited Lecture at Indo-German Workshop on Reaction/ separation Process	19 th February 2008 MGM Resorts, Chennai
9.	Dr.R.Ravi	Chemical Thermodynamics	February 26 th -17 th April 2008 IGCAR, Kalpakkam

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
10	Dr.R. Nagarajan	Nano workshop	20 th March 2008 VIT Kancheepuram
11	Dr.Niket S Kaisare	Lecture in Technology Appreciation Programme on Optimisation	28 th April 2008 IC&SR, IIT Madras
12	Dr. Kannan A.	Effect of low frequency ultrasound on mass transfer Indo-German workshop on Advances in Reaction and Separation Processes	19 th February 2008 MGM Beach Resort, Chennai.
13	Dr. Kannan. A.	Plenary talk on <i>Residue Curves and Distillation Boundaries</i> Inauguration of Chemosphere	SVUCE, Tirupathi, December, 15, 2007
14	Dr. Kannan. A.	Plenary Talk on <i>Role of Process Simulators and CFD Software in Chemical Engineering Education and Research</i> TEQIP sponsored Symposium on Advances in Chemical Engineering (AChemE), Nov. 22-24 th , 2007.	University College of Technology, Osmania University, Hyderabad November, 23 rd , 2007

Visits abroad by faculty:

Sl. No.	Name of the faculty	Country Visited	Date		Purpose of Visit
			From	To	
1.	Dr. R. Nagarajan	U.S.A	16.05.2007	19.05.2007	Conference
2.	Dr. Abhijit P. Deshpande	Beijing, China.	17.05.2007	21.05.2007	Conference
3.	Dr. Tanmay Basak	UK	05.05.2007	31.07.2007	Short Visit (Ukieri Research Fellowship)
4.	Dr. Shankar Narasimhan	Purdue University, U.S.A.	05.05.2007	05.07.2007	Professional Visit to Dept. of Ch E
5.	Dr. S. Pushpavanam	Germany	21.04.2007	06.05.2007	Brief Visit
6.	Dr. K. Krishnaiah	Muscat, Oman	12.05.2007	14.05.2007	Brief Visit
7.	Dr. V.S. Ramachandra Rao	U.S.A.	24.05.2007	12.08.2007	Private Visit
8.	Dr. T. Swaminathan	Spain	29.09.2007	07.10.2007	Conference Visit & University Visit
9.	Dr. R. Nagarajan	U.S.A.	16.05.2007	09.06.2007	Conference Visit & University Visit
10.	Dr. R. Nagarajan	China	08.08.2007	12.08.2007	To attend the Wafer Cleaning Seminar 2007
11.	Dr. R. Nagarajan	Thailand	03.11.2007	11.11.2007	Brief Visit
12.	Dr. D.V.S. Murthy	U.S.A.	17.11.2007	11.01.2008	Private Visit
13.	Dr. A.R. Balakrishnan	U.S.A.	19.12.2007	06.01.2008	Private Visit
14.	Dr. Shankar Narasimhan	Thailand.	11.12.2007	12.12.2007	Brief Visit
15.	Dr. Shankar Narasimhan	Belgium	15.12.2007	20.12.2007	Ph D Thesis examiner, University of Ghent

Honours and Awards obtained:

Sl.No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
1	Dr.Tanmay Basak Asst. Professor	Diamond Jubilee Young Achievers Award	Indian Institute of Chemical Engineers.	Contribution to Chemical Engineering	3 rd October 2007

Journal Editorial Boards

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

4.4.4 Design and Development Activities:

New facilities added or major equipment procured through project funds:

Sl. No.	Name of Equipment	Value (Rs. in lacs)
1	Microwave system	Rs.3.17
2	Fuel Cell Stack	Rs.2.33
3	Spin coater Unit	Rs.2.30
4	Gas Analyzer	Rs. 1.50
5	Flow through cell attachment	Rs. 1.65
6	Computers	Rs. 2.79

Patents filed:

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

4.4.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. In lacs)	Co-ordinators
1	Experimental and Theoretical investigations of microwave melting of Metals.	2007-2010	CSIR	7.96	Dr. Tanmay Basak
2	Concentration of Nitric acid by extractive distillation	2007-2010	IGCAR	24.10	Dr. A.R.Balakrishnan
3	Processes for degradation of Organic pollutants in aqueous Environment	2007-2010	Department of Science & Technology	9.00	Dr. T.Swaminathan
4	Renovation of the Undergraduate Laboratory		Chevron Products Corporation	40.10	HOD

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1	Dr.T.Swaminathan	Technical Certification for Enviromental clearance for Expansion/Modernization	Snap Natural &Alginat Products Ltd.	0.55
2	Dr.T.Swaminathan	Technical Study on Effluent Management System for Proposed Expansion	Ultramarine & Pigments Ltd.	0.79
3	Dr.T.Swaminathan	Monitoring of Odour Control Measure	Synthite Industrial Chemicals Ltd.	0.56
4.	Dr.T.Swaminathan	Bio Gas Analysis	Market Management Committee	0.06
5.	Dr.T.Swaminathan	Proof Check for the Design of RO Plant	Southern Railway	0.22
6.	Dr. PST. Sai	Drying of Solution obtained from Enzymatic Hydrolysis of Alginic acid	Burgeon Pharmaceutical Pvt. Ltd.	0.22

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. In lacs)
1.	Dr.R.Nagarajan	Ash Particle frosion	BHEL	8.00
2.	Dr.R.Nagarajan	Ultrasonic cool wash	BHEL	8.00
3.	Dr.R Nagarajan	Thermochemical Analysis of Omcts O2 Reactive Mixture	Saint-gobain Glass India Ltd.	4.20
4.	Dr. Shankar Narasimhan	State Estimation Techniques for Non-linear Model Predictive Control (nmpc) Of Fbr Process	Honeywell Technology Solutions Laaboratory Pvt. Ltd.	7.50
5.	Dr. S Pushpavanam	Air Quality Monitoring	Central Pollution Control Board	9.25

Journal Editorial Boards:

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

Research Publications:

Total No. of papers published in Refereed National Journals	...	01
Total No. of papers published in Refereed International Journals	...	41
Total No. of papers presented in National Conferences	...	01
Total No. of papers presented in International conferences	...	06

In Refereed International Journals:

SI.No	Name of the faculty	Title of the paper	Name of the Journal
1.	Maharudrayya.S Sreenivas Jaynti Aphijit P Deshpande	Simplified model to predict incipient flooding/dehydration in proton exchange membrane fuel cells.	Journal of fuel cell science and Technology 4(3) 357-364 --2007
2.	Balleda A,Pushpavanam S & Abhijit P Deshpande	Experimental and numerical investigation of Liquid circulation induced by a bubble plume in a baffled tank	Chemical Engineering Science 62(17) 4689-4704 2007
3.	Krishnamoorthy C.P Deshpande A.P& Pushpavanam .S	Effect of Periodic and continuous irrigation on water transport through Porous media.	Journal of Irrigation and Drainage Engineering ASCE 133(2) 100-109
4	Aparna K. ,Basak T Balakrishnan A.R	Role of metallic and composite (ceramic-Metallic) supports on microwave heating of porous dielectrics	International Journal of Heat and Mass Transfer 50 (15-16) 3072-3089 -- 2007
5	Vijayarangan,B.R Srrenivas Jayanti & Balakrishnan A.R.	Pressure drop studies on two-Phase flow in a uniformity heated vertical tube at pressure up to the critical point.	International journal of Heat and Mass transfer 50 (9-10) 1879-1891. 2007
6.	Tangirala A.K Kanodia J & Shah S.L.	Non- negative matrix factorization for detection and diagnosis of plant oscillation.	Industrial & Engineering Chemistry Research 46(3) 801-817 -2007
7.	Rao A.S Rao V S R & Chidambaram	Simple analytical design of modified predictor and diagnosis of plantwide oscillations.	Industrial Engineering chemistry Research 46(3) 801-817. 2007
8	Thilakavathi, M., Basak, T., & Panda, T	Modeling of enzyme production kinetics.	Applied Microbiology and Biotechnology, 70(5), 991-1007 (2007)
9.	Renganathan, T., & Krishnaiah, K.	Spatio-temporal evolution of void fraction in liquid-solid inverse fluidized bed	Chemical Engineering Science, 62(1-2), 328-338.2007
10.	Swernath, S., & Pushpavanam, S. (2007)..	Viscous fingering in a horizontal flow through a porous medium induced by chemical reactions under isothermal and adiabatic conditions	Journal of Chemical Physics, 127(20), 204701. 2007
11.	Bandaru., K.S.V.S.R., Kessler., L.C., & Wolff MW., et al.	Hydrodynamic characteristics and expansion behavior of beds containing single and binary mixtures of particles	Industrial & Engineering Chemistry Research, 46(13), 4686 – 4694. (2007)..
12.	Zeyer, K.P., Kulkarni, A.A., Kienle, A. et al.	Nonlinear behavior of reactor-separator networks: Influence of the energy balance formulation	Industrial & Engineering Chemistry Research, 46(4), 1197-1207. (2007).
13.	Thirupathi, G., Krishnamoorthy, C.P., & Pushpavanam, S	Adsorption characteristics of inorganic salts and detergents on sand beds	Chemical Engineering Journal, 125(3), 177-186. 2007
14.	Prasad, Y.N., & Ramanathan S	Chemical mechanical planarization of copper in alkaline slurry with uric acid as inhibitor	Electrochimica Acta, 85(1), 70-81. . (2007.)
15.	Ravi, R.	The definition of reaction rate: A closure	Chemical Engineering Communications, 194(3), 345-352. 2007
16	Ravi, R.	Mathematical treatment of the Loschmidt tube experiment: Some clarifications	Chemical Engineering Communications, 194(2), 170-176.(2007)

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
17	Ravi, R. and V. Guruprasad	The Lennard-Jones Fluid and Diffusivity validity of the hard sphere model for diffusion in simple fluids and applications to CO ₂	Industrial and Engineering Chemistry Research, 47 (4), 1297-1303 (2008)
18	Bhatt, N.P., Mitna, A., & Narasimhan, S.	Multivariate calibration of non-replicated measurements for heteroscedastic errors	Chemometrics and intelligent laboratory systems, 85(1), 70-81. (2007)
19	Narasimhan S., S. L. Shah	Model Identification and Error Covariance Matrix Estimation from Noisy Data using PCA	<i>Control Eng. Practice</i> , 16, 146-155 (2008)
20	Deshpande A., S. C. Patwardhan and S. Narasimhan	Integrating fault diagnosis with nonlinear model presictive control	<i>In Assessment and Future Directions of Nonlinear Model Predictive Control</i> , Fideisen R, Allgower, F Biegler L T (Eds.), 2007, 513-522, Springer, Berlin
21	Vachhani P, S Narasimhan and R Rengaswamy	An Integrated Qualitative – Quantitative Hypothesis Driven Approach for Comprehensive Fault Diagnosis	<i>Chem. Eng. Res. Des.</i> , 85, 1281-1294 (Sept. 2007)
22	Jayanti, S., Maheswaran, K., & Saravanan,V.	Assessment of the effect of high ash content in pulverized coal combustion	Applied Mathematical Modelling, 31(5), 934-953. (2007)..
23	Srinivasa, T., & Jayanti, S..	An Eulerian/Lagrangian study of solid suspension in stirred tanks	AIChE Journal, 53(9), 2461-2469 (2007).
24	Sathiyamoorthy, M., Basak, T., Roy, S., et al.	Effect of the temperature difference aspect ratio on natural, convection in a square cavity for nonuniform thermal boundary conditions	Journal of Heat transfer - Transactions of the ASME, 129(12), 1723-1728. (2007)..
25	Natarajan, E., Roy, S., & Basak, T.	Effect of various thermal boundary conditions on natural convection in a trapezoidal cavity with linearly heated side wall(s)	Numerical Heat transfer Part B –Fundamentals, 52(6), 551-568. (2007)..
26	Basak, T.	Role of lateral and radial irradiations on efficient microwave processing of food cylinders	Chemical Engineering Science, 62(12), 3185-3196. (2007)
27	Basak, T.	Role of various elliptical shapes for efficient microwave processing of materials	AIChE Journal, 53(6), 1399-1412 (2007)..
28	Basak, T.	Role of metallic, ceramic and composite plates on microwave processing of composite dielectric materials	Materials Science and Engineering A-Structural materials properties microstructure and processing, 457(1-2), 261-274(2007)..
29	Basak, T., Roy, S., & Takhar, H.S,	Effects of nonuniformly heated wall(s) on a natural-convection flow in a square cavity filled with a porous medium	Numerical Heat transfer Part A – Applications, 51(10), 959-978. (2007)..
30	Basak, T., Roy, S., & Thirumalesha, C.	Finite element analysis of natural convection in a triangular enclosure: Effects of various thermal boundary conditions	Chemical Engineering Science, 62(9), 2623-2640. (2007). .
31	Bhattacharya, M., & Basak ,T.	Detailed material-invariant analysis on spatial resonances of power absorption for microwave-assisted material processing with distributed sources	Industrial & Engineering Chemistry Research, 46(3), 750-760. (2007)..

Sl.No	Name of the faculty	Title of the paper	Name of the Journal
32	Chatterjee, S., Basak, T., & Das, S. K.	Microwave driven convection in a rotating cylindrical cavity: A numerical study	Journal of Food Engineering, 79(4), 1269-1279. (2007)..
33	Sathiyamoorthy, M., Basak, T., Roy, S., et al.	Steady natural convection flow in a square cavity filled with a porous medium for linearly heated side wall(s).	International Journal of Heat and Mass transfer, 50(9-10), 1892-1901 (2007)..
34	Sathiyamoorthy, M., Basak, T., Roy, S., et al.	Steady natural convection flows in a square cavity with linearly heated side wall(s).	International Journal of Heat and Mass transfer, 50(3-4), 766-775. (2007).
35	Damodar, R.A., Jagannathan, K., & Swaminathan, T.	Decolourization of reactive dyes by thin film immobilized surface photoreactor using solar irradiation	Solar Energy, 81(1), 1-7. (2007).
36	Kannan A., and P. Ch. Gourisankar Sandakka,	"Heat Transfer Analysis of Canned Food Sterilization in a Still Retort",	Journal Food Engg. Vol. 88(2), 2008, pp. 213-228.
37	Kannan A. and K. Neeharika.,	"Estimation of Energy Consumption in Thermal Sterilization of Canned Liquid Foods in Still Retorts	Engg. Appl. Comput. Fluid Mechanics, vol. 1(4), 2007, pp. 288-303.
38	Kaisare N.S., G.D.Stefanidis and D.G.Vlachos	Transport Phenomena in Microscale Reacting Flow"	Handbook of Microprocess Engineering, Berlin, in 2008.
39	Kaisare N. S., S. R. Deshmukh and D. G. Vlachos	"Stability and Performance of Catalytic Microreactors: Simulations of Propane Catalytic Combustion on Pt,	Chemical Engineering Science, 63: 1098-1116.
40	Vetri Murugan R, Bharath S, A P Deshpande, Susy varughese and Prathap haridoss	Elutriation of multicomponent mixtures	Powder Technology, 183 (2), pp 169-76 (2008)
41	Rehit Vijay, Abhijit P Deshpande, Susy Varughese	Nonlinear rheological modeling of asphalt using White-metzner model with structural parameter variation based on asphaltene structural build-up and breakage	Applied rheology 18(2) pp 23214-23228 (2008)

In National Refereed Journals

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

In Proceedings of National Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1.	Kannan A.,	Analysis of separation feasibility using residue curves and distillation lines, Key note Address at the Proceedings of the National Level Students Technical Symposium	S. V. U. College of Engineering, Tirupati-517502	15-16 December, 2007

In Proceedings of International Conferences:

Sl.No.	Name of faculty	Title	Institution	Period
1.	Kaisare N. S., G. D. Stefanidis and D. G. Vlachos,	"Ignition Strategies for Catalytic Microdevices," <i>IMRET</i> ,	10:10 th <i>International Conference on Microreactor Technologies</i> , , New Orleans., LA.	April 2008
2	Stefanidis G. D., N. S. Kaisare, M. Maestri, E. Tronconi and D. G. Vlachos, -.,	"Design Principles of Multifunctional Microdevices for Hydrogen Production Via Short Contact Time Steam Reforming," <i>IMRET</i>	10: 10 th <i>International Conference on Microreactor Technologies</i>	April 2008, New Orleans, LA
3.	Kaisare N. S., G. D. Stefanidis and D. G. Vlachos, , McGill Univesity,	"Comparison of Ignition Strategies for Catalytic Microdevices,"	<i>Combustion Symposium Insitute</i>	August 2008, Canada,
4.	Dr. R Ramnarayanan	3 rd Indo-Japan Conference on Ferroics and Multiferroics	---	February 2008
5.	Vinoj Kurian and Kannan A.	Three dimensional buoyancy driven flows in inclined cylinders of unity aspect ratio.	19 th <i>National and 8th ASME-ISHMT Conference</i> , Hyderabad,	January 2008.
6.	Vinoj Kurian and Kannan A.	Effect of inclination on buoyancy driven flows in differentially heated cylinders of half aspect ratio.	<i>Proceedings of International Conference on Modeling and Simulation (CITICOMS 2007)</i> in CD, Coimbatore Institute of Technology, Coimbatore.	August 27-29, 2007.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. Charles David Immanuel Imperial College, London	11 April 2007	To give a Seminar talk
2.	Dr. Amol V Janorkar Massachusetts General Hodpital,Boston	17 th April 2007	- do -
3.	Dr. Colin Pritchard University of Edinburgh,	26 th April 2007	- do -
4.	Dr. Asish V Orpe Clark University	30 th April 2007	- do -
5.	Dr.Kalliat T Valsaraj Louisiana State University,USA	6th July 2007	- do -
6.	Dr. Balaji Krishnamurthy Centre for Fuel cell Technology, Chennai	6 th August 2007	- do -
7	Prof.R.Pickhardt Invens systems GmBH, Dusseldorf, Germany	16 th August 2007	- do-
8.	Prof.Raghunathan Rengaswamy Clarkson University USA	20 th August 2007	- do -
9.	Prof. Lorenz T Biegler Carmegie Mellon University,Pittsburgh	19 th December 2007	- do -
10.	Dr.Bhamy Shenoy Editor, Catalyst for Human Development	4 th January 2008	- do -
11.	Dr. Vijay Ramani Illinois Institute of Technology,Chicago	11 th January 2008	- do -

SI.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
12	Dr. W.K.Wan, University of Western Ontario, Canada	31 st January 2008	- do -
13.	Mr.S .Sekar Futura Polyesters,Chennai	1 st February 2008	- do -

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 - Member Naval Research Board (NRB) Materials Panel in November 2007 in Patialat. T

Dr.T.Panda:

Member Board of studies in the faculty of Engineering & Technology, Anna University, Chennai

Member Board of Studies (in the biotechnology area) Padmavathi Mahila University, Tirupati.

Member Board of studies in Biotech Jawaharlal Nehru Technological University, Hyderabad.

Dr. A Kannan: External Examiner for M. Tech. Project Evaluation at Anna University, 7th February, 2008 and 27th May, 2008.

Inter disciplinary group achievements of the Department

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

International Collaboration achievements by the department

Student Visit:

Mr.Srinivas Modekurti, PhD Student , visited Clarkson university, Postdam, NY ,USA - October –December,2007.

Mr.Ravikumar Mandela, Ph.D Student, from Chemical Engineering Department,Clarkson university, posdam, NY,USA visited IIT from Jan- May 2008.

4.5 DEPARTMENT OF CHEMISTRY

4.5.1 Introduction:

The Department of Chemistry was established in 1959. Presently it is very well equipped with modern instrumentation facilities and is actively engaged in performing quality teaching and research in frontier areas. The department offers a four semester master's (M. Sc.) and the doctorate degree programs (typically five years in duration) in chemistry and is also involved in teaching various aspects of chemistry at B. Tech. and M. Tech. degrees offered in the institute. The major areas of teaching are:

B.Tech and M.Tech Degrees

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

M.Sc. Degree

Inorganic and Analytical Chemistry Courses

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

Organic and Biochemistry Chemistry Courses

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

Physical and Interfacial Chemistry Courses

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

Theoretical Chemistry and Spectroscopy

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

M.Sc. and Ph.D. Degrees

An intersectional course on Spectroscopy – Applications in Organic and Inorganic Chemistry and a variety of elective courses in "Concepts, Applications and Interfaces" are also offered. The Ph.D. course involves few lectures in Research Methodology.

4.5.2 Academic Programmes:

New Courses introduced:

S.No.	Course No.	Title
1	CY 305	Molecular Architecture and Function
2	CY 407	Nanochemistry: A Chemical Approach to Nanomaterials
3	CY 408	Dynamics of Chemical and Biomolecular Systems
4	CY 625	Magnetic Resonance Imaging

New lab(s) established: Synthetic Organic Chemistry labs (Dr. S. J. Gharpure and Dr. G. Sekar)
Atmospheric Chemistry Lab (Dr. B. Rajakumar)
Boron Chemistry Lab (Dr. S. Ghosh)
Computational lab (Dr. Amrendra Vijay and Dr. Arti Dua)
Fluorescence Spectroscopy Lab (Dr. E. Prasad)
Medicinal Chemistry Lab (Dr. K. M. Muraleedharan)

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
M.Sc.	28	29	--	--	--	57
Ph.D.	10	22	21	23	70	146
Total	38	51	21	23	70	203

Endowment prize instituted: Prof. Ramamurthy and Mrs. Ramamurthy prizes for the best dissertation in M.Sc., for the best Ph.D. dissertation in chemistry, for the best progress made in research at the end of three years of research leading to Ph.D. degree and few prizes to attract the best rankers of JAM to IIT Madras. These prizes are to be awarded within the department.

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

S.No.	Name of the student	Program	Name of the conference/seminar/Symposia	Date and venue
(i) Conference:				
Abroad				
1	Jeyakumar K	Ph.D	8th Tetrahedron Symposium on "Challenges in Organic Chemistry"	Berlin, Germany 26 – 29.6.2007
2	M. Pardhasaradhi	Ph.D	CRISMAT LAB., Caen, France	France 1.10.2007 31.12.2007
3	K. Jashuva Victor Paul		International Conference	Boston, USA 11 – 14.11.2007
India				
4	D. Saritha	Ph.D	10th International Conference on Advanced Materials	7 – 14.10.2007
5	Haridharan N		International Conference on "Polymeric Materials in Power Engineering"	4 – 6.10.2007 Bangalore
6	Rajeev Kumar V R		APA International Conference on Advances in Polymer Science and Technology	28 – 31.1.2008 Indian Habitat Centre, Delhi
7	Samanwita Pal	Ph.D	National Magnetic Resonance Society Meeting	14 - 21.1.2008 New Delhi
8	Christy George	Ph.D	National Magnetic Resonance Society Meeting	14 - 21.1.2008 New Delhi
9	Abhishek Banerjee CY05D023	Ph.D	National Magnetic Resonance Society Meeting	14 - 21.1.2008 New Delhi
10	Manoj Kumar Pandey		National Magnetic Resonance Society Meeting	14 - 21.1.2008 New Delhi
11	Habeeb Muhammed M A			
12	K. Babu		International Conference on Nanomaterials Toxicology	5 – 7.2.2008 Lucknow
13	P. Justin			
14	C M Janet			
15	G. Magesh	Ph.D	International Conference on Advanced Materials	18 - 21.2.2008 M G University Kerala
16	Biji P			
17	Illa Ramakanth			
18	Sumanta Kumar Meher			
19	Pothumahanthi H K Charan			
20	Shibu E S		International Conference on Nanoscience & Technology	29.02.2008
21	Sajanlal P R			
22	Satyananda Kishore			

S.No.	Name of the student	Program	Name of the conference/seminar/ Symposia	Date and venue
23	P. Koteswaraiah	Ph.D	International Conference on free radicals and Natural products in Health	14 – 16.2.2008 Jaipur
24	K. Karunanithi	Ph.D	Modern Trends in Inorganic Chemistry (MTIC-XII)	December, 6-8, 2007, IIT Madras
25	R. Ravikumar			
26	Niladri Debata			
27	A. Athilakshmi			
28	Himanshu Sahoo			
29	K. Karunakaran			
30	Rajendra Dhayal			
31	Subhankar Bose			
(ii) Seminar:				
1	Joseph J	Ph.D	Second SERC School on "Solid State and Materials Chemistry"	25.6 – 14.07.2007 IISc., Bangalore
2	Asiri Naidu S			
3	Atul Kumar CY04D032		Quantum Information Processing (QIP) 2008	15 – 24.12.2007 IIC, New Delhi
4	Biswarup Sen CY03D008		48th Annual Conference of Association of Microbiologists of India "Microbes: Biofactories of the Future"	Chennai
(iii) Symposia:				
1	Venkateswara Rao Ch	Ph.D.	18th National Symposium on Catalysis	16-18.04.2007 Indian Institute of Petroleum Dehradun
2	C M Janet			
3	Navaladian S			
4	Justin P			
5	Indraneel P			
6	Jeyakumar K		8th Tetrahedron Symposium on "Challenges in Organic Chemistry"	26 – 29.6.2007 Berlin, Germany
7	S. Susithra		Trombay Symposium on Radiation and Photochemistry	02 – 11.1.2008 Pune
8	Monalisa Mohapatra	Ph.D.	Trombay Symposium on Radiation and Photochemistry	02 – 11.1.2008 Pune
9	Jasmine Maria Joseph		Trombay Symposium on Radiation and Photochemistry	02 – 11.1.2008 Pune
10	Sreeprasad T S		10th CRSI Symposium in Chemistry	1 – 3.2.2008 IISc Bangalore
11	Majoj Kumar Shukla			
12	Mohammed Akbar Ali			
13	Shubhankar Kumar Bose			
14	Geetha Rani K			
15	S. Kumar Alamsetti			
16	Sreedevi Mannam			

S.No.	Name of the student	Program	Name of the conference/seminar/ Symposia	Date and venue
Workshops:				
1	B Kuppan CY06D022	Ph.D.	National workshop on "Futuristic Materials as Catalysts and Adsorbents"	18-20.2.2008 Institute of Minerals and Materials Technology, Bhubaneswar

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	Anitha C. Kumar	CY03D032	Best Poster Award	ICSS-2008
2	J. Rajeswari	CY03D018	Best poster award	NIT Trichy
3	C. M. Janet	CY03D020	'Hindustan platinum award' for best oral presentation	Catalysis Society of India
4	A. V. Vivek	CY04D011	Best poster award	M.G. University ICAM-2008

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

SI.No.	Name of the Student/Scholar	Roll No.	Name of Prizes
1	Dr. Arun Prasad	CY 00P24	Langmuir
2	Dr. Udaynath Aich	CYD01020	C. N. Pillai
3	Dr. Ch. Siva Kesava Raju	CY02D012	Werner
4	Dr. V. Sivakumar	CY04D016	

4.5.3 Faculty and their activities:

Faculty:

SI.No.	Name and Qualifications	Major area of specialization (only 3 areas)
Professors:		
1	N. Chandrakumar Ph.D. (IITK)	Magnetic resonance imaging & spectroscopy
2	R. Dhamodharan (Head) Ph.D. (U Mass, USA)	Chemistry of Macromolecules
3	D. Loganathan Ph.D.	Synthetic & Structural Organic Chemistry
4	A. K. Mishra Ph.D. (IITK)	Fluorescence Spectroscopy
5	T. Pradeep Ph.D. (IISc, B'lore) Joint with SAIF	Nanomaterials, Spectroscopy, Ion chemistry
6	M. V. Sangaranarayanan Ph.D (IISc, B'lore)	Electrochemistry
7	S. Sankararaman Ph.D. (Victoria, Canada)	Synthetic and mechanistic organic chemistry
8	M. N. Sudheendra Rao Ph.D. (IISc,B'lore)	Main Group Inorganic Chemistry
9	U. V. Varadaraju Ph.D. (IISc,B'lore) Joint with MSRC	Solid State chemistry, Materials Science

Sl.No.	Name and Qualifications	Major area of specialization (only 3 areas)
10	T. K. Varadarajan Ph.D. (IITM)	Catalysis, Chemical Kinetics
11	P. Selvam Ph.D. (IITM)	Catalysis, Solid State chemistry
12	Archita Patnaik Ph.D. (BHU)	Colloid and Interface Science
13	S. Baskaran Ph.D. (IITK)	Organic Synthesis & Asymmetric Synthesis
14	Indrapal Singh Aidhen. Ph.D. (Univ of Pune)	Synthetic organic chemistry
15	K. Mangala Sunder Ph.D. (McGill, Canada)	Theoretical Spectroscopy
16	K. Vidyasagar Ph.D. (IISc,B'lore)	Solid state chemistry
Associate Professors:		
19	P. Bhyrappa Ph.D. (IISc.B'lore)	Bioinorganic and Supramolecular Chemistry
20	N. Narasimha Murthy Ph.D. (IISc.B'lore)	Bioinorganic chemistry, Inorganic chemistry
21	G. Ranga Rao Ph.D.. (IISc.B'lore)	Heterogeneous Catalysis and surface Science
22	Sanjay Kumar Ph.D. (IIT K)	Theoretical Chemistry, Quantum Chemistry
Assistant Professors:		
23	Santosh J. Gharpure Ph.D. (IISc B'lore)	Organic Synthesis, New Synthetic Methods
24	Dillip Kumar Chand Ph.D. (IIT K)	Supramolecular Chemistry, Inorganic Chemistry
25	Debashis Chakraborty Ph.D. (Göttingen, Germany)	Synthetic Organometallic Chemistry
26	G. Sekar Ph.D. (IIT K)	Enantioselective Organic Synthesis
27	Sundaragopal Ghosh Ph.D. (IIT B)	Metalloboranes and Metallocarboranes
28	B.Rajakumar Ph.D. (IISc.B'lore)	Atmospheric Chemistry, Gas Phase Kinetics
29	K.M.Muraleedharan Ph.D. (RRL Trivandrum)	Medicinal Chemistry, Bio-organic Chemistry
30	Edamana Prasad Ph.D. (RRL Trivandrum)	Divalent Lanthanide and Dendrimer Chemistry
31	Amrendra Vijay Ph.D. (IISc.B'lore)	Theoretical Physical Chemistry
32	Arti Dua Ph.D. (IISc.B'lore)	Statistical Mechanics of Polymers
Scientific Officer:		
33	R. Balachandran Pillai Ph.D. (IIT M)	Catalytic Organic Transformations
Professor Emeritus:		
34	B. Viswanathan Ph.D. (IIT M)	Heterogeneous Catalysis and Surface Science
35	R. P. Viswanath Ph.D. (IIT M)	Heterogeneous Catalysis and Surface Science

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

S.No	Coordinator(s)	Title	Period
Symposia:			
1	K. Mangala Sunder	First Asian Spectroscopy International Conference	29.01 – 02.02.2007
2	A. K. Mishra	94th Session of Indian Science Congress Association	5 – 7.10.2007
3	P. Bhyrappa	National Seminar on Current Developments in Chemistry	18 - 19.01.2007
4	Sanjay Kumar	XVI National Conference on Atomic and Molecular Physics	8 – 11.01.2007
5	Edamana Prasad	National Symposium on Radiation and Photochemistry	29 – 31.01.2007
6	Debashis Chakraborty	MTIC-XII	6-8.12.07
Workshop:			
1	G Ranga Rao	Catalysis by rare earth oxides and layered materials (INVITED)	18-20 Feb 2008, CATWORKSHOP-2008 at IMMT

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

S.No.	Name of faculty	Title	Period	Venue
Symposia:				
1	Selvam P	18th National Symposium on "Catalysis"	16-19.4.2007	Indian Institute of Petroleum Dehradun
2	G. Ranga Rao	18th National Symposium on "Catalysis"	16-19.4.2007	Indian Institute of Petroleum Dehradun
Conference:				
1	P. Bhyrappa	Modern trends in Inorganic Chemistry (MTIC-XII)	December 6-8, 2007	IIT Madras
2	Debashis Chakraborty	Modern trends in Inorganic Chemistry (MTIC-XII)	December 6-8, 2007	IIT Madras
2	D. Loganathan	Synthetic & Structural Organic Chemistry, Carbohydrate Chemistry and Bio-organic Chemistry	November 11-14, 2007	Glycobiology Conference, Boston, USA
		XXII Carbohydrate, Conference	December, 13-15, 2007	NIPER, Chandigarh

Special Lectures delivered by the faculty in other Institutions:

S.No.	Name of faculty	Topic of lecture	Venue and Date
1	A. K. Mishra	Fluorescence of Dendrimer Aggregates	CUSAT, Cochin 8-9 Feb
		Chemometry	Mar-Ivanios College Trivandrum February 23, 2008
		Chemical sensors	NIT Trichy 7 Dec 2007
		ESPT Probes for organized medi	ISI, Kolkata 15 Nov 2007
		Current Trends in Chemistry	Lady Doak College, Madurai 5 – 6.04.2007

S.No.	Name of faculty	Topic of lecture	Venue and Date
2	G. Ranga Rao	Nanochemistry : A perspective (INVITED)	Chemistry Department, M. A. M. O. College, Makkam, Calicut, Kerala 23 Feb 2007
		Tailoring nanoporous pillared clays as catalytic reaction vessels (INVITED)	Indian Institute of Science, Bangalore 25-27 June 2007
		Nanoporous materials – synthesis, characterization and applications (INVITED)	NIT, Warangal 16 Aug 2007
		Chemical Processes at Surfaces (INVITED)	NISER, Bhubaneswar 20 Feb 2008
3	D. Loganathan	Applications of NMR Spectroscopy to the Stereochemical Analysis of Natural Products and Biomolecules	Department of Chemistry, A C College, University of Madras January 05, 2008
		"Emerging trends in interfacial areas of Chemical, Biological & Environmental Sciences"	University of Delhi DU-SDU 17-18.3.08
4	S. Baskaran	Diversity Oriented Synthesis of Iminosugars	Madras University July 14, 2007
		Azide in Organic Synthesis	ACS meeting, Boston, USA August 19-23, 2007
		Stereoselective Synthesis of Biologically Active Molecules	University of Zurich, Switzerland December 6-7, 2007
		Domino cyclization of Epoxy-olefin-azides: Enantioselective Synthesis of Azapolycyclic ring systems	IISc, Bangalore February 1-3, 2008
5	Varadavaraju U V	Technology Trends & Industry Applications of LEDs	Crompton Greaves Ltd., Mumbai 8.04.2007
6	P. Selvam	Nanomaterials in Confined Environment	Department of Chemistry, University of Malaya, Kuala Lumpur, Malaysia, 9.7.2007
		Green chemistry and catalysis for sustainable production of organics	National Institute of Pharmaceutical Education and Research, Punjab 3-4.9.2007
		<i>Green Chemistry and Catalysis for Sustainability</i>	Bharathidasan University
7	T. Pradeep	Anisotropy of nanosystems; manifestations in chemistry/physics	UGC-Academic Staff College, Univ. of Kerala 3 & 4.8.2007
		Nanoparticle-nanotube composites: metal-insulator transition	Amrita 20.8.2007
		Nanoparticles, nanorods and nanotubes: collapsing boundaries and convergence of disciplines	National Institute of Advanced Studies, Bangalore 11.9.2007
		Nanoparticle-nanotube composites: metal-insulator transition	National Institute of Advanced Studies, Bangalore 11.9.2007
8	N. Chandrakumar	Modern Trends in Chemistry	Vivekananda College, Madurai 19 – 20.9.2007
		"NMR in two and more dimensions: Seeking bonds and mapping molecular motions"	Lady Doak College, Madurai 19.2.2008

S.No.	Name of faculty	Topic of lecture	Venue and Date
9	Edamana Prasad	Chemical waste-organic	27.9.2007 Symposium jointly organized by TPCB & IIT M at IIT Madras
10	K. M. Muraleedharan	Peroxide-based antiparasitic agents	28.9.2007 PSGR College, Coimbatore
11	Archita Patnaik	Importance of Material Synthesis and Electronic Structure in Nanotechnology	Science City, Chennai – 25 16.12.2007
		Engineering Molecules via self-assembly	Institute of Minerals and Materials Technology, Bhubaneswar, Orissa 20-21.12.2007
12	Indrapal Singh	Synthesis of 2-deoxy C-aryl glycosides framework and Synthetic equivalents based on Weinreb Amide Functionality	IFCOS Symposium Brittany France 12-13 th Sept 2007
13	Debashis Chakraborty	Chemical waste-Inorganic	27.9.2007 Symposium jointly organized by TPCB & IIT M at IIT Madras

Visits abroad by faculty:

S.No.	Name of faculty	Country visited	Date	Purpose of visit
1	D. Loganathan	FRANCE	June 22 – July 21, 2007	To carry out collaborative research
		USA	November 11-14, 2007	To attend a conference
		Boston, USA	11 – 21.11.2007	International Conference on Glycobiology and visit of Universities
2	S. Baskaran	Boston, USA	August 19-23, 2007	234 th ACS National meeting
		Zurich, Switzerland	December 6-7, 2007	Indo-Switzerland workshop on Organic Chemistry
3	B. Viswanathan	Poitiers, France	23 – 25.05.2007	Nano materials as catalysts at the Indo French symposium
4	Archita Patnaik	Forschungszentrum Karlsruhe, Institute fur Nanotechnologie Eggenstein, Germany	14.05. – 10.08.2007	Alexandor von Humboldt Sponsorship for renewed research stay
5	Varadaraju U V	CRISMAT Lab., Caen, France	25.05. – 29.05.2007	Visiting Professor
6	Viswanathan B	France	23 - 25.5.07	Indo-French Seminar
7	Dillip Kumar Chand	SLOVAKIA	03 – 08.06.2007	XXI International Conference on "Coordination and Bioinorganic Chemistry"

8	Sangaranarayanan M V	Univ. of Ulm, Germany	02 – 31.07.2007	Alexander Fellowship	Humboldt
		China	22 – 26.9.2007	To attend and present a paper at the Third Asia-Pacific Conference of theoretical and Computational Chemists	
9	Selvam P	Singapore	1– 6.07.2007	4th International Conference on Materials for Advanced Technologies 2007: A Symposium L – Catalytic Materials and Technologies for a sustainable Economy	
10	Selvam P	Univ. of Malaya, Kuala Lumpur, Malaysia	7 – 11.07.2007	Visit and deliver of lectures	
11	K. Mangala Sunder	Washington, USA	24 – 31.8.2007	To attend the Second Action Planning Session of Indo-US Engg. Education forum	
12	Indrapal Singh	Brittany, France	12 – 13.9.2007	To attend and deliver a lecture at the Annual Meeting of Indo-French Centre for Organic Synthesis Symposium	
13	T. Pradeep	West Sussex, UK	19 – 28.11.2007	For procuring UHV System for UNANST-DST project	

Honours and Awards obtained (Faculty):

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date
i. Awards:					
1	S. Baskaran	CRSI Bronze Medal	Chemical Research Society of India	Contribution in Organic Chemistry	Feb. 2008
2	Sanjay Kumar	Young Faculty Recognition Award 2007	IIT M	Teaching	13.04.2007
3	N. Chandrakumar	CRSI Silver Medal	CRSI	Contributions to research in chemistry	Feb. 2008
4	B. Viswanathan	Gold Medal and the Life Time Achievement Award for the Year 2007	Indian Association of Solid State chemists and Allied Scientists (ISCAS)	Outstanding contribution to solid state Chemistry	Nov. 2007

Books, Monographs authored or co-authored:

S.No.	Name of faculty	Title	Publisher	Author/co-author
(i) Books:				
1	B. Viswanathan	Heterogeneous Catalysis	New International Age (P) Limited	D. K. Chakraborty, IIT Bombay

Fellowships of Academies and Professional Societies:

S.No.	Name of faculty	Year of Admission
(i) INSA and FNASc:		
1	Prof. N. Chankdrakumar	INSA, 1998
2	Prof. A. K. Mishra	FNASc, 2003

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	D. Loganathan	Member	Open Glycoscience

4.5.4 Design and Development Activities:

Prof. K. Mangala Sunder has developed Web based and animated content for UGC broadcast. 14 lectures on Quantum Chemistry and 14 lectures on group theory have been prepared.

Patents filed:

Sl.No.	Title of the Invention	Principal/Co-Investigator(s)
1	B. Viswanathan, P. Indraneel and T. K. Varadarajan	A process for the preparation of activated carbon from botanical sources Indian Patent file no: 376/CHE/2007
2	B. Viswanathan, J. Rajeswari and T. K. Varadarajan	Supercapacitors based on tungsten trioxide nanorods Patent file no: 1488/CHE/2007
3	B. Viswanathan, P. Satyananda Kishore and T. K. Varadarajan	Supercapacitors based on Ru-Polyoxometalate system Patent file no: 1578/CHE/2007

Patents awarded:

Sl. No	Name of faculty	Topic of patent
1	Y. Inoue, V. V. Borovkov, P. Bhyrappa	A Method for Determining the Absolute Configuration of Chiral acids
2	Indrapal Singh Aidhen	A Process for the efficient synthesis of (2S,3R)-2-O-Benzyl-3,4-O Isopropylidene-D-Erythritol (awarded on 1 st Jan 20078)
3	P. Satyananda Kishore, B. Viswanathan and T. K. Varadarajan, jointly with Malladi drugs	An improved process for the preparation of polylactic acid Indian Patent No:216464

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

S.No.	Title	Period	Funding agency	Amount (in lacs)	Co-ordinators
1	Conversion of bio-glycerol into value added chemicals – Project component – I	2 years	CSIR	28.30	P. Selvam B. Viswanathan Rajiv Kumar (NCL) G. D. Yadav (UICIT) B. Mahipal Reddy (IICT)

S.No.	Title	Period	Funding agency	Amount (in lacs)	Co-ordinators
2	Conversion of bio-glycerol into value added chemicals – Project component – II	2 years	CSIR	28.30	P. Selvam B. Viswanathan Rajiv Kumar (NCL) G. D. Yadav (UICT) B. Mahipal Reddy (IICT)
3	Molybdenum-based catalysts for organic transformation	3 years	CSIR	11.46	Dillip Kumar Chand
4	Mechanistic analysis of electron-transfer processes using convolution potential sweep voltammetry	3 years	CSIR	9.71	M. V. Sangaranarayanan
5	Development of analytical methods combining chemometry and synchronous fluorescence: Analysis of multifluorophoric systems containing polycyclic aromatic compounds (PAC)	3 years	CSIR	11.46	A K Mishra
6	Monitoring back folding in dendrimers by Forster resonance energy transfer	3 years	CSIR	11.46	Edamana Prasad
7	ATP-Substrate transition state analogs: A rational approach to target Insuling-Like growth factor receptor – 1 Kinase	3 years	CSIR	14.46	K M Muraleedharan Rama Shankar Varma (BT)
8	Distance education and web-based learning phase – II (NPTEL)	1 year	MHRD	10.00	K. Ramamurthy (CCE) K. Mangala Sunder
9	Synthesis of Functionalized Polyethynyl Pyrene and Perylene Derivatives for Applications in Molecular Electronics and Photonics.	3 years from 06-07-2007	DST, New Delhi	28.75	S.Sankararaman
10	Functionalization of hydrocarbons using metallaboranes as catalyst	3 years	DST	41.77	Sundaragopal Ghosh
11	Nanoscale Ruthenium based mesoporous catalytic material for ammonia synthesis	3 years	CSIR	09.06	R. P. Viswanath
12	Terminal oxidation of C12-14 paraffins to produce fatty alcohols	2 years	The Procter & Gamble Company, USA	32.70	P. Selvam B. Viswanathan
13	Development of doped-oxide/noble metal nanostructures for electrocatalysis and fuel cell related applications	2½ years	Ministry of New and Renewable Energy	23.27	G. Ranga Rao P. Selvam
14	Investigation of thermal decomposition studies of 1,1 & 1,2-difluoroethane behind reflected shock waves between 7502500 K: Establishment of single pulse shock tube (SPST) facility	3 years	CSIR	12.96	B. Rajakumar

RBIC projects

S.No.	Name of faculty	Title	Industry	Amount (Rs.in lacs)
1	S. Baskaran U. V. Varadaraju M. V. Sangaranarayanan	Investigation of New Type of Ionic Liquid Electrolytes	Motorola Labs., Bangalore	19.46

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Amount (Rs. in lakhs)
1	Santosh J. Gharpure	Improvements in synthesis of glycerol glycidyl ether (Grilbond G1701)"	5.0

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	...	2
Total No. of papers published in Refereed International Journals	...	88
Total No. of papers presented in National Conference	...	-
Total No. of papers presented in International conferences	...	3

Refereed National Journals

- Effect of sodium deoxycholate and sodium cholate on DPPC vesicles: a fluorescence anisotropy study with diphenylhexatriene. Subuddhi, Usharani; Mishra, Ashok K. Journal of Chemical Sciences (Bangalore, India) (2007), 119(2), 169.
- DFT studies on anionic hetero atom (N or/and S) substitution in TiO₂. Sathish, M.; Sankaran, M.; Viswanathan, B.; Viswanath, R. P. Indian Journal of Chemistry, Section A: Inorganic, Bio-inorganic, Physical, Theoretical & Analytical Chemistry (2007), 46A(6), 895.

Refereed International Journals

- Equilibrium Structure and Dynamics of (2R,3R)-(+)-bis(decyloxy) succinic Acid at the Air-Water Interface. Shankar, B. Vijai; Patnaik, Archita. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Langmuir (2008), 24(3), 758-766.
- An intramolecular Schmidt reaction strategy for the synthesis of a methyl analogue of crispine A. Kumar, Ponminor Senthil; Kapat, Ajoy; Baskaran, Sundarababu. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Tetrahedron Letters (2008), 49(7), 1241-1243.
- Ambient Temperature Polymerization of Styrene by Single Electron Transfer Initiation, Followed by Reversible Addition Fragmentation Chain Transfer Control. Subramanian, S. Harihara; Babu, R. Prakash; Dhamodharan, R. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Macromolecules (2008), 41(1), 262-265.
- Grafting of PMMA brushes on titania nanoparticulate surface via surface-initiated conventional radical and "controlled" radical polymerization (ATRP). Raghuraman, G. K.; Ruehe, Juergen; Dhamodharan, Raghavachari. Department of Chemistry, Indian Institute of Technology, Madras, Chennai, India. Journal of Nanoparticle Research (2008), 10(3), 415-427.
- Investigation of 12-Tungstophosphoric Acid Supported on Ce_{0.5}Zr_{0.5}O₂ Solid Solution. Rao, G. Ranga; Rajkumar, T. National Centre for Catalysis Research, Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Catalysis Letters (2008), 120(3-4), 261-273.
- An efficient BINAM-copper(II) catalyzed Ullmann-type synthesis of diaryl ethers. Naidu, Ajay B.; Raghunath, O. R.; Prasad, D. J. C.; Sekar, G. Department of Chemistry, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India. Tetrahedron Letters (2008), 49(6), 1057-1061.
- CuCl catalyzed oxidation of aldehydes to carboxylic acids with aqueous tert-butyl hydroperoxide under mild conditions. Mannam, Sreedevi; Sekar, G. Department of Chemistry, Indian Institute of Technology Madras, Chennai, Tamil Nadu, India. Tetrahedron Letters (2008), 49(6), 1083-1086.

8. Catalytic activity of platinum/tungsten oxide nanorod electrodes towards electro-oxidation of methanol. Maiyalagan, T.; Viswanathan, B. National Center for Catalysis Research, Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *Journal of Power Sources* (2008), 175(2), 789-793.
9. Production of surfactant and detergent-stable, halophilic, and alkali-tolerant alpha-amylase by a moderately halophilic *Bacillus* sp. Strain TSCVKK. Kiran, Kondepudi Kanthi; Chandra, T. S. Biochemistry Laboratory, Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *Applied Microbiology and Biotechnology* (2008), 77(5), 1023-1031.
10. Asymmetric reduction of aryl imines using *Candida parapsilosis* ATCC 7330. Vaijayanthi, T.; Chadha, Anju. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *Tetrahedron: Asymmetry* (2008), 19(1), 93-96.
11. Dehydrogenating behaviour of LiAlH₄ -the catalytic role of carbon nanofibres. Hima Kumar, L.; Viswanathan, B.; Srinivasa Murthy, S. National Centre for Catalysis Research, Department of Chemistry, Indian Institute of Technology Madras, Chennai 36, India. *International Journal of Hydrogen Energy* (2008), 33(1), 366-373.
12. Boron substituted carbon nanotubes-How appropriate are they for hydrogen storage? Sankaran, M.; Viswanathan, B.; Srinivasa Murthy, S. National Centre for Catalysis Research, Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *International Journal of Hydrogen Energy* (2008), 33(1), 393-403.
13. C₆₀ 1,1,2,2-tetrachloroethylene tetrasolvate. Arunkumar, C.; Bhyrappa, P.; Varghese, B. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *Acta Crystallographica, Section E: Structure Reports Online* (2008), E64(1), o278.
14. 5,10,15,20-Tetrakis(3,5-difluorophenyl)porphyrin. Bhyrappa, P.; Velkannan, V.; Varghese, B. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *Acta Crystallographica, Section E: Structure Reports Online* (2008), E64(1), o190.
15. Interaction of Carboxylic Acids and Water Ice Probed by Argon Ion Induced Chemical Sputtering. Cyriac, Jobin; Pradeep, T. DST Unit on Nanoscience (DST UNS), Department of Chemistry and Sophisticated Analytical Instrument Facility, Indian Institute of Technology Madras, Chennai, India. *Journal of Physical Chemistry C* (2008), 112(5), 1604-1611.
16. Expansion of iridaborane clusters by addition of monoborane. Novel metallaboranes and mechanistic detail. Ghosh, Sundargopal; Noll, Bruce C.; Fehlner, Thomas P. Department of Chemistry, Indian Institute of Technology, Madras, India. *Dalton Transactions* (2008), (3), 371-378.
17. Reversible addition-fragmentation chain transfer (RAFT) polymerization of styrene using novel heterocycle-containing chain transfer agents. Babu, Rajendran Prakash; Dhamodharan, Raghavachari. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *Polymer International* (2008), 57(2), 365-371.
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23. Microwave-assisted rapid synthesis of anisotropic Ag nanoparticles by solid state transformation. Navaladian, S.; Viswanathan, B.; Varadarajan, T. K.; Viswanath, R. P. National Centre for Catalysis Research, Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. *Nanotechnology* (2008), 19(4), 045603/1-045603/7.
24. Reactivity of Au₂₅ clusters with Au³⁺. Habeeb Muhammed, M. A.; Pradeep, T. *Chemical Physics Letters* (2007), 449(1-3), 186-190.

25. Photocatalytic generation of hydrogen over mesoporous CdS nanoparticle: Effect of particle size, noble metal and support. Sathish, M.; Viswanath, R. P. *Catalysis Today* (2007), 129(3-4), 421-427.
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International Conferences

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2. Nonplanar liquid crystalline porphyrins: Synthesis and their properties. Bhyrappa, P.; Arunkumar, C.; Varghese, B. Department of Chemistry, Indian Institute of Technology Madras, Chennai, India. Abstracts of Papers, 234th ACS National Meeting, Boston, MA, United States, August 19-23, 2007 (2007), INOR-793. Publisher: American Chemical Society, Washington, D. C.
3. Partition function for the two-dimensional square lattice Ising model in a non-zero magnetic field- a heuristic analysis. Nandhini, G.; Sangaranarayanan, M. V. Department of Chemistry, Indian Institute of Technology - Madras, Chennai, India. Los Alamos National Laboratory, Preprint Archive, Condensed Matter (2008), 1-5, arXiv:0801.0662v1 [cond-mat.stat-mech]. Publisher: Los Alamos National Laboratory.

Distinguished Visitors to the Department

S.No	Name of the visitor and designation	Date of visit	Purpose of visit
1	Prof. T V. Rajan Babu Dept. of Chemistry The Ohio State University Columbus, Ohio, USA	12.04.2007	Seminar Presentation
2	Prof. B M Hegde Former Vice Chancellor, Manipal University Cardiologist	09.05.2007	Seminar Presentation
3	Prof. P. Sundararajan Director, Ottawa Carleton Chemistry Institute, Dept. of Chemistry Carleton University, Canada	5.6.06 – 7.7.2006	Visiting Faculty
4	Dr. Alok Dhawan Industrial Toxicology Research Centre, Lucknow	11.06.2007	Seminar Presentation
5	Prof. Henning Hopf Institute of Organic Chemistry University of Braunschweig Germany	25 – 26. 06.2007	Seminar Presentation
6	Prof. Surya Prakash G K George A and Judith A. Olah Nobel Laureate Chair in Hydrocarbon Chemistry & Scientific Co-Director of the Loker Hydrocarbon Research Institute at University of Southern California	29.06.2007	To receive distinguished alumnus award and seminar presentation
7	Dr. Vijayamohan K Pillai Scientist Physical and Materials Chemistry NCL, Pune	03.07.2007	Seminar Presentation
8	Prof. K L Sebastian Chairman, IPC IISc Bangalore	17.9.2007	Seminar Presentation
9	Prof. Robert A. Flowers II, Chair, Department of Chemistry, Lehigh University, Pennsylvania, USA	08.10.2007	Seminar Presentation
10	Prof. Bertrand Fortin President, University of Rennes	30.10.2007	For discussion aimed at possible collaboration

S.No	Name of the visitor and designation	Date of visit	Purpose of visit
11	Dr. Rene Gree Director, CNRS University of Rennes	30.10.2007	For discussion aimed at possible collaboration
12	Dr. Myriam Bormans Director of Research in Environment, University of Rennes	30.10.2007	For discussion aimed at possible collaboration
13	Dr. Mukund P. Sibi Dept. of Chemistry North Dakota State University Fargo, USA	22.11.2007	Seminar Presentation
14	Prof. H Sakurai Institute of Molecular Science Okazaki, Japan	27.11.2007	Seminar Presentation
15	B. Ramu Ramachandran Hazel Stewart Garner Professor of Chemistry & Associate Dean for Research & Graduate Studies, College of Engineering & Science Louisiana Tech University Ruston, USA	30.11.2007	Seminar Presentation
16	Dr. Yashwant D. Vankar Professor and Head Dept. of Chemistry IIT Kanpur	30.11.2007	Seminar Presentation
17	Professor P. R. Sundararajan University of Carleton Ottawa, Canada	07.12.2007 To 28.12.2007	Lectures on Rotational Isomeric States and morphology
18	Prof. R. Graham Cooks Hendry Bohn Hass Distinguished Professor Dept. of Chemistry Purdue University West Lafayette, Indiana, USA	13.12.2007	Seminar Presentation
19	Dr. V. Ramamurthy Professor and Chair Department of Chemistry Univ. of Miami, Miami	19.12.2007	Seminar Presentation
20	Prof. Ajit Varki, USA	Jan. 8 – 16, 2008	To deliver lectures and interact with faculty and students
21	Dr. B.D Gupta Professor Dept. of Chemistry IIT Kanpur	21.1.2008	Ph.D Viva & Seminar Presentation
22	Dr. Rajan Ravichandran Director Madras Institute of Nephrology	22.1.2008	Seminar Presentation
23	Prof. Burkhard Koenig Institute of Organic Chemistry University of Regensburg Germany	28.1.2008	Seminar Presentation
24	Prof. K A Suresh Centre for Liquid Crystal Research & Raman Research Centre, Bangalore	30.1.2008	Ph.D Viva & Seminar Presentation

S.No	Name of the visitor and designation	Date of visit	Purpose of visit
25	Prof. Krishnan Raghavachari Dept. of Chemistry Indiana University	30.1.2008	Seminar Presentation
26	Prof. Pavel Hobza Institute of Organi Chemistry and Biochemistry, Academy of Sciences of the Czech Republic	5.2.2008	Seminar Presentation
27	Dr.Serge Perez Ecole Doctorale chimie at sciences du vivant universite joseph fourier grenoble,france	20.2.2008	Seminar Presentation
28	Dr.Richard J. Simpson Institute of Medical Research, Parkville, Victoria 3050, Australia	21.2.2008	Seminar Presentation
29	Prof. Dr.Ernst Schaumann Institute of organic chemistry Clausthal University of Technology Germany	26.2.2008	Seminar Presentation
30	Prof. Krishnan Rajeshwar Dept of Chemistry & Biochemistry University of Texas at Arlington	27.2.2008	Seminar Presentation
31	Prof. Richard Brereton Director, Center for Chemometrics University of Bristol,UK	28.2.2008	Seminar Presentation
32	Prof. Bernd Speiser Institute of Organic Chemistry University of Tübingen Germany	29.2.2008	Seminar Presentation
33	Prof. Dr. Sanjay Mathur Dept of Chemistry Wuerzburg University, Germany	29.2.2008	Seminar Presentation
34	Dr. A. Ramanan Department of Chemistry IIT New Delhi – 110 001	6.3.08	Seminar Presentation
35	Prof. Michel Wong Chi Man Laboratoire Architectures Moléculaires at Materiaux Nanostructure's Institut Charles Gerhardt (UMR-CNRS 5253)Ecole nationale supérieure de chimie Mantpellier, France	14.3.08	Seminar Presentation
36	Prof. D.Basavaiah School of Chemistry University of Hyderabad	20.3.08	Seminar Presentation

Other Activities of the Department/Centre:

Socially relevant activities carried out by the Department:

1. The UG lab staff and facilities are helping the Kuruvilla Jacob initiative for high school students by extending the facilities on holidays and other days when there is no UG lab. This has been offered on the request of Prof. K. Mangalasunder the coordinator for the Kuruvilla Jacob Initiative.
2. E-supplements to school curriculum: Dr. K. Mangalasunder has taken up a project for development of e-supplements to school curriculum (Standards VI – IX, Chemistry and Physics) under the Kuruvilla Jacob

Initiative. The nature of work is to make a very large number of small video clips (between 30 sec to 5 min. each) as demonstrative aids to the teachers.

The experiments will be demonstrated and are of several types:

- Simple chemical reactions involving, colour, flame etc.
- Elementary laboratory experiments for preparing simple compounds.
- Safety in Chemical laboratory.
- Methods for handling apparatus and chemicals.
- Disposal procedures for waste chemicals etc.
- 36 final year B.Sc chemistry students and 6 teachers from A V Abdurrahiman Haji Arts & Science College, Kozikode visited the Department on 19th October 2007.
- 33 final year B.Sc chemistry students and 2 teachers from Providence Women's College, Calicut visited the Department on 26th October 2007.

Major infrastructure development made in the Department:

A major research proposal for funding under FIST 207-08 has been submitted.

1. Prof. S.Sankaraman has become a member of Project Advisory Committee (PAC) of DST, New Delhi for the Organic Chemistry Division.
 2. Prof. M N Sudheendra Rao of our Department has joined as Director, SDM College of Engineering & Technology at Dharwad, Karnataka. He has been sanctioned Extraordinary leave from 12.11.2007 to 11.11.2012.
 3. Fire and Emergency Safety Training was arranged for 119 students of our department. The programme was Conducted by Everlife Fire Services, Choolaimedu, Chennai.
- Ph.D Admissions (July 2007 & Jan. 2008)

	July 2007	January 2008
Number of applicants	198	80
Number of applicants called for written test	120	45
Number of applicants who wrote the test	52	26
Number of applicants short-listed for interview	41	17
Number of applicants selected under HTRA + Project Support	15 (5+6)	7 (0 +3)
Number of applicants selected under CSIR/UGC JRF support	10 (2)	8 (7)
Total number of Ph.D. students for this financial year	13	10

The number within brackets () is the number of persons who joined the programme.

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 570	Advanced Topics in Metal Structures
2	CE 590	Intelligent Transportation Systems
3.	CE595	Characterization of Construction Materials

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	40	43	46	41	01	171
Dual Degree	22	16	13	13	12	076
M.Tech.	81	83	—	—	—	164
M.S.	02	07	07	11	11	038
Ph.D.	04	19	19	25	52	119
Total	149	168	85	90	76	568

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.	Pandurangan K	Ph.D.	6 th International Conference on Fracture Mechanics of Concrete and Concrete Structures	17-22 June 2007 Italy	COSTED, Chennai Ratan Tata Trust IIT Alumnii Affairs
2.	Mini Remanan	Ph.D.	13 th International Conference on Experimental Mechanics (ICEM 13)	5 July 2007 Alexandroupolis, Greece	Institute
3.	Rahima Shabeen	Ph.D.	15 th Annual International Conference on Composites / Nano Engineering (ICCE-15)	15-21 July 2007 Haikou	—

Sl. No.	Name of the Student/Scholar	Category	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
4.	Shihabudheen M Maliyekkal	Ph.D.	5 th International Symposium on South East Asian Water Environment, Chiang Mai, Thailand.	7-9 November 2007, Thailand	Institute
5.	Sabumon P C	Ph.D.	5 th International Symposium on South East Asian Water Environment, Chiang Mai, Thailand.	7-9 November 2007, Thailand	Institute
6.	Krishnamurthy K	Ph.D.	12 th International conference on Hong Kong Society for Transportation Studies	8-12 December 2007, Hong Kong	Institute
7.	Dinu R R	Ph.D.	TRB 87 th Annual Meeting	13-17 January 2008 USA, Washington, DC	DST, New Delhi
India					
8.	Venkateswaralu G	MS	National Conference on Recent Advances in Structural Engg. Govt. College of Engg. Salem	11-12, April 2007	Institute
9.	Senthil Kumar V	Ph.D.	International symposium on Automation and Robotics in Construction 2007	18-22 September 2007, IIT Madras	Institute
10.	Ganesh A Devkar	Ph.D.	International symposium on Automation and Robotics in Construction 2007	18-22 September 2007, IIT Madras	Institute
11.	Smitha M S	Ph.D.	Structural Engineers world Congress, SEWC 2007	2-7, November 2007, Bangalore	Institute
12.	Vedagiri P	Ph.D.	International Conference "World Congress on Urban Infrastructure in Developing Countries"	12-14 November 2007, New Delhi	Institute
13.	Rama Mohan Reddy G	Ph.D.	International Conference on Computer Aided Engineering.	13-15, December 2007	Institute
14.	Arun C O	Ph.D.	4th International conference on Theoretical Applied Computational and Experimental Mechanism.	25-31 December 2007, Kharagpur	Institute
15.	Rajesh K N	Ph.D.	4th International conference on Theoretical Applied Computational and Experimental Mechanism.	25-31 December 2007, Kharagpur	Institute
16.	Jayasree C	Ph.D.	International Conference on Advances in Concrete and Construction 2008	7-9 February 2008, Hyderabad	Institute
17.	Rajasekar E	Ph.D.	Challenges and Applications of Mathematical Modeling Techniques in Building Science and Technology (AM2TBST)	7-8 February 2008	Institute

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.	Mr. B. Muruganandam	Ph.D.	Best Poster Presentation Award	Institution of Engineers, India
2.	Ms. Kalai Selvi R	Ph.D.	Best student paper & Cash Award	NSA 2007
3.	Mr. Rajasekar E	Ph.D.	Best Paper Award	CBRI Roorkee

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of Prizes
1.	Siriki Hemanth	CE04B038	Institute Merit Prize
2.	Kathiravan D	CE05M056	Institute Merit Prize
3.	Avinash Voruganti	CE03B006	Institute Merit Prize
4.	Narinder Puri	CE02B047	Institute Merit Prize
5.	Revathi P	CE02D001	Shree Gayathree Devi Award
6.	Shashidar T.	CE01D006	GE Ecomagination Excellence Award
7.	Sandeep Kumar Arora	CE05M074	Bhagyalakshmi and Krishna Ayanagar Award
8.	Sakthivel P.	CE02S011	Prof. C.S. Krishnamurthy Endowment Prize
9.	Sreeja Chandran	CE02S009	Sri K. Sreeharsha Memorial Prize
10.	Ashish Goel	CE05M083	L & T Endowment Prize
11.	Sandeep Kumar Arora	CE05M074	K. Devarajan Memoria Prize
12.	Karpagam Alias Nachammai	CE05M029	Valli Anantharamakrishna Merit Prize
13.	Sri Kumar CG	CE05M114	Institute Merit Prize
14.	Purva Bhandari	CE02B050	Institute Merit Prize
15.	Arun Lal Gain	CE03B003	Larsen & Toubro ECC Endowment Prize

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. V.R. Rengaraju, Ph.D. (IISc, Bangalore)
 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 Univ.)

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.
 Transportation Engineering
 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

Name and Qualifications**Major Area of Specialization****Assistant Professors**

Dr.Amlan Kumar Sengupta Ph.D. (Univ. of Missouri)	Structural Engineering
Dr.G.Appa Rao Ph.D. (I.I.Sc. Bangalore)	Structural Engineering
Dr. Ashwin Mahalingam (Stanford Univ)	Building Technology and Construction Mgmt.
Dr.G.R.Dodagoudar Ph.D. (IIT Bombay)	Geotechnical Engineering
Shri.K.Gopalakrishna, M.Tech. (IIT Kanpur)	Environmental & Water Resources Engineering
Dr. Indumathi M Nambi, Ph.D (Clarkson Univ.)	Environmental & Water Resources Engineering
Dr.Karthik K Srinivasan Ph.D. (Texas, Austin)	Transportation Engineering
Dr. Lelitha Devi, Ph.D. (Texas A&M)	Transportation Engineering
Dr.Manu Santhanam Ph.D. (Purdue Univ.)	Building Technology and Construction Mgmt.
Dr. J. Murali Krishnan, Ph.D (IIT Madras)	Transportation Engineering
Dr. B. Nageswara Rao, Ph.D (Iowa Univ.)	Structural Engineering
Dr.R.G.Robinson Ph.D. (IISc., Bangalore)	Geotechnical Engineering
Dr. U. Saravanan, Ph.D. (Texas A&M)	Structural Engineering
Dr. S.M. Shiva Nagendra, Ph.D. (IIT Delhi)	Environmental & Water Resources Engineering
Dr.K.P.Sudheer, Ph.D. (IIT Delhi)	Environmental & Water Resources Engineering
Dr. G. Suresh Kumar, Ph.D. (IISc, Bangalore)	Environmental & Water Resources Engineering
Dr. Balaji Narasimhan, Ph.D. (Texas A&M)	Environmental & Water Resources Engineering

Adjunct Faculty

Dr. A. Ramakrishna Building Technology and Construction Mgmt.

AICTE Emeritus Fellow

Dr. A.R. Santhakumar (Canterbury, New Zealand) Structural Engineering

Sr. Fulbright Scholar

Dr. V.A. Murthy Bondada Transportation Engineering

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

Sl. No.	Coordinator(s)	Title	Period
Seminars:			
1	Dr. Gandhi S R	Geotechnical Investigations	23 February 2008
Symposia:			
1	Dr. Koshy Varghese	24 th International Symposium on Automation and Robotics in Construction (ISARC 2007)	19-21 September 2007
Workshop:			
1	Dr. Mohan S Dr. Sivanandan R	National Workshop on Strategies for Sustainable Environment	26-27 September 2007
2	Dr. Sivanandan R Dr. Veeraragavan A Dr. Karthik K Srinivasan Dr. Lelitha Devi V	Intelligent Transport Systems	22 October 2007
3	Dr. Veeraragavan A	Highway Development and Managemet Tool (HDM-4) Applications in Pavement Management	1-2 February 2008
4	Dr. Mohan S	Indo-French Workshop on Water and Wastewater Treatment	4-5 February 2008
5	Dr. Murthy V A Bondada (Sr. Fulbright Research Scholar) Dr. Sivanandan R	Workshop on Improving Traffic Flow in Chennai	27 February 2008

Sl. No.	Coordinator(s)	Title	Period
Short term Course:			
1	Dr. Indumathi M Nambi Dr. Shiva Nagendra S M	Informed Design of Environmental Engg. Systems-Looking beyond Design Criteria	4-9 June 2007
2	Dr. Murty B S Dr. Ligy Philip	Contaminant Transport Modeling Theory and Application	11-15 June 2007
3	Dr. Indumathi M Nambi Dr. Mohan S	Hazardous Waste Management	25-29 June 2007
4	Dr. Mohan S Dr. Shiva Nagendra S M	Ambient Air Quality Management	2-6 July 2007
5	Dr. Veeraragavan A	Good Practices in Highway Construction	10-12 July 2007
6	Dr. Mohan S	Environmental Impact Assessment	16-20 July 2007
7	Dr. Veeraragavan A Dr. Muralikrishnan J	Recent Advances in Flexible Pavement Engg.	16-21 July 2007
8	Dr. Dodagoudar G R	Finite Elements in Design and Analysis	28 August to 1 Sep 2007
9	Dr. Murty B S Dr. Ligy Philip	Treatment and Distribution of Water and Wastewater for Engineers of Nagarjuna Construction Company Ltd., Hyderabad	11-13 September 2007
10	Dr. Dodagoudar G R	An Introduction to Nonlinear Finite Element Analysis	8-18 October 2007
11	Dr. Veeraragavan A	Enhancing Road Safety Through Engineering Measures	10-12 December 2007
12	Dr Saravanan U Dr Murali Krishnan J Dr Krishna Kannan	Advanced Mechanics of Materials	17-22 December 2007
13	Dr. Veeraragavan A	Enhancing Road Safety Through Engineering Measures	3-6 January 2008
14	Dr. Ravindra Gettu Dr. Manu Santhanam	Durability and its implications in Reinforced Concrete Design	3-8 January 2008
15	Dr. Mohan S	Technology and Sustainable Development (TSD 2008)	January – April 2008
Training:			
1	Dr. Mohan S Mr. Gopalakrishna K	Environmental Impact Assessment	13-18, August 2007
2	Dr. Koshy Varghese Dr. Satyanarayana K N	Motivational Training and Development Program for Executive Engineers, Asst. Engineers and Junior Engineers of CPWD	22-23 January 2008

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

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1	Dr. R. Sivanandan	National Workshop on ITS Projects	IIT Bombay	13 April 2007
2	Dr. Meher Prasad A	Science and Technology in Disaster Management Earthquake, Land Slide and Tsunami	Dept. of Science and Technology, New Delhi	2-3 April 2007
3	Dr. Veeraragavan A	Cold Mix Technology	Central Roads Research Institute	31 May 2007
4	Dr. Veeraragavan A	National Workshop on Design Options Based on Performance Analysis of Rural Roads	IIT Roorkee	15 June 2007
5	Dr. Appa Rao, G	International Workshop on FRC: Applications and Standards	FraMCOS 6, Catania, Italy	22 June 2007
6	Dr. Boominathan A	Workshop on Microzonation	IISc Bangalore	26 – 27 June 2007
7	Dr. Satish Kumar S R	Structural Steel Design	Gujarat Institute of Civil Engineers & Architects	6 July 2007

Sl. No.	Name of faculty	Title	Institution	Period
8	Dr. Gandhi S R Dr. Kalyanaraman V Dr. Devdas Menon Dr. Santhakumar A R Dr. Satish Kumar S R Dr. Sengupta A K	Hand Book of Seismic Retrofit of Buildings	CPWD, New Delhi	13 July 2007
9	Dr. Amlan K Sengupta	Vulnerability Assessment of Existing Buildings	College of Engg. Thiruvananthapuram	24 July 2007
10	Dr. R. Sivanandan	Workshop on Draft Second Master Plan for Chennai Metropolitan Area	Chennai Metropolitan Development Authority (CMDA), Chennai	29 & 30 August, 2007
11	Dr. Balaji Narasimhan	Land Use Land Cover Dynamics and impact of human dimension on river basins	National Remote Sensing Agency (NRSA), Hyderabad	10 December 2007
12	Dr. Gandhi S R	Saline Embankments	IIT Madras	4 & 5 February 2008
Seminar:				
1	Dr. Amlan K Sengupta	Seismic Response Design and Strengthening of Building Structures	The Institution of Engineers, Jabalpur	27-28 October 2007
2	Dr. Balaji Narasimhan	Development of Drought Indices	Irrigation Water Management Institute, Hyderabad	11 December 2007
3	Dr. Balaji Narasimhan	National Seminar on Conservation on Eastern Ghats	C P R Environmental Education Centre (CPREEC), Chennai; the Forest and Ecology Division, National Remote Sensing Agency (NRSA)	28-29 December 2007
4	Dr. Mohan S	Solidwaste Treatment Technologies	Institution of Engineers (I)	23 February 2008
5	Dr. G.R. Dodagoudar	Remote Sensing in Earthquake Engineering	Rose School, University of Pavia, Pavia, Italy	February 2008
Conference:				
1	Dr. Satish Kumar S R	Recent Advances in Structural Engineering	Govt. College of Engg. Salem	11-12 April 2007
2	Dr. Appa Rao G	6 th International Conference on Fracture Mechanics of Concrete and Concrete Structures	Catania	17-22 June 2007
3	Dr. Appa Rao G	International Conference on Connection between Steel & Concrete	Stuttgart University, Germany	4-7 September 2007
4	Dr. Indumathi M. Nambi	Fifth Annual Meeting and International conference	Geological Society of America	24-28 October 2007
5	Dr. Indumathi Nambi	Fifth Annual Meeting and International Conference	Geological Society of America,	24-28 October 2007
6	Dr. Thamizh Arasan V	Intelligent Transportation Systems (ITS)	Sathyabama University	28-30 November 2007
7	Dr. Appa Rao G	Bridges and Bridge Structures	Structural Engineers World Congress, Bangalore	2-7 November 2007
8	Dr. Veeraragavan A	Indian Roads Congress Annual Session	Indian Roads Congress, Jaipur	16-19 November 2007
9	Dr. Satish Kumar S R	Earthquake Engineering	Structural Engineers World Congress, Bangalore	28-30 November 2007

Sl. No.	Name of faculty	Title	Institution	Period
10	Dr. Boominathan A	Micro Zonation Estimation of Hazard Site Characterization and Ground Amplification	Thiyagarayar Engg. College, Madurai	18 December 2007
11	Dr. Thamizh Arasan V	Sustainable Urban Transportation: Issues and Management Strategies,	SVNIT, Surat	28-29 December 2007
12	Dr. Kalyanaraman V	Computer Aided Design	IIT Madras	December 2007
13	Dr. Saravanan U	Multiscale modeling and simulation	Indian Institute of science, Bangalore	2 January 2008
14	Dr. Mohan S	Environmental Impact Assessment	New Delhi	8-9 January 2008
15	Dr. Ravindra Gettu	Self Compacting Concrete, Recent Experience and Lessons Learnt	Hyderabad	7 February 2008
16	Dr. Meher Prasad A	Glass Fibre Reinforced Gypsum Wall Panel Concrete Infill – Research & Construction	Vasavi College of Engineer, Hyderabad	7-9 February 2008
17	Dr. Mohan S	GIS for Air Quality Mapping	Karunya Univ. Coimbatore	16 February 2008
18	Dr. Ravindra Gettu	Robustness of Self Compacting Concrete	Valencia	18 February 2008
19	Dr. Ravindra Gettu	Special Concrete	CPWD, Chennai	22 February 2008
20	Dr. Mohan S	Sustainable Wastewater Management	NEERI, Nagpur	28-29 February 2008
21	Dr. Appa Rao G	ACI Committee 447	ACI Spring Convention, Los Angeles, USA	30th Mar - 4 April 2008
Training:				
1	Dr. Meher Prasad A	Capacity Building on Earthquake Risk Management	JNTU, Hyderabad	4 June 2007
2	Dr. Satish Kumar S R	Earthquake Disaster Mitigation	Madras Chamber of Commerce	23 June 2007
3	Dr. Satish Kumar S R	Response Spectrum and Seismic Design	Kongu Engg. College	25-27 June 2007
4	Dr. Devdas Menon	Creative Teaching of Structural Analysis	JNTU College of Engg., Hyderabad	17-22 December 2007
5	Dr. Saravanan U	International conference on multi-scale modeling and simulation	IISc. Bangalore	2-4 Jan 2008
6	Dr. Dodagoudar G R	Wave Propagation in Elastic Solids	Rose School, University of Pavia, Pavia, Italy	17 – 28 March 2008
Short Term Course				
1	Dr. Nageswara Rao B Dr. Dodagoudar G R	A First course in the Finite Element Method	IIT Madras	21-25 May 2007
2	Dr. Rajagopal K	Encased Stone Columns for Load support in soft clay soils	IIT Bombay	13-15 November 2007
3	Dr. Rajagopal K	Studies on the behaviour of the soil nailed Retaining Walls	IIT Bombay	13-15 November 2007
4	Dr. Satish Kumar S R	Design Philosophy and Introduction to Limit State	Maulana Azad National Institute of Technology, Bhopal	26 November 2007
5	Dr. Satish Kumar S R	Introduction to Column Buckling	Maulana Azad National Institute of Technology, Bhopal	26 November 2007

Sl. No.	Name of faculty	Title	Institution	Period
6	Dr. Satish Kumar S R	Restraint Beams	Maulana Azad National Institute of Technology, Bhopal	26 November 2007
7	Dr. Satish Kumar S R	Research on Earthquake Resistant Structural Design	IIT Guwahati	7-8 December 2007
8	Dr. Gandhi S R	Offshore Soil Investigation	IIT Madras	17 December 2007
9	Dr. Satish Kumar S R	Earthquake Resistant Design of Steel Concrete Composite Structures	SRM University, Chennai	20 December 2007
10	Dr. Shiva Nagendra S M	Marine Pollution	IIT Madras	20 December 2007
11	Dr. Gandhi S R	Failures in Geotechnical Engg.	MNIT Jaipur	22-23 December 2007
12	Dr. Dodagoudar G R	Advanced Computational Methods in Earthquake Engineering and Engineering Seismology	Rose School, University of Pavia, Pavia, Italy	10 - 14 March 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr. R. Sivanandan	Development, Implementation and Evaluation of ITS Applications for Mixed Traffic in Indian Urban Areas	National Workshop on ITS Projects (Organised by IIT Bombay and CDAC-T), IIT Bombay	13 April 2007.
2.	Dr. R. Sivanandan	Intelligent Transportation Systems (ITS) for Efficiency and Safety	College of Engineering, Thiruvananthapuram,	18 April 2007.
3.	Dr. Rajagopal K	Geosynthetic Pile Rafts for Embankments on Soft Clays	IIT Roorkee	23-24 May 2007
4.	Dr. R. Sivanandan	Bus Travel Time and Speed Analysis Using Advanced Technology	The Institute of Road Transport (IRT), Chennai	24 May 2007
5.	Dr. Mohan S Mr. Gopalakrishna K	Wastewater Management	Short Term Course WWM 2007, Caledonian College of Engg. Muscat.	25-31 May 2007
6.	Dr. Satish Kumar S R	Response Spectrum Method Model Analysis	Hindustan College of Engg. Padur	May 2007
7.	Dr. A. Boominathan	Seismic Hazard Assessment Considering Local Site Effects for Microzonation Studies for Chennai City	IISc Bangalore	26 - 27 June 2007
8.	Dr. Satish Kumar S R	Earthquake Disaster and Mitigation	Adhiparasakthi Engg. College, Melmaruvathur	2 August 2007
9.	Dr. Ravindra Gettu	Self Concreting Shrinkage and Creep	CPWD, Chennai	10 August 2007
10.	Dr. R. Sivanandan	Transportation in Chennai - Challenges and Solutions Comfort Inn Marina Towers, Chennai	Workshop on Draft Second Master Plan for Chennai Metropolitan Area, Organised by Chennai Metropolitan Development Authority (CMDA)	29-30 August 2007
11.	Dr. Ravindra Gettu	New Trends in Concrete Technology	Pondichery Engg. College	28 September 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
12.	Dr. Rajagopal K	Encased Stone Columns for Load Support in Soft Clay Soils	Indian Institute of Science, Bangalore	28-29 September 2007
13.	Dr. Gandhi S R	Deep Basement Excavation	Indian Institute of Science, Bangalore	28-29 September 2007
14.	Dr. Sudheer K P	Research Methodology	AISSM College of Engg. Pune	4 October 2007
15.	Dr. Mohan S	Introduction to Fuzzy Logic	College of Engg. Trivandrum	27 October 2007
16.	Dr. Mohan S	Genetic Algorithm and its applications	College of Engg. Trivandrum	27 October 2007
17.	Dr. Mohan S	Environmental Systems Modeling Environmental Impact Assessment	College of Engg. Trivandrum	14-15 November 2007
18.	Dr. A. Boominathan	Seismic Hazard Estimation at Bed Rock and Ground Surface Levels at Chennai City	IIT Guwahati	7 December 2007
19.	Dr. Boominathan A	Seismic Hazard Estimation at Bed Rock and Ground Surface Levels at Chennai City	IIT Guwahati	7-8 December 2007
20.	Dr. Boominathan A.	International Workshop on Earthquake Hazards and Mitigation	IIT Guwahati	7-8 December 2007
21.	Dr. Satish Kumar S R	Earthquake Hazards and Mitigation	IIT Guwahati	7-8 December 2007
22.	Dr. Balaji Narasimhan	Soil moisture simulation and drought assessment using SWAT	International water Management Institute (TATA-IWMI), Hyderabad	11 December 2007
23.	Dr. Mohan S	Application of Neural Network Model for Reservoir Operation	Osmania University, Hyderabad	14-15 December 2007
24.	Dr. Kalyanaraman V	Design of Flexural Members – bending, shear, bearing, scripling	SERC, Chennai	17 December 2007
25.	Dr. Kalyanaraman V	Behaviour and Design of edge stiffened element in cold formed steel members	SERC, Chennai	17 December 2007
26.	Dr. Satish Kumar S R	Seismic Design of cold formed steel structures	SERC, Chennai	17 December 2007
27.	Dr. Kalyanaraman V	Design of Flexural Members – bending, shear, bearing, scripling	SERC, Chennai	17 December 2007
28.	Dr. Kalyanaraman V	Behaviour and Design of edge stiffened element in cold formed steel members	SERC, Chennai	17 December 2007
29.	Dr. Satish Kumar S R	Seismic Design of cold formed steel structures	SERC, Chennai	17 December 2007
30.	Dr. A. Boominathan	Seismic Microzonation: Estimation of Hazard, Site Characterization and Ground Amplification	Thiagarajar College of Engineering, Madurai	18 December 2007
31.	Dr. Gandhi S R	Recent Trends Geotechnical and Structural Engg.	MNIT, Jaipur	22-23 December 2007
32.	Dr. Veeraragavan A	Modeling Process in Highway Development and Management Tool (HDM-4)	College of Engineering Trivandrum	1 February 2008
		Strategy Analysis in HDM-4		
33.	Dr. Gandhi S R	Case study on failures in Geotechnical Engg.	RVR & JC College of Engg. Guntur	2 March 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1	Dr. Manu Santhanam	Switzerland	April – Dec 2007	To conduct research	BOYSCAST of DST
2	Dr. Devdas Menon	Germany	07.05.07 – 06.07.07	Under DAAD-IIT Faculty Exchange Programme	Institute
3	Dr. Sudheer K P	USA	14.05.07 – 31.07.07	Researcher	--
4	Dr. Ashwin Mahalingam	USA	26.06.07 – 13.07.07	Collaborative Project Work	--
5	Dr. Satyanarayana K N	USA	26.06.07 – 13.07.07	Collaborative Project Work	--
6	Dr. Appa Rao, G	Germany	June, Sept and Dec 2007	Visiting Fellow	Alexander von Humbolt Foundation
7	Dr. Ligy Philip	Spain and Switzerland	03.10.07 – 10.10.07	Delivered lectures	--
8	Dr. Sivanandan R Dr. Veeraragavan A	Ghana	15.10.07 – 19.10.07	Collaboration between IITM and KNUST in education and research in the area of Transportation Engg.	--
9	Dr. Indumathi Nambi	USA	24.10.07 – 4.11.07	International conference and Visiting Universities Colorado State University at Boulder, University of Colorado Denver, Colorado School of Mines at Golden, University of Illinois at Urbana Champaign	Institute Grant
10	Dr. Ligy Philip	Thailand	12.11.07 – 14.11.07	Annual Review Workshop	--
11	Dr. Koshy Varghese	USA	26.11.07 – 30.11.07	Annual Gathering of Autodesk University 2007	--
12	Dr. Mathews M S	Germany	Nov. – Dec. 2007	Collaborative projects	--
13	Dr. Koshy Varghese	USA	01.12.07 – 04.12.07	Visit to Arizona State University and the University of Texas	--
14	Dr. Satyanarayana K N	South Korea	03.12.07 – 05.12.07	FIDIC-KAIST KENCA CEO Symposium	--
15	Dr. Devdas Menon Dr. Meher Prasad A	Germany and Italy	5.12.07 – 13.12.07	Indo-Italian Bilateral project	--
16	Dr. Dodagoudar G R	Italy	17-01-08 – 31-03-08	To conduct research in Earthquake Engineering	Scholarship from Government of Italy

Honours and Awards obtained by faculty:

S.No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
i. Awards:					
1	Dr. Santhakumar A R	ICI-L&T Life Time Achievement Award	ICI-L&T Life Time Achievement	Teaching, Research and Consulting Proficiency	24 September 2007
2	Dr. Amlan K Sengupta	Best Paper Award	ICI-Maharashtra Mumbai Centre	Best Paper	23 September 2007
3	Dr. Mohan S	Shiksha Rattan Puraskar Award	India-International Friendship Society, New Delhi	Teaching, Research and Consulting Proficiency	6 October 2007

S.No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of award
4	Dr. Ramakrishna A	Hassib Sabbagh Award 2007	World Federation of Engg. Organisations	Construction Excellence	15 November 2007
5	Dr. Shiva Nagendra S M Mr. Muruganandam B	Cash Award	All India Paper Contest on Urban Air Pollution	Institution of Engineers	25 November 2007
6	Dr. Ramachandraiah A Mr. Kalai Selvi	Best Student paper & Cash award	NSA 2007	Best Paper	November 2007
7	Dr. Ramachandraiah A Mr. Rajasekhar E	Best Paper Award	CBRI, Roorkee	Best Paper	7-8 February 2008
8	Dr. Veeraragavan A	Bhagyalakshmi and Krishna Ayengar Award	Institute	For guiding the best M.Tech. Project in the area of infrastructure improvements	Institute Day

Books, Monographs authored/co-authored:

S. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1	Dr. Devdas Menon	Structural Analysis	M/s Narosa Publishing House, New Delhi	--
2	Dr. Gandhi S R	Seismic Retrofit of Building (Chapter 11 and 12)	Narosa Publisher	Co-Author
3	Dr. Boominathan A.	Design of Foundations in Seismic areas: Principles and Applications, Chapter 8/4	National Information Centre of Earthquake Engineering , IIT Kanpur, 2007	--
4	Dr. Boominathan A.	Handbook on Seismic retrofit, Chapter 11	Narosa Publishers, 2008	Co-Author
5	Dr. Indumathi Nambi M	Book Chapter on "Irrigation" in book titled "Measure of Impact of Science and Technology in India - Agriculture and Rural Development"	MSSRF and Office of Principal Scientific Adviser to the Government of India, 2007	MSSRF team
6	Dr. Indumathi Nambi M	Book Chapter on "Drinking Water" in book titled "Measure of Impact of Science and Technology in India - Agriculture and Rural Development"	MSSRF and Office of Principal Scientific Adviser to the Government of India, 2007	MSSRF team
Monographs:				
1	Dr. Indumathi Nambi M	"Ground water pollution by petroleum compounds from leaking underground storage tanks"	Sustainability tomorrow Volume 2, Issue 1, 20-26, CII-ITC Centre for Excellence for Sustainable Development, New Delhi. 2007	--

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Humboldt Fellowship:		
	Dr. B.N. Rao	2006
INAE:		
	Dr. S. Mohan	2005
ISTE:		
	Dr. P. Alagusundaramoorthy	1997
	Dr. Appa Rao G	1996

SI. No.	Name of faculty	Year of admission
Others :		
International society for Soil Mechanics and Foundation Engineering (ISSMFE)	Dr. A. Boominathan	1999
Indian Society for Earthquake Technology (ISET)	Dr. A. Boominathan	1999
Indian Geotechnical Society (IGS)	Dr. A. Boominathan	1999
Indian Society of rock Mechanics & Tunneling Technology (ISRMTT)	Dr. A. Boominathan	2001
Fellow of Acoustical society of India	Dr. A. Ramachandraiah	1992
Member Acoustical Society of America	Dr. A. Ramachandraiah	2002
Fellow, Indian Society for Lighting Engineers	Dr. K. Ramamurthy	2007

Journal Editorial Boards:

S. No.	Name of faculty	Position (Editor/Member)	Journal Name
1	Dr. Gandhi S R	Chief Editor	Indian Geotechnical Journal, New Delhi
2	Dr. Rajagopal K	Editorial Member	Indian Geotechnical Journal, New Delhi
3	Dr. Dodagoudar G.R.	Co-Editor	Indian Geotechnical Journal, New Delhi (Upto November 2007)

4.6.4 Design and Development Activities:

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

- Developed a computer program for fuzzy finite element and meshfree analyses of beams on elastic foundations.
- Developed a computer program for meshfree analysis of contaminant transport through porous media.

New facilities added or major equipment procured:

S. No.	Name of Equipment	Value (Rs.)
1	Corelock Density Measurement Device	5,62,000
2	Electro Dynamic Shaker	6,54,000
3	Diesel Forklift 410 capacity	1,09,075
4	Olympus Model Microscope	5,67,175
5	Wheel Tracker	17,20,000

4.6.5 Research and Consultancy:

Sponsored Research Projects:

S. No	Title	Duration	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1	Development of Experimental Set up to Perform Multi-axial Mechanical Tests on Soft Tissues and 3D Reconstruction of their Gross Structure through Optical Imaging	3 Years	Department of Biotechnology	43.56	Saravanan U
2	Investigation on the performance grade properties of bitumen processed at Chennai Petroleum Corporation Limited (CPCL), Chennai and development of warrants for modification	2 Years	Chennai Petroleum Corporation Ltd	21.63	Muralikrishnan J
3	Behaviour of slender reinforced concrete beams	3 Years	Department of Science & Technology	12.80	Devdas Menon
4	Towards understanding the standard bond test and development of model for bond strength of lap splices in reinforced concrete	3 Years	Department of Science & Technology	11.59	Appa Rao G

S. No	Title	Duration	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
5	Evaluation of relaxation loss in pre-stressing cables for 100 years-Phase II	9 Months	Department of Atomic Energy	04.02	Appa Rao G
6	Estimation and prediction of traffic parameters under mixed traffic conditions for its applications	3 Years	Department of Science & Technology	08.16	Lelitha Devi V
7	Study of granite and sandstone - their weathering characteristics and structural properties in ASI monuments	18 Months	Archeological Survey of India	08.00	Mathews M S
8	Decision Support models for highway maintenance managements	2 Years	Department of Science & Technology	04.81	Veeraragavan A
9	Numerical modeling and spatial moment analysis of mobility and mixing of reactive contaminants in low permeability hard rocks under non-isothermal conditions	3 Years	Department of Science & Technology	02.76	Suresh Kumar G
10	Heat Evolution in HPC and Its Effects on Long Term Durability	5 Years	DST	07.67	Manu Santhanam
11	Long Term Effects of Acceleration of Strength Gain in Concrete	3 Years	AICTE	10.50	Manu Santhanam
12	Characterization Of Structural Wall Concrete Used In Fast Reactors For Structural /Shielding Purpose	2.5 Years	IGCAR	16.74	Manu Santhanam Ravindra Gettu
13	Investigation of Incompatibility Between Indian Cements and Water Reducing Chemical Admixtures	3 Years	DST	39.02	Manu Santhanam Ravindra Gettu
14	Affordable Housing with Lightweight concrete	2 years	(DST-NSF) In collaboration with Arizona State University, USA,	04.30	Dr. K. Ramamurthy Dr. Koshy Varghese
15	Development and investigations on Lightweight foam concrete interlocking block masonry	2 years	Building materials and Technology Promotion Council, New Delhi	12.50	Dr. K. Ramamurthy
16	Environmental Technology	3 years	IIT Madras	40.25	Dr. S. Mohan (PI) Dr. I.S. P.Shet, (Co-PI) Dr. R. Sivanandan (Sub.Project Coord)

Industrial consultancy Projects:

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
1	Mohan S	Design of Dewatering arrangements for Srirangam Underground Sewerage Systems.	Tamil Nadu Water Supply and Drainage Board - Trichy	0.15
2	Devdas Menon	Testing of pre - stressing strand for PSC.	Common Code	0.50
3	Gandhi S R	Improvement of Tenali Carriageway	Government of Andhra Pradesh - AP	0.50
4	Kalyanaraman V	Review of failure of structure at HICC.	Hyderabad International Convention Centre	0.10
5	Saravanan U	Design proof checking and approval of PVC liner design.	Shriram EPC Limited	0.30

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
6	Gandhi S R	Feasibility study on use of Fly Ash for Embankment construction for Fast Reactor Fuel Cycle Facility at IGCAR.	Indira Gandhi Centre for Atomic Research	2.25
7	Devdas Menon	Fatigue Tests of composite sleepers.	Motherson Sumi Systems Limited	8.42
8	Ramachandraiah A	Evaluation the insertion loss of insulated panels	DCM Hyundai Ltd.,	0.20
9	Ramachandraiah A	Evaluation the vibration severity	Simplex Infrastructures Ltd.	0.28
10	Ravindra Gettu	Mixture design of SCC	Puducherry Medical College	0.10
11	Satish Kumar S R	Structural stability certificate	Peevees Realtors India Pvt. Ltd.,	0.70
12	Satish Kumar S R	Designers handbook for aluminium roof trusses	Hindalco Industries Ltd.,	1.75
13	Gandhi S R	Light House Structure at Kalwan reef (in mid sea)	Lighthouses & Lightships	0.30
14	Devdas Menon	Testing of concrete sleepers	Nellai Concrete Products & Construction Co.(P) Ltd.,	1.69
15	Gandhi S R	Investigation of leakage in balancing reservoir	Salem Steel Plant	0.11
16	Gandhi S R	Foundation for Neyveli plant at Tuticorin	Neyveli Lignite Corporation Ltd.,	4.49
17	Gandhi S R	Pile foundation design	Afcons Infrastructure Ltd	0.10
18	Ravindra Gettu	Evaluation of micro concrete	Sika India Pvt. Ltd.,	1.40
19	Thamizh Arasan V	Advice on quality control of road works in Tuticorin Port Area	Tuticorin Port Trust	2.10
20	Thamizh Arasan V	Material characterisation mix design for road works in Airport area	Airports Authority of India	0.65
21	Meher Prasad A	Vetting and approval of Telecom Shelter Design	Shakti Opto-Teelinks	1.80
22	Gandhi S R	Remedial measure for Sacramento Light House	Lighthouses & Lightships	0.22
23	Gandhi S R	Foundation design for Hissar Power Plant	Utility Energytech & Engineers Pvt. Ltd.,	2.69
24	Thamizh Arasan V	Characterisation of materials and mix design for road works	SPL Infrastructure Pvt. Ltd.,	0.85
25	Rajagopal K	Assistance for construction of rubble mound revertment at East Quay	Chennai Port Trust	0.57
26	Satish Kumar S R	Sheet pile material test	Chennai Port Trust	0.10
27	Santhakumar A R	Performance evaluation study of experimental road	Neyveli Lignite Corporation Ltd.,	3.73
28	Mathews M S	Seismic retrofit of L & T bungalows	Central Public Works Department - New Delhi	5.04
29	Murty B S	Checking the design of transient protection system of Sripadsagar Project	Saisanket Enterprises	0.79
30	Indumathi M Nambi	Analysis of furnace wastes for hazardous heavy metals	Agni Steels (P) Ltd.,	0.31
31	Gandhi S R	Recommendation for dredging and reclamation	Andaman Harbour Works	0.35
32	Meher Prasad A	Proof-checking of design for Pre Cast I - Girder in lieu of cast-in-situ for minor bridge up to span 16 mts.	Agarwal - JMC (JV)	0.56

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
33	Meher Prasad A	Retrofit Analysis of Delhi Sachivalaya	Public Works Department - TN	6.18
34	Satish Kumar S R	Optimization of weigh bridge structure weight	Strategic Weighing Systems Ltd.	0.25
35	Mohan S	Design of wet scrubber for boilers	Unicom Engineers	0.30
36	Gandhi S R	Opening regarding pile foundation design	Afcons Infrastructure Ltd	0.11
37	Gandhi S R	New ash dyke at Tuticorin	Tamil Nadu Electricity Board	0.22
38	Gandhi S R	Foundation for shahpur power plant	Maharashtra Energy Generation Ltd.,	2.92
39	Satish Kumar S R	Testing of HTS wire	South Central Railway - Kadapa	0.06
40	Satish Kumar S R	Testing of HTS wires	South Central Railway - Tirupathi	0.06
41	Satish Kumar S R	Testing HT wires	Southern Railways	0.06
42	Satish Kumar S R	Relaxation test for 100 hrs.	Usha martin industries limited,	0.17
43	Satish Kumar S R	Relaxation test for HT strands	KMC Oriental - BSCPL (JV)	0.17
44	Satish Kumar S R	Relaxation test for 1000 hrs.	Delhi Metro Rail Corporation Ltd.,	0.25
45	Gandhi S R	RMZ Millennia Business Park	Simplex Infrastructures Ltd.,	0.22
46	Ligy Philip	Technical appraisal of effluent treatment process	Veerapandi Common Effluent Treatment Plant (P) Ltd.,	1.12
47	Ligy Philip	Testing of water sample as per IS 456-2000	RDS Project Limited	0.11
48	Ligy Philip	Technical appraisal of effluent treatment process	Mannarai Common Effluent Treatment Plant (P) Ltd.,	0.67
49	Veeraragavan A	Pavement design for Nokia Sez Unit at Sri Perumbudur	Consolidated Construction Consortium Ltd	0.50
50	Satish Kumar S R	Testing of HTS strands	Southern Railway	0.06
51	Devdas Menon	Testing of pre-stressing strand for PSC	Common Code	1.00
52	Devdas Menon	Design of Hexagonal Tower	Lighthouses & Lightships	1.12
53	Satish Kumar S R	Testing of pre-stressing strand for PSC	Common Code	0.50
54	Ligy Philip	Technical appraisal of effluent treatment process	Villarasampatti Common Effluent Treatment Plant	1.12
55	Murty B S	Calibration of water current meters	Common Code	1.00
56	Meher Prasad A	Calibration of VSL Multi Jack type of ZPE 460/31	VSL India Pvt Ltd	0.79
57	Rajagopal K	Recommendation of Foundation for Ariankuppam Bridge	Public Works Department	0.57
58	Satyanarayana K N	Promoting effective water management polices and practices - water utilities data book	Asian Development Bank	5.28
59	Thamizh Arasan V	Evaluation of suitability of materials for GSB of NH works	National Highways Authority of India	1.07
60	Devdas Menon	Testing of pre-stressing strand for PSC	Common Code	1.00
61	Ravindra Gettu	Evaluation of PPC cement	Ultra Tech Cement Ltd	0.32

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
62	Mohan S	Air quality monitoring in and around the furnace unit	Venture Power Systems India Ltd.,	1.12
63	Boominathan A	DPL tests for compressor houses of OHCU project, IOCL Haldia	Punj Lloyd Ltd.,	7.30
64	Meher Prasad A	Design checking of towers height 24m & 60m & tower and pile foundation design	Aster Teleservices Pvt. Ltd.,	1.91
65	Thamizh Arasan V	Evaluation of suitability of materials for airfield pavement	Airports Authority of India	0.83
66	Devdas Menon	Fastening repeated load test, rail seat repeated load test and fic pad test	ISCO Track Sleepers Pvt. Ltd.,	2.25
67	Satish Kumar S R	Proof checking of BG AC loco shed at Royapuram	Shree Giri Consultants	0.30
68	Devdas Menon	Structural design of model house	Coromandel Fertilisers Limited	0.34
69	Gandhi S R	Foundation for housing complex	Olympia Infratech Pvt. Ltd.	0.90
70	Gandhi S R	To check suitability of soil for site fill	Siemens India Ltd.,	0.29
71	Appa Rao G	Stability analysis and proof checking of design of multi-storyd RC building	Suryavardhan Estates Pvt. Ltd.,	3.50
72	Devdas Menon	Proof checking of designs for 7 numbers of bridges consisting of foundations, Sub-structures and super structures for the 4 laning of NH-45 between Tindivanam and Ulundurpet.	GMR Projects Private Limited	12.13
73	Thamizh Arasan V	Traffic management study for large commercial complex	ITC Limited	1.35
74	Devdas Menon	Testing of rapid wall panels for standard quality control tests	Coromandel Fertilisers Limited	1.35
75	Veeraraghavan A	Karnataka state highways improvement project II - DPR preparation - road safety	Scott Wilson Kirkpatrick(I) Pvt Ltd.,	0.56
76	Saravanan U	Design proof checking of sewer	Shriram EPC Limited	0.40
77	Meher Prasad A	Services for verification and approval of tower and foundation design.	Electronics Corporation of India Ltd.	2.47
78	Meher Prasad A	Proof Checking proposed multi storey apartments for 'A' & 'B' blocks	Arun Excello Infrastructure (P) Ltd.	5.55
79	Tamizh Arasan V	Design of grade separation facilities for IT corridor	DC India	1.40
80	Murty B S	Pulichintala hydro electric project (4x30 MW) - Tail race channel mathematical model studies	Andhra Pradesh Power Generation Corporation	1.12
81	Satish Kumar S R	Physical study of relaxation test for 100 hrs	Miki Steel Works (P) Ltd	0.24
82	Boominathan A	Services for BVT tests	Geo Marine Consultants Pvt. Ltd.,	0.90
83	Meher Prasad A	Vertical bending fatigue test of axle housing	Axles India Limited	2.81
84	Devdas Menon	Proposed tecpro I.T. park buildings at Sipcot - Siru Seri	TECPRO Systems (P) Ltd.	6.74
85	Satish Kumar S R	Testing of H.T. strands	National Projects Construction Corporation Limited	0.17

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
86	Gandhi S R	Compaction piling works for TTTAC building	Rajiv Gandhi Centre for Aquaculture	0.34
87	Devdas Menon	Testing of L&T form work components at IIT	Larsen and Toubro Limited	3.04
88	Satyanarayana K N	Advice of materials, quality and productivity issues for construction of telecommunication towers	GTL Limited	3.00
89	Gandhi S R	Design of foundation for Rosa Power Plant	Utility Energytech & Engineers Pvt. Ltd.,	3.26
90	Ligy Philip	Design and performance evaluation of a pilot scale flue gas desulphurization system	Hi-Tech Carbon	5.62
91	Ligy Philip	Testing for ION chromatography	Sargam Metals Private Limited	0.08
92	Rajagopal K	Recommendations for the foundations of proposed water supply tanks at Officer Training Academy	Garrison Engineer	1.15
93	Devdas Menon	Proof checking of structural design of H-01 residential Development at Boulder Hills, Hyderabad.	Emaar MGF Land Private Limited	8.30
94	Satish Kumar S R	Testing of HTS strands	Southern Railway	0.08
95	Satish Kumar S R	Optimization weigh bridge	Strategic Weighing Systems Limited	0.20
96	Gandhi S R	Foundation and floor design of factory	S. S. Consultants	0.07
97	Satish Kumar S R	Design checking of pole for telecom installation	Maruthi Engineering	0.75
98	Ligy Philip	Ground water quality monitoring and modeling for preparation of action plan for remedial measures for Ranipet area	Central Pollution Control Board	1.00
99	Satish Kumar S R	Testing of wire & stand - Relaxation test for 1000 hrs & physical test	Sutlej Ropes Pvt. Ltd.	0.35
100	Kalyanaraman V	Proof checking of indoor stadiums at New Delhi	Delhi Development Authority	17.00
101	Satish Kumar S R	Relaxation test for 100 and 1000 hrs	Southern Railway	0.28
102	Satish Kumar S R	Fatigue test of leaf spring assembly - I stage	TACO Hendrickson Suspensions Pvt. Ltd.	0.80
103	Devdas Menon	Proof checking of ROB at Km 165/14-5 between Adilabad-Pimpalkutti stations extended at Km 165/4-5 between Adilabad - Kosai stadium - Reg.	Adilabad Expressway Private Limited	3.59
104	Santhakumar A R	Repair and rehabilitation of vocational training centre building in mine area	Neyveli Lignite Corporation Ltd.,	0.89
105	Boominathan A	Providing engineering and technical services and conducting load tests on piles for DHD T Project	Simplex Infrastructures Ltd.,	7.64
106	Boominathan A	Expert opinion on geotechnical aspects of Penstock Foundation	Kerala State Electricity Board	0.22
107	Satish Kumar S R	Testing of HTS strands	Gammon India Ltd.,	0.08
108	Satish Kumar S R	Testing of HTS strands	Southern Railway	0.08

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
109	Tamizh Arasan V	Advice on Up-gradation of runway & taxiway pavements	Airports Authority of India	1.17
110	Ramachandraiah A	To study the severity of noise and vibration at a construction site	Kerala House, Chennai (KTDC)	0.45
111	Appa Rao G	Provision of resurfacing of taxi track, Port Blair (Concrete mix design)	Garrison Engineer	0.83
112	Murty B S	Calibration of water current meters	Common Code	1.00
113	Santhakumar A R	Proof checking of structural design	Chennai Metropolitan Development Authority	4.25
114	Boominathan A	Proof checking for incinerator foundations	Tamil Nadu Waste Management Limited	2.25
115	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	0.50
116	Satish Kumar S R	Testing of HTS strands	Southern Railway	0.07
117	Ligy Philip	Water sample analysis	FLSmith Minerals Pvt. Ltd	0.11
118	Satish Kumar S R	Testing of pre-stressing strand of PSC	Common code	1.00
119	Mohan S	Advice for environmental and technical consideration on the outer ring road, Hyderabad	Government of Andhra Pradesh	13.48
120	Mohan S	Approval of design and drawings for 50MLD & 62.5MLD STPs	Va Tech Wabag Ltd	6.74
121	Santhakumar A R	Proof checking - Formwork scheme	Larsen and Toubro Limited	0.38
122	Meher Prasad A	LAFOR form work	Ashok Kumar Dhavale	0.34
123	Meher Prasad A	Proof checking for proposed residential apartments for "OPLINE"	General Power Attorney	7.87
124	Boominathan A	Design of pile foundation for cement plant at Yeman	ERCOM Consulting Engineers Pvt. Ltd,	0.45
125	Devdas Menon	Bridge at Kallummoottikadavu across T.S. canal - Proof - Checking	P.T. Mathai Construction Company Pvt Ltd.	0.50
126	Devdas Menon	Relaxation test for 1000hrs	Bureau of Indian Standards	0.56
127	Devdas Menon	Relaxation test for 1000 hrs.	Bureau of Indian Standards	1.40
128	Devdas Menon	Construction of high level bridge across Paravana River at 1/4 km of Patchayankuppam - Sothikuppam Rpad - Proof checking of sub structure	P & C Construction Pvt. Ltd.,	0.56
129	Appa Rao G	Conduing pull-out test for 16mm TMT rebars	Haji Construction Additives & Consultants	0.12
130	Devdas Menon	Testing of modular towers	Larsen and Toubro Limited	1.35
131	Meher Prasad A	Strengthening of existing RCC Bridge below runway across Mitti River	Larsen and Toubro Limited	0.56
132	Meher Prasad A	Report on testing of Timber Beams	Zircon Exports (P) Ltd	0.30
133	Rajagopal K	Proof checking and advice for construction of reinforced earth load transfer platform at Patna	Navayuga Engineering Company Limited	1.13
134	Devdas Menon	Proof checking of approval of design of superstructure for ROB near Mettur gate	DS Toll Road Ltd.,	0.56
135	Meher Prasad A	Calibration of Hydraulic jack	Simplex Infrastructures Ltd.,	0.22

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
136	Karthik K Srinivasan	Mode choice estimation for proposed Hyderabad metro rail	L & T Ramboll Consulting Engineers Ltd.,	4.50
137	Tamizh Arasan V	Material testing and mix design for NH works	National Highways Authority of India	1.18
138	Boominathan A	Measurement of vibration and noise during construction of bored concrete pile	Residential Complex	0.50
139	Devdas Menon	Proof checking & Approval of "Design of superstructure for ROB near Km.375 - Payment of consultancy service charges.	DS Toll Road Ltd.,	0.67
140	Ramachandraiah A	Evaluation of acoustical and lighting properties	National Thermal Power Corporation Ltd.,	0.34
141	Meher Prasad A	Testing of scaffolding materials	Consolidated Construction Consortium Ltd	0.96
142	Meher Prasad A	Load calibration test for the mono jack	Sanfield India Ltd.,	0.11
143	Gandhi S R	Remedial measures in pile construction	PMC Projects	0.22
144	Devdas Menon	Testing of Elestomeric Bearing	Agarwal - JMC (JV)	0.49
145	Devdas Menon	Testing of Samples	Sangam Wires Pvt. Ltd.,	1.07
146	Devdas Menon	Testing of Samples	Ramsarup Nirmaan Wires	0.37
147	Meher Prasad A	Proof checking of E-Tab analysis of our Estancia Project	L&T Arun Excello Realty Pvt. Ltd.,	13.48
148	Satish Kumar S R	Testing of HT strands	Common Code	2.00
149	Satish Kumar S R	Proof checking of detailed design of Munger Rail-cum-Road Bridge	Rites Limited	3.09
150	Devdas Menon	Testing of Bearing	Bharat Heavy Electricals Ltd.,	1.01
151	Meher Prasad A	Calibration test	Common Code	1.00
152	Gandhi S R	Light House at Poombukar & Mallipattinam	Ministry of Shipping, Road Transport and Highways	1.35
153	Devdas Menon	Proof checking of various structures of light house VTMs towers at Mundra(Navinal)	Mundra Port and Special Economic Zone Ltd.	0.56
154	Devdas Menon	Testing of Props	Sri Scaffolding Pvt. Ltd.	0.72
155	Gandhi S R	Design of basement excavation	Hochtief (India) Pvt. Ltd.	0.34
156	Meher Prasad A	Mixed development of Old Mahabalipuram Road	Mavaadu Projects Pvt. Ltd.	12.92
157	Meher Prasad A	Design checking of 70 m triangular angular 40 m triangle 30 m	Teracom Ltd.	1.35
158	Meher Prasad A	Proposed residential & commercial project at Village - Thalambur	Carmen Builders and Construction (P) Ltd.,	37.08
159	Mohan S	Compilation and validation of data collected from the rivers of Tamilnadu	Tamilnadu Pollution Control Board	0.56
160	Meher Prasad A	Proof checking of Multistorey residential blocks	Sabari Foundations Pvt. Ltd.	4.20
161	Meher Prasad A	Dynamic load of 15.2mm monostrand	Nuclear Power Corporation of India Ltd.	2.00
162	Mathews M S	Construction and restoration of Moti Mahal	Ministry of Environment and Forests	12.36

Sl. No.	Name Of Faculty	Title	Industry	Amount (Rs. in lakhs)
163	Rajagopal K	Testing and recommendations for construction of RoB at kushinagar, UP	Simplex Infrastructures Ltd.	1.25
164	Gandhi S R	Foundation design for ruwais sulphur project	Dodsai Private Limited	2.70
165	Satish Kumar S R	Proof checking of detailed design and drawings of superstructure of Patna Rail cum road Bridge	Rites Limited	6.74
166	Robinson R G	Testing of rock core sample	Navayuga Engineering Company Limited	0.20
167	Ligy Philip	Tirupur Textile Industries common effluent treatment plants zero discharge projects	Creative Environmental Consultants	0.67
168	Devdas Menon	Testing of Pre-Stressing Strand of PSC	Common Code	1.00
169	Meher Prasad A	Testing of Elastomeric Bearing	Maytas Infra Limited	0.25
170	Meher Prasad A	Proof Checking of Grade Separator Bridge at Km 60+520	GMR Projects Private Limited	2.02
171	Meher Prasad A	Design checking of 70 m triangular angular 40 m triangle 30 RTT	Kaypee Marketing Services	0.51
172	Gandhi S R	Power plant at Krishnapattinam	Coastal Andhra Power Limited	4.27
173	Meher Prasad A	Charges for Vertical Bending Fatigue Test of Axle Housing (Two Samples)	Axles India Limited	2.81
174	Meher Prasad A	Design & drawing check of harduaganj ESP raft foundation	Bharat Heavy Electricals Ltd.	0.67
175	Meher Prasad A	Consultancy Services for verification and approval	Electronics Corporation of India Ltd.	0.65
176	Thamizh Arasan V	Characterisation of Materials Highway Pavement works	National Asphalt Products and Construction Company	0.92
177	Thamizh Arasan V	Traffic Study in Chennai Port Area	Chennai International Terminals Private Limited	1.50
178	Manu Santhanam	Development of new generation superplasticizers	Clariant Produkte GmbH, Germany	3.48
179	Gandhi S R	Site Inspection and Technical report to be provided to the high court of Madras	ITC Limited	0.25
180	Meher Prasad A	Cyclic Load Testing of Aluminum beams	Larsen and Toubro Limited	0.56
181	Meher Prasad A	Charges for design proof checking and verification of Civil Structural design	Merit Technologies India Limited	0.67
182	Appa Rao, G	Preparation and Testing of RC Deep Beams	Sidhartha Engineering College, AP	0.20
183	Manu Santhanam	Development of new generation superplasticizers	Clariant Produkte, Germany	3.36
184	Manu Santhanam	Use of Manufactured Sand as Fine Aggregate in Concrete for Railway Sleepers	Patil Group, Secunderabad	3.0
185	Manu Santhanam A R Santhakumar	Investigation of Damaged RCC Chimney	KSK Energy Ventures, Hyderabad	0.8

Retainer Consultancy:

Sl. No.	Name of Faculty	Title	Industry	Amount (Rs. In lakhs)
1	Boominathan A	Narmada Water Resources Water Supply & Kalpasar Dept (Gujarat Govt)	Narmada Water Resources Water Supply & Kalpasar Dept (Gujarat Govt)	1.20
2	Rajagopal K	L&T Ramboll Consulting Engineers Limited	L & T Ramboll Consulting Engineers Ltd., Chennai	1.50

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

Dept. of Civil Engineering, IIT Madras and Government College of Engineering, Trivandrum

Dept. of Civil Engineering, IIT Madras and the Institute Universitate D'Etudes Du Development Geneva .

Dept. of Civil Engineering, IIT Madras and NUS Singapore

Dept. of Civil Engineering, IIT Madras and Auburn University, USA

Faculty members participation with other institution under MoU:

Sl. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
1	Dr. K. Rajagopal	Geosynthetics and their Applications	College of Engg., Thiruvananthapuram

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	--	32
Total No. of papers published in Refereed International Journals	--	61
Total No. of papers presented in National Conferences	--	31
Total No. of papers presented in International conferences	--	116

Details:**In Refereed National Journals:**

1. Sunitha N V, Dodagoudar G R and Rao B N, "Element Free Galerkin Method for Beams on Elastic Foundations", Journal of Structural Engineering, Vol. 34, No.5, December 2007 – January 2008
2. Rao B N, "An Improved Meshfree Method for Fracture Analysis of Cracks," Journal of Structural Engineering, SERC, Vol. 34, No.4, October-November 2007.
3. Arun C.O, Rao B N and Siva kumar M S "Stochastic Meshless Method for Damage Mechanics," Journal of Structural Engineering, SERC, Vol.34, No.3 August-September 2007, pp 181-190.
4. Chowdhury R, Rao B N, and Prasad A M :Development of a New Bi-directional Hysteresis Model for RC Structural Element," Journal of Structural Engineering, SERC Vol. 34, No.2 June-July 2007, pp 88-94.
5. Paul S, and Rao B N "A modified Quarter Point Element for Fracture Analysis of Cracks," Indian Journal of Engineering and Materials Sciences, Vol.14, February 2007, pp.31-38.
6. Awanti, S.S, Amarnath, M.S and Veeraragavan, A, ' Characterisation of SBS and SBR Polymer Modified Bituminous Paving Mixes Using Repeated Load Indirect Tensile Test', Highway Research Bulletin No. 76, Indian Roads Congress, 2007.
7. Mishra,S.K and Veeraragavan, A, ' Performance Evaluation of SBS Modified Bituminous Concrete Mixes', Highway Research Bulletin No. 77, Indian Roads Congress, 2007.
8. Shailendra Singh and Veeraragavan, A, ' Preventive Maintenance-Cost Effective Technique to Preserve Indian Highways', Highway Research Bulletin No.77, Indian Roads Congress, 2007.

9. S. Mohan, and S.T. Ramesh, "How Recirculation Ratio Affects Biological Solids Retention Time and Process Stability in the Activated Sludge Process", *Journal of the Institution of Public Health Engineers*, Vol. 07, No. 2., pp. 30-34. 2007
10. Suriya Prakash, S., and Alagusundaramoorthy, P. "Experimental Study On Masonry Wall Joints And Shear Triplets Externally Bonded With GFRP Composites", *Journal of Institution of Engineers*, India, 88 (2007), 24-31.
11. Gunasekaran, M. and Robinson, R. G. (2007). Measurement of strains in Triaxial Test Specimen: A Review. *Indian Geotechnical Journal*, 37(3), pp. 227-244.
12. Mahalingam, A., Kim, Julie. 2007. Private Risks In Public Infrastructure – A Review Of The Literature, *Nicmar Journal*, Vol 22, No.3, Pp 5-23
13. Shiva Nagendra, S.M. and T.P. Halappa Gowda, 2007. Modelling of quantitative structure activity relationship for aquatic toxicity assessment. *Journal of Public Health Engineers (India)*, 2007-08 (3), 13-20.
14. Boominathan, A., and Sudhir, K. "Cement column treatment for liquefaction mitigation." *Indian Geotechnical Journal*, Vol.37, No.2, PP. 245-258, 2007.
15. Jaya V., Dodagoudar G.R. and Boominathan A" Estimation of Maximum Shear Modulus of Sand from Shear Wave Measurements by Bender Elements', *Indian Geotechnical Journal*, 37(2), pp.157-173, 2007.
16. Sajna, S., Dodagoudar, G. R. and Rajagopal, K. (2008). "Reliability Analysis of Reinforced Soil Walls," *Indian Geotech. J.*, Vol. 38, pp. 47 - 67.
17. R. Kalai Selvi and A. Ramachandraiah, Some studies on environmental noise characteristics of Chennai city, *Journal of Acoustical Society of India*, 2007
18. Jyothi Krishnan, Srinivas Sriramula and V Kalyanaraman, "Properties of Indian Hot-Rolled Structural Steel Sections for LRFD", Tech. Note, *International Journal of Structural Engineering*, SERC, 2006.
19. Pradip Sarkar, Rajesh Agrawal and Devdas Menon, "Design of beam-column joints under seismic loading – a review", *Journal of Structural Engineering*, SERC, Vol. 33, No. 6, pp 449-458, Feb-March 2007.
20. Sivanandan, R., Lakshmanan, V. and Bharath, P., "Application of GPS-GSM-GIS Technology to Bus Travel Time and Speed Studies," *Indian Highways*, IRC, New Delhi, pp. 9-17, March 2008.
21. Suresh, V. and Sivanandan, R., "Peaking Flow Characteristics of Urban Road Traffic – A Case Study of Chennai," *Indian Journal of Transport Management*, Vol. 31, No. 3, pp. 263-272, July – Sep. 2007.
22. Arnab K Bhattacharya, Devdas Menon and K Rajeevan, "Optimal design of precast pipe racks", *Indian Concrete Journal*, Vol.82, No.3, pp 21-28 March 2008.
23. Reddy, R. M., and Rao, B. N., "On the calculation of derivatives of stress intensity factors using fractal finite element method," *Indian Journal of Engineering & Materials Sciences*, 2008.
24. Sunitha, N. V, Dodagoudar, G. R., and Rao, B. N., "A Fuzzy Meshless Method for Beams on Elastic Foundation," *Indian Geotechnical Journal*, Vol. 38(2), pp. 119-139, 2008.
25. Chowdhury, R., Rao, B. N., and Prasad, A.M., "High Dimensional Model Representation Based Higher Order Limit State Function for Reliability Analysis," *Journal of Structural Engineering*, Vol. 34 No.6, pp. 393-405, February–March 2008.
26. Rao, B. N., "An Improved Meshfree Method for Fracture Analysis of Cracks," *Journal of Structural Engineering*, SERC, Vol. 34, No.4, October–November 2007. Arun, O. C., Rao, B. N., and Sivakumar, S. M., "A Stochastic Meshless Method for Damage Mechanics," *Journal of Structural Engineering*, SERC, Vol. 34, No.3, August–September 2007, pp. 181–190.
27. Chowdhury, R., Rao, B. N., and Prasad, A.M., "Development of a New Bi-directional Hysteresis Model for RC Structural Element," *Journal of Structural Engineering*, SERC, Vol. 34, No.2, June–July, 2007, pp. 88–94.
28. Appa Rao, G., and Injaganeri, S.S., "Investigations of Size Effect on Shear Strength of Reinforced Concrete Beams", *Journal of Structural Engineering*, India, Feb-Mar, 2007, V.36, No. 6, pp.499-504.

29. Appa Rao, G., Aravind, J., and Eligehausen, R., "Evaluation of Minimum Flexural Reinforcement in RC Beams using Fictitious Crack Approach", *Journal of Structural Engineering*, V. 34, No. 4, Oct-Nov, 2007, pp. 277-283.
30. Ilangovan R., Nagamani, K., and Ramamurthy, K. "Strength and durability studies on concrete by using quarry dust as fine aggregate", *The Bridge and Structural Engineering, Journal of the Indian National Group of the International Association for Bridge and Structural Engineering*, June 2007, Vol.37, No.2, pp 43-54.
31. Nambiar, E.K.K. and Ramamurthy, K. "Fresh state characteristics of foam concrete" *ASCE Journal of Materials in Civil Engineering*, Vol.20, No.2, Feb 2008, pp 111-117.
32. Nambiar, E.K.K. and Ramamurthy, K. "Models for strength prediction of foam concrete" *Materials and Structures*, Vol.41, 2008, pp 247-254.

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1. Praveen Kumar R, Dodagoudar G R and Rao B N "Meshfree Modelling of contaminant Transport in Unsaturated Porous Media," *Geomechanics and Geoengineering: An International Journal*, Vol. 2, 2007, pp 129-136.
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69. 'Automation of Scheme Preparation and BOQ Calculation for L&T Aluform' by Sattigari Nagireddy, Ashwin Mahalingam and George Thomas, presented at the International Symposium for Automation and Research in Construction, Kochi, India, Sep 19-21, 2007
70. 'The Entrepreneurs, the Environment and the Ties between them: A Case Study of the Process of Social Entrepreneurship' by Ashwin Mahalingam, Paul Basil and Ayush Nigam, presented at the International Forum of Social Entrepreneurship, Hangzhou, China, May 26-28, 2007
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115. Priya, R, Karthik. K. Srinivasan and Veeraragavan, A, ' Sensitivity of Design Parameters on Pavement Maintenance Decisions at Project Level, CD ROM of the Annual Meeting of The Transportation Research Board, January 2008.(Accepted for publication in the Journal of the Transportation Research Board, USA)

Distinguished Visitors to the Department:

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Dr. Jose Turmo University of Catalonia, Spain	9-13 April 2007	Visit to Department
2.	Dr. Kuruvilla John, Asso. Dean Dr. Frank H Dotterweich, Texas A & M Univ.	30 July 2007	Deliver a lecture
3.	Prof. R. Srinivasan, Texas A & M Univ.	6 September 2007	Deliver a lecture
4.	Dr. Chris A Bell, Asso. Dean Engg. Oregon State Univ.	28 September 2007	Deliver a lecture
5.	Dr. Kalyan Kankanala, Chief Knowledge Officer, Brain League IP Services Pvt. Ltd. Bangalore	5 October 2007	Held discussions on "Intellectual Property rights with faculty & students"
6.	Dr.(Mrs.) Suzanne Lacasse, Managing Director, Norwegian Geotechnical Institute, Oslo, Norway	29 October 2007	Deliver a lecture
7.	Prof. Shashi Nambisan, Director, Centre for Transportation Research and Education IOWA State University, USA	31 October 2007	Deliver a lecture
8.	Dr. Mahesh Tandon Dr. Ranga Raju K G Dr. Chandrasekaran V'S Dr. Sukumar Devotta Dr. Pandey B B	3 & 4 December 2007	Review of the Department for the period 1998-2007
9.	Delegates from Vanderbilt Univ.	7 December 2007	Collaboration in various areas of research

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
10.	Dr. Arun Chatterjee, Professor, Civil & Environmental Engg. Univ. of Tennessee, USA	18 December 2007	Deliver a lecture
11.	Prof. Susan Powers, Clarkson University	4 January 2008	Deliver a lecture
12.	Prof. Sankaran Mahadevan, Vanderbilt University, USA	08 January 2008	Deliver a lecture

S. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
13.	Prof. Pierre Becker, Ecole Central Paris, France	14 January 2008	Signing of MoU
14.	Prof., Yunis Ballim, Deputy Vice Chancellor Univ. of Witwatersrand, South Africa	17 January 2008	Deliver a lecture
15.	Dr. Joe Zietsman, Director, Centre for Air Quality Studies, Texas Transportation Institute	22 January 2008	Deliver a lecture
16.	Prof. Wolfram Ressel Dr. Philips University of Stuttgart,	30 January 2008	Deliver a lecture
17.	Dr. La Bebour Dr. J.S. Sharma Univ. of Saskatchewan, Saskatoon, Canada	05 February 2008	Discussion with faculty
18.	Prof. Muhammed Basheer Queens University, Belfast, UK	13 February 2008	Deliver a lecture
19.	Prof. Srikanth Venkatesan Victoria University, Australia	14 February 2008	Deliver a lecture
20.	Prof. Nicole Strate Speidel Head of International Office Muenster University	19 February 2008	Higher Education in German Universities
21.	Mr. Florian Hanig, Editor, GEO Germany	25 February 2008	Visit to Department
22.	Delegates from Hochschule Bremen University	5 March 2008	Visit to Department
23.	Dr. Jean Valery – Martin	10 March 2008	Deliver a lecture
24.	Prof. Andrew Parfitt Prof. Stephen Parsons University of South Australia	17 March 2008	Visit to Department

Other Activities of the Department/Centre:

Prof. V. Thamizh Arasan has been elected as Chairman, Institute of Urban Transport (India), South Indian Regional Chapter.

Prof. Ravindra Gettu has been elected as Member of the Board of Directors of the International Union of Laboratories and Experts in Construction Materials for a period of four years

The Civil Engineering Association organized "The Bigger Fight" a students – Faculty participated debate on "Should the Sethusamudram project be given the go ahead?" on 11.10.2007

Dr. S.R.Gandhi has been nominated as Member, Programme Advisory Committee (PAC) for the Fly Ash Unit of Department of Science and Technology.

Geotechnical Engineering Division celebrated Terzaghi Day and arranged lectures on various topics by Experts from Industry on 06.10.2007

Arranged a talk by Dr. Kolluru Subramaniam, City University of New York on "Strengthening of Structures Using FRP: Design and Applications on 10.01.2008

Organized a Debate on "What do you think, CEA should be doing? In a programme held on 11.01.2008.

Civil Engineering Association organized CEA Fest 2008 during 7-9 March 2008. CAD Contest, Creative Writing Contest, Debate, Brain Storming Sessions, etc. were conducted during the event.

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

S. No.	Name of the Scholar	Name of the Guide	Title of the thesis	Highlights
Ph.D.				
1.	S. Murugesan	Prof. K. Rajagopal	Geosynthetic Encased Stone Columns as Ground Reinforcement of Soft Soils	Worked on the concept of geosynthetic encasement of the stone columns in order to improve their stiffness and load carrying capacity. The concept was successfully demonstrated both by laboratory model tests and finite element analyses
2.	C. Ramesh Babu	Dr. Manu Santhanam	Performance Related Characteristics of High Early Strength Concrete	Strength and Durability properties of High Early Strength Concrete prepared using different cements and curing techniques were investigated. The Chemical composition, morphology and heat evolution characteristics of clinker were also evaluated for their effects on concrete performance.
3.	S.K. Pramada	Dr. S. Mohan	Management of Coastal Aquifer System through Modeling of Seawater Intrusion	Salt water Intrusion is a problem that affects coastal areas around the world and the coastal aquifer management is getting more and more attention day by day. The thesis on "Management of coastal aquifer system through modeling of seawater intrusion" deals with the different management measures to prevent/control seawater intrusion into coastal aquifers. A linked simulation-optimization model and a coupled Monte Carlo simulation with numerical model suggest the applicability of the model to any complex coastal aquifer system.
4.	Mary Kutty Abraham	Dr. S. Mohan	Assessment of Effectiveness of Artificial Recharge Structures	A comparative evaluation of different evapotranspiration (ET) models, and estimation of natural recharge, for the assessment of artificial recharge study was carried out. The effectiveness of different recharge arrangements were studied in Cuddalore aquifer, by constructing these structures in the field and validated with the numerical groundwater simulation model. It was observed that among the different artificial recharge structures, the percolation pond with percolation wells was found to be more effective in recharging the aquifer.

M.S.				
5.	B. Nandulal	Dr. B.N. Rao	Element free galerkin method for bimaterial interface crack	In this thesis meshless method for fracture at bimaterial interface is developed involving the following five subtasks: (1) Implementation of element free Galerkin method for bimaterial interface crack problems; (2) Development of new enriched basis for fracture of bimaterial interface crack; (3) Coupling of the proposed enriched basis with the linear basis and (4) Development of improved moving least square method of approximation; and (5) Comparison of FEA versus EFGM.
6.	Phani Mitra	Dr. Karthik K. Srinivasan	Mixed Traffic flow characteristics using the two regime two fluid model	The primary objective of this study is to develop a two-fluid model that captures empirically observed features under mixed traffic. GPS data of Chennai traffic shows that four key assumptions in current two-fluid models are violated in mixed traffic. A new two regime two-fluid model is proposed to represent the mixed traffic flow features that are empirically observed and provides a better fit than current models.
7.	N.V. Sunitha	Dr. G.R. Dodagoudar	Fuzzy, Finite Element and Mesh less Methods for Soil Structure Interaction Problems	As part of this study a fuzzy messfree method is proposed for analysis of beams elastic foundations. The performance of the proposed meshfree method is studied through numerical examples and a case study of Ground Roofing Unit. Results of the analysis are compared with the analytical solutions available in the literature.
8.	U. Sreedhar	Dr. G.R. Dodagoudar	Studies on Probabilistic Seismic Hazard Assessment and Ground Response	As part of the investigation, a comprehensive procedure is evolved to estimate the probabilistics Seismic hazard expected at various locations of the Chennai City. Results are provided in the form of uniform hazard spectra for various locations of the City.

Inter disciplinary group achievements of the Departments.

Under this project, three sub projects have been taken up for further research and to evolve suitable technologies.

1. Municipal Solid Waste Management
2. Traffic Control Strategies to Mitigate Environmental Pollution
3. Localized Wastewater Treatment System Development

In the Municipal Solid Waste Management, the major problem is open dumping of municipal solid wastes and a study on this has been taken up and a technology of using Fly ash phosphated treated Rice Husk (PRH) to adsorb the harmful heavy metals from the Solid Waste Leachate has been developed. It was found that both fly ash and rice husk have very good potential to remove the metals like copper, lead, manganese and zinc. Also with the joint effort

of IIT Madras and Aachen University, Germany, an integrated technology for treatment of solid wastes of Thanjavur Municipality is also being developed.

In the project on Traffic Control Strategies to Mitigate Environmental Pollution, two traffic control strategies were identified for evaluation in the context of vehicular emissions. These were (i) synchronization of traffic signals for uninterrupted traffic flow movement and (ii) restrictions on lane use by dedicating lanes for certain types of vehicles. Detailed methodologies were developed to evaluate these two strategies. The reductions in emissions for these strategies were quantified and it was shown that they are beneficial in terms of pollution mitigation.

In the Localized Wastewater Treatment System Development, a new technique of combining a sand filter and an activated carbon filter has been developed to study its suitability for treatment of grey wastewater generated in the hostel sector and this technology proved to be reducing more than 90% BoD, CoD and Turbidity

Prof. S. Mohan, Prof. R. Sivanandan, Prof. A. Ramachandraiah, and Prof. S. R. Gandhi of the Department of Civil Engineering were involved in this inter-disciplinary project along with Prof. U. S. Premenanda Shet, Prof. A. Ramesh, Prof. A. Mani (of Mechanical Engg. Dept.) and Prof. Paramanand Singh (of Metallurgical and Materials Engg. Dept.).

Socially relevant activities carried out by the Department

International collaboration achievements by the Department

Faculty Visit

Prof. R. Sivanandan and Prof. A. Veeraragavan visited Kwame Nkrumah University of Science and Technology (KNUST) (and other transportation agencies) in Ghana in October 2007 and held discussions with the managers of Road and Transport Engineering Project to further explore the areas of collaboration (in teaching and research) as well as discuss input to be made by each partner. A draft MoU between KNUST and IIT Madras was also discussed.

4.7 DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING

4.7.1 Introduction:

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

4.7.2 Academic Programmes:

New Courses Introduced:

Sl.No	Course No.	Title
1	CS679	Geometry and Photometry based Computer Vision
2	CS680	VLSI Design Automation Algorithms
3	CS681	Information Theory and Coding

Students on roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech.	22	28	28	30	03	111
Dual Degree	18	12	12	12	13	67
M.Tech.	42	46	–	–	–	88
M.S.	11	19	26	30	25	111
Ph.D.	03	09	09	14	26	61
Total	96	114	75	86	67	438

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	V. Masilamani C. Vanniarajan	Ph.D M.S	4th International Conference on Computer Vision, Image and Signal Processing (CISP2007)	27-29 July 2007 Prague, Czech Republic
2	R. Anitha	Ph.D.	Intl. Conference on Neural Networks (IJCNN 2007)	12th – 17th Aug '07 Orlando, Florida, US
3	Noor Mohammed SK Rajesh kumar Dasari	Ph.D. M.S	11th IEEE VLSI Design & Test Symposium (VDAT)	8th – 10th August '07 Saha Institute of Nuclear Physics, kolkatta
4	Many Scholars & Students		Home Community Oriented ICT for next Billion IFIP HOIT 2007	22nd –25th Aug '07 I.I.T Madras
5	V.G. Renumol Tushar Sharma	Ph.D M.S.	IEEE Intl. Conference on Requirements Engineering	15th –19th Oct'07 Indian Habitat Centre New Delhi
6	Sunando Sen Gupta A. Dyana	M.S. Ph.D	National Conference on Computer Vision, AI & Robotics	4th Oct '07 SRM University Chennai
7	A. Dyana	Ph.D.	Intl. Conf. on Pattern Recognition & Machine Intelligence (PR & MI'07)	20th – 22nd Dec '07 ISI, Kolkata
8	Radhika Selvamani	Ph.D	UKCBR Workshop	10th –12th Dec '07 Cambridge, UK

Sl. No	Name of the Student/Scholar	Programme	Name of the Conf./Seminar/Symposia	Date & Venue
9	P. Swapna Raj Sanasam Ranbir Singh	Ph.D. Ph.D	INFOVISION KNOWLEDGE SUMMIT	17 th –19 th Dec '07 Mumbai
10	Abdul Nizar	Ph.D	Intl. Symposium on Data, Information & Knowledge Spectrum (ISDIKS07)	12th –16th Dec '07 Amrita University Kollam, Kerala
11	N. Sadagopan Dintyala Sai Krishna Thirumala Reddy	Ph.D. M.S. M.S.	Conference on Foundations of Software Technology	11th – 16th Dec '07 IIT Delhi
12	Srinibas Swain	M.S.	AAECC – IT Symposium & IWAA Workshop on Coding & Cryptography	16th – 20th Dec '07 IISC Bangalore
13	About 25 Scholars & Students		WiSSAP 2008	2nd –5th Jan '08 I.I.T Madras
14	G. Palakshi J. Lavanya G. Udyashree K.Shyamala Noor Mohammed. Sk Rajesh Kumar D	M.Tech M.S M.S Ph.D Ph.D M.S	Intl Conference on VLSI Design & Embedded Systems 2008	4th – 8th Jan '08 Hyderabad Intl. Convention Centre Hyderabad
15	Sansam Ranbir Singh	Ph.D.	ACM Compute 2008	18th –20 th Jan '08 Bangalore

4.7.3 Faculty and their activities:

Dr Krishna Moorthy Sivalingam joined the Department as Associate Professor.

Dr Madhu Mutyam joined the Department as Assistant Professor.

Dr Shailesh Vaya joined the Department as Visiting Faculty.

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,

Janakiram D, Ph.D (IIT Delhi)

Object Oriented Systems, Software Engineering, Parallel and Distributed Systems, Database Systems, Mobile Computing, Real-Time Systems, Computer Networks and Fault-Tolerant Computing Systems.

Kalyana Krishnan.R, Ph.D (Yale)

Computer Architecture, Computer System Design, Microprocessors, Digital Electronic Systems, Computer Graphics, Statistical Signal Processing.

Kamala Krithivasan, Ph.D (Madras)

Theoretical Computer Science, Computational Geometry, Languages and Automata Theory Formal Languages and Automata Algorithms, Molecular Computing.

Sreenivasa Kumar P, Ph.D (IISc)

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

Hema A Murthy., Ph.D (IIT Madras)

Speech processing, Computer Graphics and Pattern Recognition.

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

Real-time Systems, Optical and Wireless Networks

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

E-Banking, E-Learning, Intelligent Search Engines, Multicasting, Multimedia Presentation Systems, Mobile Agents, Mobile Wireless Networks, Next Generation Web Browsers, Secure WAN Design in Heterogeneous Systems

Pandu Rangan C., Ph.D (IISc.)

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

ASSOCIATE PROFESSORS

Sukhendu Das, Ph.D (IIT Kharagpur)

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

Kamakoti V., Ph.D (IIT Madras)

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

Deepak Khemani, Ph.D (IIT Bombay)

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

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

Speech Recognition, Artificial Neural Networks, Kernel Methods.

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

Wireless Sensor Networks, Optical Network

ASSISTANT PROFESSORS

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.

Madhu Mutyam., Ph.D (IIT Madras)

Processor architecture (power, performance, thermal, reliability, and process variation-aware designs) and computability theory.

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

Software for Information Management, Algorithms. and Complexity Theory.

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

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

VISITING FACULTY

Shailesh Vaya., Ph.D (UCLA.)

Theoretical Computer Science (Distributed Computing, Foundations of cryptography and Computational complexity).

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	Prof. C. Siva Ram Murthy	IEEE Sarnoff Symposium (to present research papers)	New Jersey, U.S.A 30th Apr – 2nd May '07
2	Prof. P. Sreenivasa Kumar	IEEE Intl. Conference on Data Engineering (ICDE)	Istanbul, Turkey 16th – 20th April '07
3	Dr. V. Kamakoti	RIGHTSTART 2007 3rd Annual Workshop on Empowerment of School Teachers	8th – 13th May 2007

Sl. No	Name of Faculty	Title	Period
4	Prof. S.V. Raghavan	IFIP Intl. Conf. On Networking 2007 IFIP TC6 meeting	14th – 17th May '07 Atlanta, Georgia, U.S.A
5	Prof. C. Pandurangan	IEEE Symposium on Security & Privacy	19th – 25th May '07 San Francisco U.S.A
6	Prof. C. Siva Ram Murthy	IEEE Intl. Conference on Communication	24th – 28th June '07 Glasgow
7	Prof. S.V. Raghavan	World Wide Developer Conference WWDC'07	11th-15th June '07 San Francisco
8	Dr. Deepak Khemani	Intl. Conference on Automated Panning & Scheduling (ICAPS)	6th June – 1st July '07 Ambleside, UK
9	Prof. S. V. Raghavam	Indo –Australian Conference on Information Technology Security, IACITIS 2007	2nd & 3rd July '07 9th & 10th July '07 Queensland, Australia
10	Dr. Deepak Khemani	Microsoft Research Faculty Summit	6th to 25th July '07 USA
11	Dr. Debdeep Mukhopadyay	12th Australian Conference on Information Security & Privacy	1st – 5th July '07 Australia
12	Dr. Debdeep Mukhopadyay	11th IEEE VLSI Design & Test Symposium (VDAT)	8th – 10th August '07 Kolkatta
13	Prof. C. Pandu Rangan	Conference in Distributed systems by ACM & Conference in Cryptology Crypto 2007	13th - 15th August '07 19th – 23rd August '07 USA
14	Dr. T.A. Gonsalves, Dr.Hema A Murthy, Dr. B. Ravindran Dr. Krishna Sivalingam	Home Community Oriented ICT for next Billion IFIP HOIT 2007	22nd – 25th Aug '07 I.I.T Madras
15	Dr. Krishna Sivalingam	3rd Annual Intl. Conference on Security & Privacy in Communications Networks (Securecomm 2007)	17th – 21st Sep' 07 Nice, France
16	Dr. Krishna Sivalingam	Technical Programme Committee meeting of IEEE INFOCOM2008	24th – 30th Oct' 07 Washington DC, USA
17	Prof. D.Janaki Ram	AICTE Workshop on Advances in Computing	4th Oct'07 SRM Engineering College, Chennai
18	Dr. V. Kamakoti Dr. B. Ravindran	Workshop on Secure System Engineering	24th Oct '07 CAIR-DRDO, Bangalore
19	Prof. S.V. Raghavan	PAN IIT Summit with Motorola	1st Nov '07 SRM Engineering College, Chennai
20	Dr. B. Ravindran	Symposium on Integrated Vehicle health Management	3rd Dec '07
21	Dr. B. Ravindran	Infovision 2007	17th & 18th Dec '07
22	Dr. Krishnamoorthy Sivalingam	Intl. Conf.on "Sensors related Networks" (Presented a Tutorial)	10th Dec '07 IGCAR Kalpakkam
23	Dr. Sukhendu Das	Conference on Pattern Recognition & Machine Intelligence (PR&MI'07)	20th – 22nd Dec '07 ISI Kolkata
24	Prof.C. Pandurangan	CANS 2007	7th to 10th Dec '07 Singapore
25	Prof. C. Pandurangan	INDOCRYPT 2007 8th Intl. Conference on Cryptology in India	9th – 13th Dec '07 I.I.T Madras

Sl. No	Name of Faculty	Title	Period
26	Prof. C. Siva Ram Murthy	5th Annual Consumer Communications & Networking Conference	5th Dec '07
27	Dr. Hema A Murthy Dr. C. Chandra Sekhar	WiSSAP 2008	2nd – 5th Jan '08 ICSR I.I.T Madras
28	Prof.C. Pandurangan	SODA 2008	7th Jan '08 To 24th Jan '08
29	Dr. Krishnamoorthy Sivalingam	3rd Intl. Conf.on Communication System Software & Middleware	5th – 10th Jan '08 Bangalore
30	Dr. B. Ravindran	IJCNLP The Third International Joint Conference on Natural Language Processing,	7th – 12th Jan '08 Hyderabad, India
31	Dr. V. Kamakoti	Workshop on Computing	14th March'08 NIT, Trichy
32	Prof. T.A.Gonsalves	Workshop on Broadband Service Quality	18th March '08 Colombo, Sri Lanka
33	Dr. Madhu Mutyam	Intl Conf. on Design, Automation & Test in Europe (DATE 2008)	10th – 14th March '08 Munich, Germany

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	"Towards Internet for the Next Billion"	13th July '07 Computer Engg. Department, Nanyang Technological University, Singapore
2	Prof. Hema A Murthy	"Indic Computing" at International Conference on Women and IT for Societal Advancement and Integration	7th July'07 Satyasai Institute of Higher Learning Ananthapur
3	Prof. Kamala Krithivasan	"Discrete Tomography" At the Intl. Conference on Discrete Maths & Application	29th Sep '07 Thiyagarajar College of Engineering Madurai
4	T.A.Gonsalves	"Next Generation Billing for Telecom" Key note talk at 3rd NCICT	21st Sep' 07 Dept. of IT PSG College of Engineering Coimbatore
5	Prof. T. A. Gonsalves	"The TeNet Experience" In Ignite Programme	23rd Oct'07 TCS, Chennai
6	Dr. Kamakoti	"Stack Smashing & Fundamental Issues in Virtualisation" An Invited talk in Workshop on Secure System Engineering	24th Oct '07 CAIR-DRDO Bangalore
7	Dr. B. Ravindran	"Secure and trustworthy computing" Workshop on Secure System Engineering	24th Oct '07 CAIR-DRDO Bangalore
8	Prof. D. Janakiram	"Inaugural Address" at the inauguration of AICTE Workshop	22nd Oct '07 Venkateswara Engg.College, Chennai

Sl. No	Name of Faculty	Topic of Lecture	Venue and Date
9	Dr. Sukhendu Das	"Texture analysis" Tutorial talk in NCCVAIR Conference	4th Oct'07 SRM Engineering College, Chennai
10	Dr. D. Janakiram	Keynote Address at TACTICS 2008 Organised by Tata Consultancy Services	18th Jan '08 Trivandrum
11	Dr. D. Janakiram	Keynote Address at TACTICS 2008 Organised by Tata Consultancy Services	18th Jan '08 Trivandrum
12	Dr. Debdeep Mukhopadhyay	Keynote Address	14th Mar '08 VED '08 DRIEMS, Cuttack

Visits abroad by faculty:

Sl. No	Name of faculty	Country visited	Date	Purpose of visit
1	Prof. C. Siva Ram Murthy	New Jersey, USA	30th Apr – 2nd May '07	To present research papers in IEEE Sarnoff Symposium
2	Prof. P. Sreenivasa Kumar	Istanbul, Turkey	16th – 20th April '07	To present research paper in IEEE Intl. Conference on Data Engineering (ICDE)
3	Prof. C. Siva Ram Murthy	Europe & North America	3rd May – 22nd June '07	To visit Universities
4	Prof. S.V. Raghavan	Atlanta, Georgia, U.S.A	14th – 17th May '07	To Chair a session at the IFIP Intl. Conf. On Networking 2007 & to attend IFIP TC6 meeting
5	Prof. C. Pandurangan	San Francisco U.S.A	19th – 25th May '07	To attend & Present Paper in IEEE Symposium on Security & Privacy
6	Dr. N.S. Narayanaswamy	ETH, Zurich, Switzerland	19th May – 30th June '07	To take up a short term fellowship under Indo Swiss Bilateral Research Initiative
7	Prof. C. Siva Ram Murthy	Glasgow	24th – 28th June '07	To present a research paper at IEEE Intl. Conference on Communication
8	Prof. S.V. Raghavan	San Fransisco USA	11th-15th June '07	To participate & to be a part of the Panel on "Education Scenario in India" in the World Wide Developer Conference WWDC'07
9	Prof. C. Pandurangan	France	9th – 14th June '07	To participate Indo-French discussion on Joint Research
10	Dr. Deepak Khemani	Ambleside, UK	6th June – 1st July'07	To attend and present paper at the Intl. Conference on Automated Panning & Scheduling (ICAPS) & to visit Universities

Sl. No	Name of faculty	Country visited	Date	Purpose of visit
11	Prof. S. V. Raghavan	Queensland, Australia	2nd & 3rd July '07 9th & 10th July '07	To deliver a Keynote Address in ACISP 2007 To conduct the Indo – Australian Conference on Information Technology Security, IACITIS 2007
12	Dr. Deepak Khemani	Remond, Washington, USA	6th to 25th July '07	To attend the Microsoft Research Faculty Summit & also to visit the Universities
13	Dr. Debdeep Mukhopadhyay	Townsville, Queensland, Australia	1st – 5th July '07	To attend & present paper at the 12th Australian Conference on Information Security & Privacy
14	Prof. C. Pandu Rangan	Portland , USA Santa Barbara, USA	13th - 15th August '07 19th – 23rd August '07	To attend Conference in Distributed systems by ACM & Conference in Cryptology Crypto 2007
15	Dr. Deepak Kahemani	Belfast, UK	13th – 17th August '07	To attend the 7th Intl. Conference on Case Based Reasoning
16	Prof. S. V. Raghavan	Queens land University Technology, Brisbane, Australia	23rd – 30th Sep' 07	To discuss the collaborative research program on the National Information Infrastructure Protection
17	Dr. Krishna Sivalingam	Nice, France	17th – 21st Sep' 07	To attend the 3rd Annual Intl. Conference on Security & Privacy in Communications Networks (Securecomm 2007)
18	Prof. S. V. Raghavan	Rome, Italy	22nd – 23rd Oct '07	To participate in one day Brainstorming session on Long Term Preservation of Data – organised by Food & Agricultural Organisation of United Nations
19	Dr. Krishna Sivalingam	Washington DC, USA	24th – 30th Oct' 07	To attend the Technical Programme Committee meeting of IEEE INFOCOM2008
20	Prof.C. Pandurangan	Singapore	7th to 10th Dec '07	To attend and present paper at the CANS 2007
21	Prof. C. Siva Ram Murthy	USA	5th Dec '07 To 14th Jan '08	To attend the 5th Annual Consumer Communications & Networking Conference & to visit Universities in USA

Sl. No	Name of faculty	Country visited	Date	Purpose of visit
22	Prof.C. Pandurangan	Japan USA	7th Jan '08 To 24th Jan '08	To deliver lecture & for research discussion in Ibaraki University at Japan & To attend SODA 2008 at San Francisco, USA
23	Dr. Sukhendu Das	Seoul, Korea	23rd Jan '08 To 25th Jan '08	To take special classes in Soongsil University, Seoul, Korea
24	Prof. T. A. Gonsalves	BT Labs, UK	28th Feb – 2nd Mar '07	To attend Indo –UK ATC Workshop on Next Gen. Networks
25	Prof. T.A.Gonsalves	Colombo, Sri Lanka	18th March '08	To participate in Workshop on Broadband Service Quality
26	Dr. Madhu Mutyam	Munich, Germany	10th – 14th March '08	To attend and present a paper at the Intl Conf. on Design, Automation & Test in Europe (DATE 2008)

Honours and Awards obtained:

1. **Young Faculty Recognition Award for the year 2007**, awarded for outstanding achievements in teaching, scholarship & creative work to Dr. V. Kamakoti.
2. Prof C. Pandurangan is invited to serve in the **Academic Council of Anna University as a Governor's Nominee** for three years from 2008 April.

4.7.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (Rs. in lakhs)
1	CSE0708091MICRTAGO	Microsoft Windows technologies Lab.	T.A.Gonsalves	2 Years	Microsoft Corporation	83.58
2	CSE0708092IAEIVKAM	Issues in Transactional Memory	Dr. V.Kamakoti	4 Years	Intel Technology India Pvt. Ltd	9.60
3	CSE0708094IBMCDDJAN	IBM Faculty Award	Dr. D. Janaki Ram	1 Year	IBM Corporation USA	3.15
4	CSE0708095IBMCDEEP	IBM Faculty Award	Dr. Deepak Khemani	1 Year	IBM Corporation USA	3.15
5	CSE0708093UKIEDEEP	Knowledge acquisition for textual case-based reasoning	Dr. Deepak Khemani	4 Years	UK INDIA Education & Research Initiative	12.79
6	CSE0708096ICMRDJAN	Telemedicine station for Rural Health monitoring and diagnosis for epidemic diseases	Prof. D.Janaki Ram, Dr. Sukhendu Das	1 Year	ICMR- Indo – German Collaboration	8.28
7	CSE0708097DITXANUA	Research & development of multi-camera algorithms for security and surveillance	Dr. Anurag Mittal, Dr. Sukhendu Das	3 Years	Department of Information Technology	40.4

Sl. No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (Rs. in lakhs)
8	CSE0708098IGCASKRS	Development of Wireless Sensor Networks for Civilian Applications	Dr. Krishnamoorthy S	-	IGCAR	47.40

Consultancy Research Projects:

Sl. No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (Rs. in lakhs)
1	RB0708CSE001TATPHEMA	Speaker Identification	Hema A Murthy	1 Year	Tata Power Company Ltd.	9.96
2	RB0708CSE002ATBPSUKH	Sizing Of Sensors For Tracking Trainee Movements In Simulation Arena	Dr. Sukhendu Das, Dr. Anurag Mittal,	1 Year	Army Technology Board	15.00
3	RB0708CSE003CHECBRAV	Investigation Of Methods For Resume Processing	Dr. B. Ravindran	1 Year	Checktronix India Pvt. Ltd.,	3.84

Retainer Consultancy:

Sl. No	Project No.	Project Title	Coordinators	Period	Funding Agency	Amount (Rs. in lakhs)
1	RC0708CSE523CHECBRAV	Checktronix India Pvt. Ltd.,	Dr. B. Ravindran	2 Years	Checktronix India Pvt Ltd	1.80
2	RC0708CSE527NORASVRA	Nora Solutions	Raghavan S V	1 Year	Nora Solutions	10.11

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 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	--	12
Total No. of papers presented in National Conferences	--	4
Total No. of papers presented in International conferences	--	56

Research Publications:

In Refereed International Journals:

Sl. No	Name of Authors	Title	Date
1	A. Shahina, B. Yegnanarayana	Mapping speech spectra from throat microphone to close-speaking microphone: A neural network approach <i>EURASIP, Journal on Advances in Signal Processing, Hindawi Publishing Corp.</i>	June 2007
2	Sreyasee D.B., Sukhendu Das and Amitava Datta	A method of shape recognition using group delay function <i>International Journal of Imaging Science and Engineering (IJISE), ITFR Signal Processing Society</i>	July 2007

Sl. No	Name of Authors	Title	Date
3	Y. V. Kiran, T. Venkatesh and C. Siva Ram Murthy	A Reinforcement Learning Framework for Path Selection and Wavelength Selection in Optical Burst Switched Networks <i>IEEE Journal on Selected Areas in Communication(Optical Communication and Networking Series)</i>	Aug 2007
4	N. S. Narayanaswamy, N. Belkale, L. Sunil Chandran, Naveen Sivadasan	A note on the Hadwiger number of Circular Arc Graphs <i>Information Processing Letters, Elsevier.</i>	Sep 2007
5	Surya Prakash, R. Abhilash and Sukhendu Das	SnakeCut: An Integrated Approach Based on Active Contour and GrabCut for Automatic Foreground Object Segmentation <i>Special Issue on Vision and Multimedia Processing , in the Journal of Electronic Letters in Computer Vision and Image Analysis (ELCVIA), CVC Press</i>	Dec 2007
6	V. Kamakoti & Vivekananda M Vedula	Controllability – Driven Peak Dynamic Power Estimation for VLSI Circuits <i>Journal of Low Power Electronics, American Scientific Publishers</i>	Dec 2007
7	A.Choudhary and K.Krithivasan	Breaking DES Using Networks of Evolutionary Processors with Parallel String Rewriting rules. <i>Accepted for publication in IJCM.</i>	2007
8	A.Choudhary, K.Krithivasan and V.Mitrana	Returning and nonreturning parallel communicating finite automata are equivalent. <i>To appear in RAIRO Theoretical Informatics</i>	2007
9	Lalit Gupta, Utthara Gosa Mangai and Sukhendu Das	Integrating Region and Edge Information for Texture Segmentation using a modified Constraint Satisfaction Neural Network <i>Journal of Image and Vision Computing, Elsevier</i>	Jan 2008
10	Mirnalinee Dhinesh, Sukhendu Das and Koshy Varghese	Automatic Curvilinear Structure detection from Satellite Images using Multiresolution GMM <i>International Journal of Imaging Science and Engineering (IJISE), ITFR Signal Processing Society</i>	Jan 2008.
11	Arpita Patra and Sukhendu Das	Enhancing Decision Combination of Face and Fingerprint by Exploitation of Individual Classifier Space: An approach to Multi-modal Biometry <i>Journal of PATTERN RECOGNITION, Elsevier</i>	Feb 2008
12	N.S. Narayanaswamy, R. Subhash Babu	A Note on First-Fit Coloring of Interval Graphs, <i>Springer</i>	Feb 2008

In Proceedings of International Conferences:

Sl. No	Name of Authors	Title	Venue & Date
1	Aneesh Raj, P Sreenivasa Kumar	Branch Sequencing Based XML Message Broker Architecture <i>23rd International Conference on Data Engineering, ICDE, IEEE Computer Society</i>	April 2007
2	R. Madanagopal, N. Usha Rani and Timothy A. Gonsalves	Path Computation Algorithms for Dynamic Service Provisioning in SDH Networks <i>10th IFIP/IEEE Symposium on Integrated Management (IM), IEEE Computer Society</i>	May 2007

Sl. No	Name of Authors	Title	Venue & Date
3	Kannan Srinathan, N.R. Prasad and C. Pandu Rangan	On the Optimal Communication Complexity of Multiphase Protocols for Perfect Communication <i>IEEE Symposium on Security and Privacy, IEEE Computer Society</i>	May 2007
4	V. R. Devanathan, C.P. Ravikumar, V. Kamakoti	Glitch-Aware Pattern Generation and Optimization Framework for Power-Safe Scan Test <i>VSLI Test Symposium 2007, 25th IEEE</i>	May 2007
5	K. Najeeb, Vishnu Vardhan Reddy Konda, Siva Kumar Sastry Hari, V. Kamakoti, Vivekananda M. Vedula:	Power Virus Generation Using Behavioral Models of Circuits. <i>VTS 2007, IEEE Computer Society</i>	May 2007
6	P. Krishna Prasad and C. Pandu Rangan	Privacy preserving CACTUS for clustering vertically partitioned categorical databases <i>DMIN 07(International Conference on Data Mining)</i>	June 2007
7	Arun Kumar, Anindya Neogi, Sateesh Pragallapati, D. Janakiram	Raising Programming Abstraction from Objects to Services <i>IEEE International Conference on Web Services(ICWS 2007), IEEE Computer Society</i>	July 2007
8	Archana M, Lakshmi Narayana M, Sreenivasa Kumar P	PSMQ: Path Based Storage and Metadata Guided Twig Query Evaluation <i>24th British National Conference on Databases, BNCOD 24, Springer</i>	July 2007
9	Kannan Srinathan, Prasad Raghavendra and C. Pandu Rangan	On Proactive Perfectly Secure Message Transmission <i>12th Australasian Conference on Information Security and Privacy (ACISP 07)</i>	July 2007
10	T. Venkatesh, T. L. Sujatha and C. Siva Ram Murthy	A Novel Burst Assembly Algorithm for Optical Burst Switched Networks based on Learning Automata <i>ONDM(Conference on Optical Network Design and Modelling), Springer</i>	July 2007
11	Sriram, R. and Ravindran, B.	Homogeneous Hierarchical Composition of Areas in Multi-Robot Area Coverage <i>In the Proceedings of the Seventh Symposium on Abstraction, Approximation, and Reformulation (SARA 2007), Springer</i>	July 2007
12	V Masilamani, C Vanniarajan and K Krithivasan	On Reduction of Side Effects in Tomography, <i>To be presented at the 4th International Conference on Computer Vision, Image and Signal Processing (CISP 07), Prague, Czech</i>	July 2007
13	V. R. Devanathan C. P. Ravikumar, V. Kamakoti	Variation-Tolerant, Power-Safe Pattern Generation. <i>IEEE Design & Test of Computers, IEEE Computer Society</i>	Aug.2007
14	Gautam Kumar Gupta and S. V. Raghavan,	A Framework for Evolutionary Networking, <i>In the Proceedings of ACM MobiArch 2007, The 2nd ACM SIGCOMM International Workshop on Mobility in the Evolving Internet Architecture, Kyoto, Japan,</i>	Aug 2007
15	P. Krishna Prasad, C. Pandu Rangan	Privacy Preserving BIRCH Algorithm for Clustering over Arbitrarily Partitioned Databases. <i>ADMA 2007, Lecture Notes in Computer Science, Springer</i>	Aug 2007
16	K. Anil Kumar, C. Pandu Rangan	Privacy Preserving DBSCAN Algorithm for Clustering <i>ADMA 2007, Lecture Notes in Computer Science, Springer</i>	Aug 2007

Sl. No	Name of Authors	Title	Venue & Date
17	Lakshmi Narayana Panuku, C. Chandrasekhar	Clustering of nonlinearly separable data using spiking neural networks <i>International Conference on Artificial Neural Networks, Springer</i>	Sep 2007
18	Anitha Jayaraman, C. Chandrasekhar, V. Srinivasa Chakravarthy	Modular approach to recognition of strokes in telugu script <i>International Conference on Document Analysis and Recognition, IEEE Computer Society</i>	Sep 2007
19	V. Sudha Rani and S. V. Raghavan,	TAIL: Two-level Approach for Indoor Localization, <i>In the Proceedings of WSN 2007, 1st IFIP International Conference on Wireless Sensor and Actor Networks, Springer</i>	Sep 2007
20	<u>Arpita Patra, Ashish Choudhary, Kannan Srinathan, C. Pandu Rangan</u>	Perfectly Reliable and Secure Communication in Directed Networks Tolerating Mixed Adversary. <u>DISC 2007, Lecture Notes in Computer Science, Springer</u>	Sep 2007
21	L Jeganathan, K Krithivasan and R Rama	Self assembly of graphs <i>To be presented at CEC 2007, Singapore</i>	Sep 2007
22	Lakshmi Narayana Panuku, C. Chandrasekhar	Region-based encoding method using multi-dimensional Gaussians for networks of spiking neurons <i>International Conference on Neural Information Processing</i>	Nov 2007
23	A. Sankar, T. Venkatesh and C. Siva Ram Murthy	Estimation of Node Losses in Optical Burst Switched Networks using Network Tomography <i>IEEE GLOBECOM(Global Communications Conference), IEEE Computer Society</i>	Nov 2007
24	Bimal Viswanath, T. Venkatesh, and C. Siva Ram Murthy	A Markov Chain Model for TCP NewReno over Optical Burst Switching Networks <i>IEEE GLOBECOM(Global Communications Conference), IEEE Computer Society</i>	Nov 2007
25	Antony Franklin A and C. Siva Ram Murthy	Node Placement Algorithm for Deployment of Two-Tier Wireless Mesh Networks <i>IEEE GLOBECOM (Global Communications Conference), IEEE Computer Society</i>	Nov 2007
26	Sarma, B.H.S. and Ravindran, B.	Intelligent Tutoring System using Reinforcement Learning to Teach Autistic Students <i>In the Proceedings of the Conference on Home/Community Oriented ICT for the Next Billion (HOIT 2007), Springer</i>	Nov 2007
27	Surya Prakash and Sukhendu Das	Segmenting Multiple Textured Objects using Geodesic Active Contour and DWT <i>PReMi' 07(Pattern Recognition and Machine Intelligence), Springer</i>	Dec 2007
28	A. Dyana and Sukhendu Das	Spatio-temporal Descriptor using 3D Curvature Scale Space <i>PReMi' 07(Pattern Recognition and Machine Intelligence), Springer</i>	Dec 2007
29	<u>K. Srinathan, C. Pandu Rangan, Moti Yung</u> 1	Progress in Cryptology <i>INDOCRYPT 2007, 8th International Conference on Cryptology in India, Chennai, India, Lecture Notes in Computer Science, Springer</i>	Dec 2007

Sl. No	Name of Authors	Title	Venue & Date
30	Kovendhan Ponnaivaikko, D. Janakiram	Overlay Network Management for Scheduling Tasks on the Grid <i>In the Proceedings of 4th International Conference on Distributed Computing and Internet Technology (ICDCIT 2007), Bangalore, India, Springer</i>	Dec 2007
31	Sanand S, AnilKumar Reddy V, S V Raghavan,	Adaptive Content Composition System for Next Generation Networks <i>IMSAA 2007</i>	Dec 2007
32	<u>Kannan Srinathan, Arpita Patra, Ashish Choudhary, C. Pandu Rangan</u>	Probabilistic Perfectly Reliable and Secure Message Transmission - Possibility, Feasibility and Optimality. <i>INDOCRYPT 2007, Lecture Notes in Computer Science, Springer</i>	Dec 2007
33	Antony Franklin A, Venkataraman Badarla, and C. Siva Ram Murthy	A Link Layer Adaptive Pacing Scheme for Improving Performance of Wireless Mesh Networks <i>IEEE Samoff Symposium</i>	2007
34	Saravanan, M., Ravindran, B., and Raman, S.	Legal Ontology for Query Enhancement <i>In the Proceedings of the Twentieth Annual Conference on Legal Knowledge and Information Systems(JURIX 2007)</i>	Dec 2007
35	<u>Arpita Patra, Bhavani Shankar, Ashish Choudhary, K. Srinathan, C. Pandu Rangan:</u>	Perfectly Secure Message Transmission in Directed Networks Tolerating Threshold and Non Threshold Adversary. <i>CANS (Chinese - American Networking Symposium)2007, Lecture Notes in Computer Science</i>	2007
36	<u>Avinash V. Varadarajan, Ramarathnam Venkatesan, C. Pandu Rangan</u>	Data structures for limited oblivious execution of programs while preserving locality of reference. <i>Digital Rights Management Workshop 2007 ACM 2007, ACM</i>	2007
37	<u>Arpita Patra, Ashish Choudhary, C. Pandu Rangan</u>	Constant phase efficient protocols for secure message transmission in directed networks. <i>PODC 2007, ACM 2007, ACM</i>	2007
38	Amjed Shareef and C. Pandu Rangan	Efficient Protocol for Approximate Agreement, <i>The 2007 International Conference on Parallel and Distributed Processing Techniques and Applications (PDPTA 07)</i>	2007
39	<u>V. R. Devanathan, C. P. Ravikumar, V. Kamakoti:</u>	Interactive presentation: On power-profiling and pattern generation for power-safe scan tests. <i>In Proceedings of the conference on Design, automation and test in Europe, EDA Consortium</i>	2007
40	<u>Ramachandran Pradeep, S. Vinay, Sanjay Burman, V. Kamakoti</u>	FPGA based Agile Algorithm-On-Demand Co-Processor <i>CoRR, IEEE Computer Society</i>	2007
41	Saloni Malhotra, P. Rathi, Timothy A. Gonsalves, Ashok Jhunjunwala, Thejus Giri	Untapped Resources! Amazing Potential! <i>Home Informatics and Telematics: ICT for the next billion, Springer</i>	Aug 2007
42	V Bharathi Harishankar, Archana Ghode, Alankar Bandyopadhyay, Maryma Scotlin, Hema A Murthy, Timothy A Gonsalves, Ashok Jhunjunwala	Teaching – Learning Strategies in Interactive Education – A Case Study <i>Home Informatics and Telematics: ICT for the next billion, Springer</i>	Aug 2007

Sl. No	Name of Authors	Title	Venue & Date
43	B. Radhika Selvamani, Deepak Khemani	<u>Case Adaptation for Diagnosis in Manufacturing.</u> <i>12th UKCBBR workshop co-located with AI-2007 the Twenty-Seventh SGAI International Conference on Innovative Techniques and Applications of Artificial Intelligence, Cambridge, UK</i>	Dec 2007
44	Abhilash Raipally, Sukhendu Das and D. Janakiram	Video Cut and Paste for 3D Composition <i>International Conference of ACM-Compute(Association for Computing Machinery, ACM</i>	Jan 2008
45	Md. A. Hussain and Madhu Mutyam.	Block remap with turnoff: a variation-tolerant cache design technique. <i>13th ACM/IEEE Asia and South Pacific Design Automation Conference (ASP-DAC), IEEE Computer Society</i>	Jan 2008
46	T.V. Kalyan, Madhu Mutyam, and P.V. Sankara Rao.	Exploiting variable cycle transmission for energy-efficient on-chip interconnect design. <i>21st IEEE International Conference on VLSI Design and 8th IEEE International Conference on Embedded Systems (VLSI Design), IEEE Computer Society</i>	Jan 2008
47	Rakesh Kumar Thatha, S. V. Raghavan	PassPattern System (PPS): A Pattern Based User Authentication Scheme <i>In the Proceedings of NETWORKING 2008, LNCS 4982, Springer</i>	2008
48	Sriram, R. and Ravindran, B	Successive Refinement Algorithms for Distributed Area Coverage Using Mobile Robots <i>In the Proceedings of ACM Compute 2008 (Association for Computing Machinery), ACM</i>	Jan 2008
49	Jayarajan, D., Deodhare, D., and Ravindran, B.	Lexical Chains as Document Features <i>In the Proceedings of the Third International Joint Conference on Natural Language Processing IJCNLP 2008</i>	Jan 2008
50	Saravanan, M., Ravindran, B., and Raman, S.	Automatic Identification of Rhetorical Roles using Conditional Random Fields for Legal Document Summarization <i>In the Proceedings of the Third International Joint Conference on Natural Language Processing, IJCNLP 2008</i>	Jan 2008
51	Ashwin Kumar B.V, Arpita Patra, Ashish Choudhary, K.Srinathan, C. Pandu Rangan	On trade-off between network connectivity, phase complexity and communication complexity of reliable communication tolerating mixed adversary PODC 2008: 27th Annual ACM SIGACT-SIGOPS Symposium on Principles of Distributed Computing	2008
52	K. Raghavendra and Madhu Mutyam.	Process variation aware issue queue design. <i>IEEE/ACM Design Automation and Test in Europe (DATE), IEEE Computer Society</i>	March 2008
53	Arun Kumar, D. Janakiram	<i>Towards a Programming Language for Services Computing</i> <i>17th International World Wide Web Conference (WWW 2008), Beijing, China</i>	April 2008
54	Arpita Patra, Ashish Choudhary, Madhu Gayatri, C. Pandu Rangan	Efficient perfectly reliable and secure communication tolerating mobile adversary. <i>ACISP-2008(Australasian Conference on Information Security and Privacy), Lecture Notes in Computer Science</i>	2008

Sl. No	Name of Authors	Title	Venue & Date
55	Bhavani Shankar, Kannan Srinathan, C. Pandu Rangan	Alternative Protocols for Generalized Oblivious Transfer. <u>ICDCN 2008, Lecture Notes in Computer Science, Springer</u>	2008
56	Amjed Shareef, C. Pandu Rangan	On Optimal Probabilistic Asynchronous Byzantine Agreement <u>ICDCN 2008, Lecture Notes in Computer Science, Springer</u>	2008

In Proceedings of National Conference:

SL. No	Name of faculty	Title	Venue & Date
1	Sunando Sengupta and Sukhendu Das	Error Norm for Determining 3D Structure from Different Appearances of an Object <i>NCCVAIR' 07(National Conference on Computer Vision, AI and Robotics), Chennai</i>	Oct 2007
2	A. Dyana and Sukhendu Das	A modified Curvature Scale Space for Convex shapes <i>NCCVAIR' 07(National Conference on Computer Vision, AI and Robotics), Chennai</i>	Oct 2007
3	T.T Mirmalinee and Sukhendu Das	Road extraction from high resolution images using Orientation and Area Discrimination <i>NCVPRIPG 08(National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics), Gandhinagar, Gujarat</i>	Jan 2008
4	Sunando Sengupta and Sukhendu Das	Refinement in 3D Reconstruction using Cheirality Constraints <i>NCVPRIPG 08(National Conference on Computer Vision, Pattern Recognition, Image Processing and Graphics), Gandhinagar, Gujarat</i>	Jan 2008

Distinguished Visitors to the Department:

SL. No	Name of the Visitor and Designation	Date of Visit
1	Dr. Raghu Ramakrishnan VP, Yahoo Research (Distinguished Alumni Award winner)	13th Apr '07
2	Mr. Atushi Kanou Mr. Toru Kobayash & Mr. Satoshi Suzuki NTT, Japan	26th April '07
3	Vice-President, Thales (France) and CTO Thales (India) , Mr Jean Luc Lambla (Dy Technical Director of Thales Group) and Vijay Chauhan	31st May '07
4	Mr. Yoshikuni Hirayama, Director, Overseas R&D Promotion Center, Panasonic Mr. Kenji Matsui, General Manager, Overseas R&D Promotion Center, Panasonic Mr. Yasuyuki Shintani, Managing Director, Panasonic Singapore Laboratories	27th June '07
5	Dr. Prabhakar Raghavan, Director, Yahoo Research	14th Sep' 07
6	Prof. Doug McEachern, Deputy Vice Chancellor (also Dean Research and Innovation), Univ. of Western Australia	18th Sep '07
7	Dr. Magdalena Brickmann Head, IT & Internal Services, Germany	18th Oct' 07

SL. No	Name of the Visitor and Designation	Date of Visit
8	Dr. Andrew Chien, Vice President and Director, Intel research	1st Nov '07
9	Dr Ricardo Baeza-Yates Vice-President of Research for Europe and Latin America, Yahoo! Research	28th Nov'07
10	Dr. Enripue Pelaez Jarrin, Director, IT Centre ESPOL, Ecuador, South America (& his team)	20th Nov '07
11	Professor Peter Druschel Max Planck Institute for Software Systems, Germany	4th Jan '08
12	Prof. Larry Davis University of Maryland	16th Jan 08
13	Dr. Douglas Comer, Vice President Cisco Systems, USA	18 Jan '08.
14	Dr. Pratap Pattnaik, Senior Manager, IBM Research Division	4th Feb '08
15	Dr. Nirmalie Wiratunga, Robert Gordon University, Scotland	8th Feb' 08
16	Martin Fowler, Chief Scientist, ThoughtWorks Inc, USA	13th Feb '08
17	Dr. Bernadette Dorizzi, Professor & Head Institut National des Telecommunications	18 Feb '08.
18	Dr. Pramod Verma, Director, Telecommunications Engineering, University of Oklahoma-Tulsa	4th Mar '08
19	Dr. Raghuram Krishnapuram Dr. Shivkumar Kalyanaraman IBM RL	14th Mar '08
20	Dr. Ashok Chandra General Manager, Microsoft	18 Mar '08.

4.8 DEPARTMENT OF ELECTRICAL ENGINEERING

4.8.1 Introduction

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

Communication Systems

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

Power Systems, Machines and Drives

- Electrical Machines and Drives Laboratory
- Power Electronics Laboratory
- 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 and MEMS 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

Antennas, Biosensors, Communication Systems, Control Engineering, Digital Techniques and Computer Technology, Electrical Machines and Drives, Electromagnetic Interference and Compatibility, Electronic Circuits, High Voltage Engineering, Image and Digital Signal Processing, Laser Communication, Measurements and Instrumentation, MEMS, Microwave Engineering, Nanotechnology, Optical Communication, Power Electronics and Power Systems, Photonics, Semiconductor Devices, Robotics and VLSI.

New Courses introduced:

- **EE 449 Waveguides, Microwave circuits and antennas**
- Hari Ramachandran, Balaji Srinivasan, Anil Prabhakar, Shanti Bhattacharya, Bijoy Das
- **EE 615 Compact Modeling of Devices for Integrated Circuit Design**
- Anjan Chakravorty, S. Karmalkar, Amitava Dasgupta, Nandita Dasgupta
- **EE 685 VLSI Broadband Communication Circuits**
- Nagendra Krishnapura, Shanthi Pavan

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	45	51	62	62	05	225
Integrated M.Tech.						
Communication Systems	17	17	17	15	15	81
Power System & Power Electronics	13	11	10	17	10	61
Micro-Electronics & VLSI Design	17	17	18	19	17	88
M.Tech.						
Communication Systems	33	24	--	--	--	57
Power System & Power Electronics	09	12	--	--	--	21
Micro-Electronics & VLSI Design	17	13	--	--	--	30
M.S.	06	23	27	34	26	116
Ph.D.	10	15	14	18	33	90
Total	167	183	148	165	106	769

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

S.No	Name of the faculty	Title	Institution	Period
Abroad				
1.	Binsu J.Kailath	International Conference on Semiconductor Technology for Ultra Large Integrated Circuits and Thin Film Transistors.	Berga, Italy.	29.07.07 to 31.07.07
2.	T. Geetha	IPEC 2007	Singapore	3.12.07 to 6.12.07
3.	Karthikeyan	IPEC 2007	Singapore	3.12.07 to 6.12.07
4.	Gopalakrishnan	IPEC 2007	Singapore	3.12.07 to 6.12.07
5.	L. Sujatha	SPIE Photonics West, MOEMS-MEMS	San Jose, California, USA	19.01.08 to 24.01.08
6.	Somashekara Bhat	SPIE Photonics West, MOEMS-MEMS	San Jose, California, USA.	19.01.08 to 24.01.08

S.No	Name of the faculty	Title	Institution	Period
India				
7.	Mr. V. Hareesh	International Union of Materials Research Societies (IUMRS) - International Conference on Advanced Materials (ICAM)	Bangalore	08.10.07 to 13.10.07
8.	C. Manikandan	WPMC 2007	Jaipur	4.12.07
9.	Vinoth Kumar	14 th International workshop on the Physics of Semiconductor Devices (IWPSD2007)	Delhi	13.12.07
10.	L. Sujatha	14 th International workshop on the Physics of Semiconductor Devices (IWPSD2007)	IIT Bombay	17.12.07
11.	Renny E. Fernandez	14 th International workshop on the Physics of Semiconductor Devices (IWPSD2007)	IIT Bombay	17.12.07
12.	Udaya Bhaskar Katreddi	14 th International workshop on the Physics of Semiconductor Devices (IWPSD2007)	IIT Bombay	17.12.07
13.	S. Srikanth	14 th International workshop on the Physics of Semiconductor Devices (IWPSD2007)	IIT Bombay	17.12.07
14.	Somashekara Bhat	14 th International workshop on the Physics of Semiconductor Devices (IWPSD2007)	IIT Bombay	17.12.07
15.	Mr. T. Sreenidhi	14 th International workshop on the Physics of Semiconductor Devices (IWPSD2007),	Mumbai	13.12.07 to 17.12.07
16.	M. Bama	Instructional Workshop on Applied Algebra	IISc Bangalore	19.12.07
17.	Krishna Chaitanya	Instructional Workshop on Applied Algebra	IISc Bangalore	19.12.07
18.	M.K. Dileep	Instructional Workshop on Applied Algebra	IISc Bangalore	19.12.07
19.	Mr. A.R. Karthikeyan Mr. Pradeep Kumar Mr. C. Manikandan Mr. Latsa Babu Ms. T.R. Ramya Ms. M. Bama	NCC 2008	IIT Bombay, Mumbai	02.02.08
20.	Mr. Ch. Anuradha Mr. Kalyan Das Gupta Mr. M. Sivakumar Mr. P. Balakrishna Mr. Manoj Kumar Maharana Mr. P. Kanakasabapathy Ms. S. Kalyani	International Conference on Power System Operation	Andhra University, Waltair, Vizaq	13.03.08 & 14.03.08
21.	Leena Vachhani	ADCOM-2007	IIT Guwahati	18.12.07 to 21.12.07

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

S.No	Name of the Student	Name of the award	Awarded by	Date of award
1.	Sujatha (Ph.D. scholar of Dr. Enakshi Bhattacharya)	Best poster	International Workshop on Physics of Semiconductor Devices – IWPSD 2007 – held in IIT Bombay	17.12.07 to 20.12.07
2.	Kedarnath (MS. Student of Dr. Krishna Vasudevan)	Best paper prize	National Power Electronics Conference at IISc Bangalore	17.12.07 to 19.12.07
3.	S. Balaji Research (MS Scholar)	Outstanding Research Award for the year 2007	Taiwan Semiconductor Manufacturing Corporation.	2007
4.	Ms. Geetha (Ph.D student of Dr. Jayashankar)	Best paper award	Elecroma	March 2007

4.8.3 Faculty and their Specialisation:

Faculty:

Name and Qualification

Major area of specialisation

Professors

Amitava Dasgupta, Ph.D. (IIT Kharagpur)

Si and GaAs Devices, Technology and Simulation

Bhaskar Ramamurthi, Ph.D. (California)

Digital Communication and Communication networks,
Signal Processing.

David Koil Pillai, Ph.D. (Cal Tech)

cellular systems, Wireless
communication and signal processing

Devendra jalihal, Ph.D. (Duke)

Statistical Signal Processing

Enakshi Bhattacharya, Ph.D. (TIFR Bombay)

Semiconductor materials and Devices.

K.Giridhar, Ph.D. (California)

Communication Systems and Signal Processing.

Harishankar Ramachandran Ph.D (California)

Electromagnetic Fields, Optical Networks

V.Jagadeesh Kumar, Ph.D. (IIT Madras) (**HEAD**)

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.

S.Karmalkar, Ph.D. (IIT Madras)

VLSI, Semiconductor Devices

Nandita Dasgupta, Ph.D (IIT Madras)

Si and III-V Semiconductor Devices, Tech, Simulation

K.M.M.Prabhu, Ph.D. (IIT Madras)

Signal Processing

S.Srinivasan, Ph.D. (IIT Madras)

Digital Design, DSP Architecture and applications,
VLSI Design.

Vinita Vasudeven, Ph.D (IIT Bombay)

CAD for VLSI, VLSI Design

Associate Professors

R.Aravind, Ph.D. (California)

Image Processing and Compression

V.Jayashankar Ph.D (Anna. Uni.)	Instrumentation and Measurement for high voltage applications
Krishna Vasudevan,Ph.D.(IIT Madras)	Power Electronics
A.N. Rajagopalan Ph.D (IITBombay)	Image Processing and Computer Vision
R.Sarathi,Ph.D.(IISc)	High voltage Engineering
K.S. Swarup PhD (IISc)	Power systems, ANN, Distribution Automation
K.Sridharan, Ph.D (RPI, NY)	Robotics, Graphics, Web Programming
Assistant Professors	
Andrew Thangaraj (Georgia Tech)	Information theory, Error control coding
Anjan Chakravarthy (IIT KGP)	Modelling of semiconductor devices
Anil Prabakar Ph.D (Carnegie Mellon)	Electromagnetic fields, Optical Networks
Arun Mahindrakar PhD (IIT Bombay)	Nonlinear and optimal Control Engineering
Balaji Srinivasan PhD(New Mexico)	Fiber Optic Engineering
Bijoy Krishna Das (Germany)	Opto electronics devices and circuits
B. Kalyankumar PhD (IITK)	Power system stability
C.Mathiazhagan,Ph.D (Univ.California)	RF, Analog Circuits for Telematics.
Nagendra Krishnapura (Univ. Columbia)	nonlinear analog signal processing
Nitin Chandrachoodan Ph.D (Univ. Maryland)	Digital Systems, Microprocessors, VLSI design
R. Manivasakan Ph.D (IIT Bombay)	Communication Networks.
Maheshkumar Ph.D (IITK)	Power systems
C. S. Ramalingam Ph.D (Univ.Rhode Irland)	Digital Signal Processing, Speech Recognition and Speech Coding
Y. Shanthi Pavan, D.Sc(Univ. Columbia)	VLSI Design
Shanthi Bhattacharya PhD (IITM)	Optical MEMS for telecommunication
Srikrishna B Ph.D PhD (Rice Univ)	Wireless multimedia Communications
T.G.Venkatesh,Ph.D.(IISc)	Computer Architecture and Networks.
Adjunct Professor (Analog devices chair professor)	
Mani Subramanian	Broadband wireless network
Senior Scientific Officers Gr-I:	
H.Renganathan,M.S(IIT Madras)	DSP.Microprocessor Systems
Scientific Officers Gr I	
K.Ponnuraju,Ph.D.(IIT Madras)	Solid State Electronic Devices, Semiconductor Technology.
Sri. P. Prabhakara Rao	Communications

Short term courses/workshops/seminars/symposia/conference organized by the faculty members:

S.No	Coordinators	Title	Place	Date
Workshop				
1.	Dr. Ashok Jhunjhunwala	First meeting of the Mobile Payment Forum of India	IDRBT, Hyderabad	13.09.07
2.	Dr. Ashok Jhunjhunwala	RTBI Workshop on Rural Internet Centers	IC & SR, IIT Madras	21.09.07
Short term course				
1.	Dr. K. Shanthi Swarup, Dr. Mahesh Kumar, Dr. B. Kalyan Kumar	Modern Power System for AREVA T&D Engineers	IIT Madras	28.08.07 to 31.08.07
2.	Dr. S. Karmalkar	Introduction to Research	NIT Kozhikode	24.01.08 & 25.01.08
3.	Dr. Anil Prabhakar	Dot matrix printer design	TVS Electronics, Chennai	24.01.08 & 25.01.08

Short term courses/workshops/seminars/symposia/conference attended by the faculty members in academic institutions and public sector undertakings:

S.No	Name of the faculty	Title	Institution	Period	
				From	To
Workshop					
1.	Dr. Enakshi Bhattacharya	Indian Nanoelectronics Users Program (INUP)	IISc., Bangalore	09.04.07	10.04.07
2.	Dr. K.S. Swarup and Dr. Kalyan Kumar	IITM – Areva T&D Training Programme on "Power System Network Operations, Power Quality & Automation" to Practicing Engineers of Power Industry	ICSR, IITM	16.07.07	20.07.07
3.	Dr. Nandita DasGupta	International Union of Materials Research Societies (IUMRS) – 2007 International Conference on Advanced Materials (ICAM)	Material Research Society of India (MRSI) Bangalore	08.10.07	13.10.07
4.	Dr. Shanti Bhattacharya	Designing Optical Systems	Indo-Japan Workshop on Recent Advances in Optics and Photonics, IIT Delhi	14.12.07	--
5.	Dr. Andrew Thangaraj	Applied Algebra, Algebraic Algorithms and Error Correcting Code	IISc Bangalore	16.12.07	--
Conferences					
Abroad					
1.	Dr. Andrew Thangaraj	IEEE International Symposium on Information theory (ISIT 2007)	Nice France	24.06.07	30.06.07
2.	Dr. Krishna Vasudevan	To attend and present paper at the 7 th International Conference on Power Electronics & Drive Systems (PEDS '07)	Bangkok, Thailand	27.11.07	30.11.07

S.No	Name of the faculty	Title	Institution	Period	
				From	To
3.	Dr. K. Giridhar	To attend and present paper at the ICICS-2007 Conference, EE Department National University, Singapore	Singapore	10.12.07	13.12.07
4.	Dr. Amitava Dasgupta	To attend and present paper at the IEEE International Conference on Microelectronic 2007	Cairo, Egypt	29.12.07	31.12.07
5.	Dr. Nadita Dasgupta	To attend and present paper at the IEEE International Conference on Microelectronic 2007	Cairo, Egypt	29.12.07	31.12.07
6.	Dr. David Koilpillai	Indo-American Frontiers of Engineering (IAFOE 2008) Symposium	Irvine California, USA	27.02.08	01.03.08
7.	Dr. Enakshi Bhattacharya	International Conf. on Porous Silicon Science & Technology	Mallorca, Spain	10.3.08	14.3.08
India					
8.	Dr. Ashok Jhunjunwala	National Agricultural Innovation Project (NAIP) – Brainstorming Workshop	New Delhi	02.08.07	---
9.	Dr. Ashok Jhunjunwala	Mission 2007: Harnessing Technology for Rural Transformation	M.S. Swaminathan Research Foundation (MSSRF), Chennai	02.08.07	---
10.	Dr. Enakshi Bhattacharya	International Union of Materials Research Societies (IUMRS) – International Conference on Advanced Materials (ICAM) 2007	Material Research Society of India (MRSI) Bangalore	08.10.07	13.10.07
11.	Dr. V. Jagadeesh Kumar	"Optical Sensors for non-invasive diagnostics"	National Symposium on Instrumentation Instrument Society of India, Tiruchengode	24.10.07	26.10.07
12.	Dr. David Koilpillai	One day conference on WiMAX	IEEE Pune Subsection, IEEE Communication Society, Bombay Chapter in association with NASSCOM	27.10.07	---
13.	Dr. S. Karmalkar	IBM Asia Pacific University Relations	Bangalore	14.11.07	---
14.	Dr. Srikrishna, B	WPMC 2007	Jaipur,	04.12.07	---
15.	Dr. Anil Prabhakar	IWPSD 2007	IIT Bombay	16.12.07	---
16.	Dr. Amitava Dasgupta	IWPSD 2007	IIT Bombay	17.12.07	---
17.	Dr. Enakshi Bhattacharya	IWPSD 2007	IIT Bombay	17.12.07	---
18.	Dr. Andrew Thangaraj	NCC 2008	IIT Bombay, Mumbai	01.02.08	03.02.08

S.No	Name of the faculty	Title	Institution	Period	
				From	To
19.	Dr. B. Srikrishna	NCC 2008	IIT Bombay, Mumbai	02.02.08	03.02.08
20.	Dr. Anil Prabhakar	NCC 2008	IIT-Bombay	01.02.08	03.02.08
Short Term Courses					
1.	Dr. Bijoy Krishna Das	Physics and Technology of All-Optical Communication Components and Devices	IIT Kharagpur	11.10.07	16.10.07
Meetings					
Abroad					
1.	Dr. Ashok Jhunjunwala	Strategic Board Meeting of the 3i Infotek	New Jersey	09.04.07	10.4.07
India					
2.	Dr. Ashok Jhunjunwala	Institute for Development & Research in Banking Technology (IDRAT)	Hyderabad	29.04.07	---
3.	Dr. Ashok Jhunjunwala	Meeting with BEL	Bangalore	30.04.07	---
4.	Dr. Ashok Jhunjunwala	TERI	Delhi	10.05.07	---
5.	Dr. Ashok Jhunjunwala	SBI, SAC-PM	Delhi	11.05.07	16.05.07
6.	Dr. Ashok Jhunjunwala	IDBRT	Mumbai	11.05.07	16.05.07
7.	Dr. S. Karmalkar	4th Meeting of the National Working Group on Nanotechnology	Dept. of IT, Govt. of India, New Delhi	18.7.07	---
8.	Dr. Ashok Jhunjunwala	SPRC Meeting CEERI Pilani, EC Meeting	Delhi	05.10.07	---
9.	Dr. Ashok Jhunjunwala	Committee on Financial Sector Reforms	ICICI Bank, Mumbai	13.10.07	---
10.	Dr. Ashok Jhunjunwala	Agri-Portal Meeting and Domain Expert meeting on NMITLI-OP proposal on "Remote Patient Monitoring System"	CSIR, New Delhi	20.10.07	---
11.	Dr. David Koilpillai Dr. Bhaskar Ramamurthi Dr. R. Sarathi	Pan-IIT Summit with Motorola	New Delhi	01.11.07	---

Special Lectures delivered by the faculty in other institutions:

S.No	Name of the faculty	Topic of the lecture	Date	Institution
Abroad				
1.	Dr. Ashok Jhunjunwala	"ICT and Rural Livelihoods" Experience & Work on Indian Context	05.06.07	World Bank Pennsylvania Avenue,
2.	Dr. Ashok Jhunjunwala	Prevention and Preparedness: How might emerging Science change local, national and global health Policy (Panel Discussion)	13.06.07	Seattle, USA

S.No	Name of the faculty	Topic of the lecture	Date	Institution
India				
3.	Dr. K.S. Swarup	"Optimization Techniques Applications to Power Systems" IEEE Workshop on Faculty Development Program for Engineering College Teachers in Tamil Nadu	07.04.07	Dept. of Elec. Engg.
4.	Dr. Mahesh Kumar	Introduction to Power Quality.	July 27-28 2007.	short term course on FACTS at Department of Electrical Engineering, SRM University, Chennai, Tamilnadu,
5.	Dr. Mahesh Kumar	Power Electronic Applications to Power System to Improve	April 7-11, 2008.	DST-SERC school on Electric Power Quality: Monitoring, Assessment & Mitigation at IIT Kanpur
6.	Dr. Mahesh Kumar	DSTATCOM Topologies, Control Algorithms and Implementation	April 7-11, 2008.	DST-SERC school on Electric Power Quality: Monitoring, Assessment & Mitigation at IIT Kanpur
7.	Dr. Shanthi Pavan	Electronic Mitigation of Inter Symbol Interference in High Speed Optical Data Links	18.04.07	Dept. of Elec. Engg.
8.	Dr. S. Karmalkar	"Thinking and Experimental Skills" in an AICTE sponsored training program for Engineering teachers	28.04.07	Nagpur
9.	Dr. Arun Mahindrakar	Modern Control of Dynamic Systems	07.05.07	IGCAR Training School, Kalpakkam
10.	Dr. Mani Subramanian	Management of Army Tactical Communications Network	11.05.07	Indian Defence Conference on Management of Next Generation Networks, New Delhi
11.	Dr. Shanthi Pavan	"Analog IC Design"	04.06.07	Thiagaraja College of Engineering, Madurai
12.	Dr. Shanthi Pavan	Analog Circuit Design, Prof. KRK Rao Foundation Lecture Series, 4 th -15 th June 2007	4.07.07	Thiagrajar College of Engineering, Madurai
13.	Dr. S. Karmalkar	"Introduction to Research " under the auspices of ISTE chapter	21.07.07	SSN College of Engineering Chennai
14.	Dr. S. Karmalkar	"Research skills"	28.07.07	Anna University, Trichy
15.	Dr. K.S. Swarup	"Artificial Intelligence Application to FACTS" National Workshop on FACTS, chennai	28.7.07	EEE Dept. SRM University Chennai
16.	Dr. Ashok Jhunjunwala	Presentation to the Committee on Financial Sector Reforms	25.08.07	Mumbai
17.	Dr. R. Manivasakan	Understanding the MAC in Gigabit capable Passive Optical Network (GPon)	16.10.07	Com-convergence, Wipro, Bangalore
18.	Dr. R. Manivasakan	Gigabit capable Passive Optical Networks	16.10.07	Jejas Networks, Bangalore

S.No	Name of the faculty	Topic of the lecture	Date	Institution
19.	Dr. Balaji Srinivasan	Distributed Sensing Using Optical Fibers	12.12.07	SENNET 07, Vellore Institute of Technology
20.	Dr. V. Jagadeesh Kumar	Variable Rel pressure Sensor	12.12.07	SENNET 07, Vellore Institute of Technology
21.	Dr. Nagendra Krishnapura	KRK foundation workshop series on Analog Circuit Design	17.12.07	BVG College of Engineering and Technology, Hubli, Karnataka
22.	Dr. Shanthi Pavan	KRK Foundation Workshop on analog VLSI Design	19.12.07	BVB College, Hubli Karnataka
23.	Dr. Andrew Thangaraj	Introduction to Algebraic Coding theory	19.12.07	IISc, Bangalore (IWAA)
24.	Dr. S. Karmalkar	Introduction to Research	24.01.08	Kozhikode
25.	Dr. S. Karmalkar	Introduction to Research	30.01.08	BMS College Bangalore
26.	Dr. Nitin Chandrachoodan	Mapping DSP Algorithms to Architectures	24.01.08	Dayanand Sagar College of Engineering, Bangalore
27.	Dr. Nagendra Krishnapura	Oversampling Analog to Digital Converter Design	4.01.08	21 st International Conference on VLSI Design, Hyderabad
28.	Dr. Shanthi Pavan	Signal Processing for Fibre Optic Communication	02.02.08	IIT Bombay, Mumbai
29.	Dr. Shanti Bhattacharya	Applications in Optical MEMS	29.02.08	SRM University
30.	Dr. S. Karmalkar	Semiconductor Nanotechnology	29.02.08	Avanthi Engineering College, Vishakhapatnam
31.	Dr. Bjoy Krishna Das	Integrated Optical Highly Coherent Light Sources With Photorefractive Gratings,	11.10.07	IIT Kharagpur

Visits abroad by faculty:

S.No	Name of the faculty	Country visited	Purpose of visit	Date	
				From	To
1.	Dr. Ashok Jhunjhunwala	Boston, USA	Strategic Board Meeting of the 3i Infotech and visit to Analog Devices and Harvard University	05.04.07	11.04.07
2.	Dr. Ashok Jhunjhunwala	Beijing, China	To attend and deliver a lecture at the Global Leadership Forum	16.04.07	19.04.07
3.	Dr. David Koilpillai	Kobe, Japan	To attend a meeting on "Cellular Standardization (3GPP)"	07.05.07	10.05.07
4.	Dr. Shanthi Pavan	USA	Invited Lecture at Columbia University, New York and attend International Symposium on Circuits and Systems, New Orleans	24.05.07	31.05.07
5.	Dr. Ashok Jhunjhunwala	Tianjin, China	To attend a workshop on "Building Global Value Chain around green Grassroots Innovations and Traditional Knowledge"	31.05.07	02.06.07
6.	Dr. Nandita DasGupta	Fraunhofer Institute,	Alexander von Humboldt Re-invitation Program	June 1, 2007	July31, 2007

S.No	Name of the faculty	Country visited	Purpose of visit	Date	
				From	To
		Erlangen, Germany			
7.	Dr. Bhaskar Ramamurthy	ESPOO, Finland	Present paper at the Conference on "Wireless World Research Forum"	10.06.07	15.06.07
8.	Dr. Ashok Jhunjunwala	Sweden	Blekinge Institute of Technology, Sweden & Acreo Fiber Lab, Hudiksvall	14.06.07	21.06.07
9.	Dr. Ashok Jhunjunwala	China and USA	International Workshop in China, Meeting with World Bank at Washington DC, Meeting with ADI, Boston and Microsoft at Seattle and to Participate in the 3 rd Annual Pacific health Summit in Seattle	28.05.07	21.06.07
10.	Dr. Karmalkar, S	TSMC Head Quarters Taiwan	Award Ceremony on 29.06.2007 – Outstanding Researcher Award of Taiwan Semiconductor Manufacturing Corporation (TSMC)	29.06.07	30.06.07
11.	Dr. David Koilpillai	Malaysia	Universiti Teknologi Petronas, Malaysia as an External Examiner	25.06.07	02.07.07
12.	Dr. Anil Prabhakar	Besancon, France	To take research work at CNRS labs	31.08.07	15.09.07
13.	Dr. R. Sarathi	Glasgow, UK	Academic Visitor, University of Strathclyde	14.05.07	13.07.07
14.	Dr. Enakshi Bhattacharya	Beijing	To attend Second Chinese India Workshop on MEMS/NEMS	04.08.07	05.08.07
15.	Dr. Ashok Jhunjunwala	Beijing, China	To deliver a lecture at the Harvard Project for Asian and International Relations (HEPAIR) Conference	17.08.07	18.08.07
16.	Dr. Ashok Jhunjunwala	Singapore	To deliver a lecture at the National University of Singapore (NUS)	19.08.07	20.08.07
17.	Dr. Nitin Chandrachoodan	Amsterdam, Netherlands	To present paper at the 17 th International Conference on Field Programmable Logic and Applications, FPL 2007	27.08.07	29.08.07
18.	Dr. Ashok Jhunjunwala	Colombo, Sri Lanka	To deliver keynote address in the First South Asia Broadband Congress	04.09.07	06.09.07
19.	Dr. Y. Shanthy Pavan	Munich, Germany	To attend European Solid State Circuits Conference	11.09.07	13.09.07
20.	Dr. Y. Shanthy Pavan	Sanjose, CA, USA	To attend and present paper at the IEEE Custom Integrated Circuits Conference	16.09.07	19.09.07
21.	Dr. Ashok Jhunjunwala	Paris, France	To attend the final review meeting as a member of UNESCO task force on major programs Natural Sciences, Human & Social Sciences	25.10.07	28.10.07

Honours and awards obtained by Faculty/Laboratory:

S.No	Name of the faculty/laboratory	Name of the award	Awarded by	Date of award
Faculty				
1.	Prof. S. Karmalkar	IBM Faculty award	IBM	2007

Laboratory				
2.	Microelectronics & MEMS Laboratory	Technoshied Award (cash prize of Rs.50,000/-)	Dr. Chidambaram , PSA, Indian Semiconductor Association, Government of India	July 2007

- **Dr. Y. Shanthi Pavan** has been appointed as an Associate Editor of the IEEE Transactions on Circuits and Systems; Part 1.
- **Dr. A.N. Rajagopalan** has been invited to become the Associate Editor of the IEEE Transactions on Pattern Analysis and machine Intelligence (TPAMI). IEEE Transactions PAMI is the highest-ranked journal in the area of image processing and computer vision
- CSIR of Government of India has appointed **Prof. Mani Subramanian** as a member of the Domain Experts Group for evaluation of projects initiated under New Millenium Indian Technology Leadership Initiative (NMITYLI)
- **Dr.Maheh Kumar** has been appointed as an Associate Editor of International Journal of Power Electronics.

4.8.4 Design and Development Activities:

Patents Filed:

S.No	Title	Inventor(s)	Date of Filing
1.	Non-invasive method and device for the measurement of Oxygen Saturation in Arterial Blood (I)	Prof. V Jagadeesh Kumar	08.06.07
2.	Non-invasive method and device for the measurement of Oxygen Saturation in Arterial Blood (II)	Prof. V Jagadeesh Kumar	08.06.07
3.	Analog Digital Theremin interface useful as Augmentative Communication Device for Individuals with Multiple Disabilities	Dr. Anil Prabhakar	26.07.07

Patents Awarded:

S.No	Title	Inventor(s)
1.	A device for simultaneously providing permanent internet access and normal voice telephony to subscribers	Prof. Ashok Jhunjunwala Prof. Bhaskar Ramamurthi
2.	A direct internet access system	Prof. Ashok Jhunjunwala

4.8.5 Research and consultancy:

Sponsored research Projects:

S.No	Name of the faculty	Title	Industry	Amount (Lacs Rs.)
1.	Sarathi R	Generation and characterization of nano particles using pulsed power technique	Board of Research in Nuclear Sciences	09.26
2.	Shanthi Pavan	On-chip eye diagram measurement techniques at multi-gigahertz data rates	Indian National Academy of Engineering	01.00
3.	Nandita Das Gupta	Novel oxidation techniques for improvement in the electrical properties of ultra-thin SiO ₂ for VLSI technology	Department of Science & Technology	73.61
4.	Srikrishna B	Resource allocation for multi-terminal wireless communication system	Department of Science & Technology	19.63
5.	Enakshi bhattacharya	Measurement circuit and miniaturisation of silicon based biosensors	Department of Science & Technology	29.80

S.No	Name of the faculty	Title	Industry	Amount (Lacs Rs.)
6.	Enakshi bhattacharya	Silicon/Porous Silicon composite membrane for high sensitivity pressure sensor	Asian Office Of Research and Development	10.14
7.	Karmalkar S	IBM Faculty Award	IBM Corp., USA	04.03
8.	Andrew Thangaraj	SeNeCom : Secure Network Communications	Department of Science & Technology	01.87
9.	Harishankar Ramachandran	Modeling ion flow through cusp fields and the extractor grid in an NBI source	INSTITUTE OF PLASMA RESEARCH	10.30
10.	Nagendra Krishnapura	Low noise low power filter and digital to analog converter for digital audio	Texas Instruments India Pvt Ltd	11.57
11.	Nagendra Krishnapura	Design and fabrication of integrated circuits for signal conditioners	Indira Gandhi Centre for Atomic Research	30.52
12.	Arun D Mahindrakar	Synthesis and experimental validation of nonlinear control laws for under actuated systems	Department of Science & Technology	08.40
13.	Amitava Das Gupta	Design, fabrication and characterization of MEMS resonators	RCI, Hyderabad	09.96
14.	Ashok Jhunjunwala	Participatory, sustainable, convergent and high-quality public e-services - developing methods and practices	Swedish International Development Cooperation Agency	18.48
15.	David Koilpillai	Cellphone Jammer	Alumni Association	01.80
16.	Mahesh Kumar	Design and development of high frequency response injection transformers for power quality compensators	Alumni Association	01.20
17.	Amitava Das Gupta	Development of microelectrode arrays for electrochemical applications	Department of Science & Technology	30.56
18.	Jayashankar V	Power modules for wave energy plants	National Institute of Ocean Technology	17.40
19.	Sarathi R	Automation of wire explosion process and the basic study on impact of binary gas on generation of nano aluminium particle	Armament Research Board	22.64
20.	Manivasakan R	Development of resilient packet ring technology (IEEE 802.17RPR)	Dept. of Information Technology	23.10
21.	Mahesh Kumar	Load compensation and voltage regulation using DSTATCOM under non-stiff voltage source	Department of Science & Technology	27.35
22.	Sarathi R	Optimization of process parameters for the production of nano materials by wire explosion technique	Department of Science & Technology	25.26

Industrial Consultancy Projects:

S.No	Name of the faculty	Title	Industry	Amount (Lacs Rs.)
1.	Kannan S R	Failure Analysis Of BHEL Reactor At Purnea	Puri Crawford & Associates India Pvt Ltd.,	0.30

S.No	Name of the faculty	Title	Industry	Amount (Lacs Rs.)
2.	Jagadeesh Kumar V	Testing Of 16 MVA 110/22-11 kV Power Transformer	Venkateswara Electrical Industries (p) Ltd.	0.10
3.	Jagadeesh Kumar V	Impulse Voltage Withstand Study And Testing Of Power Transformers	Venkateswara Electricals Ltd.,	0.10
4.	Sarathi R	Power Frequency Test On 36 kV & 12 kV Ovcb	Siemens India Ltd.,	0.36
5.	Sarathi R	Impulse Test On 132 kV Damping Resistor	National Switchgears	0.51
6.	Sarathi R	Impulse Voltage Withstand Study And Testing Of Power Transformers 10/16 MVA	Supreme Power Equipments	1.01
7.	Sarathi R	Testing Of 8 MVA 33/1111 Power Transformer	Andrew Yule & Company Ltd.,	5.00
8.	Sarathi R	Impulse Voltage Withstand Study And Testing Of Power Transformers (8 Mva)	Hindusthan Transsformers	0.71
9.	Jagadeesh Kumar V	Testing Of 16 MVA 33/11 Kv Transformer	Indo-tech Transformers Ltd.	0.10
10.	Dr. Mahesh Kumar	Verification of neutral current in electrical auxiliary power distribution network-DMRC	Larsen & Toubro Ltd	0.56
11.	Jagadeesh Kumar V	Testing Of 25 MVA 110/33-22 Kv Transformer	Venkateswara Electrical Industries (p) Ltd.	0.10
12.	Jagadeesh Kumar V	Testing Of 8 MVA 33/11 Kv Transformer	Indo Tech Transformers Limited	0.10
13.	Sarathi R	Calibration Of High voltage Test Kit	System Control	0.11
14.	Jagadeesh Kumar V	Testing Of 100 Mva 230/110/11 Kv Auto Transformer	Indo Tech Transformers Limited	0.15
15.	Jagadeesh Kumar V	Testing Of 10 Mva 110/33/11 Kv Transformer	Indo Tech Transformers Limited	0.15
16.	Jagadeesh Kumar V	Testing Of 8 Mva 33/11 Kv Power Transformers	Venkateswara Electrical Industries (p) Ltd.	0.15
17.	Jagadeesh Kumar V	Testing Of 8 Mva 33/11 Kv Power Transformer	Indo Tech Transformers Limited	0.15
18.	Sarathi R	Impulse Voltage With Stand Study And Testing Of Ct : Pt Combined Metering Unit 22 Kv And 33 Kv (2 Nos.)	Ascott Electricals Pvt. Ltd.,	0.47
19.	Sarathi R	Impulse Testing On 100 Kva/11 Kv Transformers	Common Code	0.50
20.	Sarathi R	Impulse Voltage Withstand Study And Testing Of Distribution Transformers 100/11, 100/22 And 250/11 (3 Nos.)	Ascott Electricals Pvt. Ltd.,	0.49

S.No	Name of the faculty	Title	Industry	Amount (Lacs Rs.)
21.	Sarathi R	Dry Power Frequency Voltage Withstand Test On 36kv And 25kv Vcb (2 Nos)	Areva T & D India Ltd	0.34
22.	Sarathi R	Reference Voltage Test Of Porcelain Lightning Arrester 216 Kv, 140 Kv And 42 Kv (3 Nos)	Lamco Industries Pvt. Ltd.	1.01
23.	Jagadeesh Kumar V	Testing Of 25 MVA 110/33-22 Kv Power Transformers	Indo Tech Transformers Limited	0.15
24.	Jagadeesh Kumar V	Testing Of 16 MVA 110/22-11 Kv Power Transformer	Andrew Yule & Company Ltd.,	0.15
25.	Andrew Thangaraj	Puncturing For Ldpc Codes	Radiospire Networks	2.20
26.	Jayashankar V	Simulation Of Audio Frequency Track Circuits	Hbl Power Systems Ltd.,	3.65
27.	Sarathi R	Impulse Voltage Withstand Study And Testing Of Power Transformers 10/16 MVA	Supreme Power Equipments	0.71
28.	Karmalkar S	Design Of An Impedance Measurement	Hcl Technology	0.05
29.	Jagadeesh Kumar V	Testing Of 16 MVA 110/22-11 kv Power Transformer	Andrew Yule & Company Ltd.,	0.15
30.	Jagadeesh Kumar V	Testing Of 16 MVA 110 kv Power Transformer	Venkateswara Electrical Industries (p) Ltd.	0.15
31.	Sarathi R	Impulse Voltage With Stand Study And Testing Of Power Transformers (8mva, 33/11)	Current Electricals Limited	0.83
32.	Jagadeesh Kumar V	Testing Of 16 MVA 110/33-11 Kv Power Transformer	Indo Tech Transformers Ltd	0.15
33.	Krishna Vasudevan	Testing Of BLDC Motor Drive	Dalmia Electrodyn Technologies, (p) Ltd	0.06
34.	Giridhar K	---	Saankhya Labs Pvt. Ltd.	1.35
35.	Giridhar K	Diversity Receiver For GFSK Radios	Honeywell Technology Solutions Laboratory Pvt. Ltd.	2.43
36.	Shanthi Pavan	Retainer Consultancy	Texas Instruments(india) Pvt.ltd.,	0.34
37.	Krishna Vasudevan	---	KG Information Systems Private Limited	0.84
38.	Shanthi Pavan	---	Sirf Technoloy (india) Pvt. Ltd.,	6.74
39.	Ramalingam C S	Design & Development Of Efficient Asynchronous Sample Rate Converter Algorithms	Jasmin Infotech Pvt. Ltd.	1.50

S.No	Name of the faculty	Title	Industry	Amount (Lacs Rs.)
40.	David Koilpillai	Evaluating The Performance Of Zigbee / IEEE 802.15-4	Eaton	3.80
41.	Krishna Vasudevan	Modelling And Simulation Of Grid Interactive Inverters	Eaton - Usa	2.32
42.	Krishna Vasudevan	Modelling And Analysis Of Annular Linear Induction Pump	Indira Gandhi Centre For Atomic Research	8.46
43.	Anil Prabhakar	Broadband Source Generation Using Speciality Fibers Feasibility Study	Research Centre Imarat	9.80
44.	Giridhar K	Design Of Enhanced Channel Processing And Signal Detection Algorithms For Broad Band Ofdm/ofdma Cellular Systems	Center Of Excellence In Wireless Technology	2.50
45.	Shanthi Pavan	Sigma Delta Modulators For Low Power Sensors	Texas Instruments india Pvt.ltd.,	16.46
46.	Giridhar K	Study Of Software Defined Radio With Wimax And LTE Base-band In A Combo Terminal	Nxp Semiconductors India Pvt. Ltd	36.80

Research Publications of the faculty members & research scholars:

Total no. of papers published in refereed international journals	:	92
Total no. of papers presented in international conferences	:	73
Total no. of papers presented in national conferences	:	10

Refereed International Journals:

S.No	Name of faculty	Title	Publisher	Co-author(s)
1.	Dr.R.Sarathi	Understanding nanoparticle formation by a wire explosion process through experimental and modelling studies	Institute of Physics Nanotechnology Journal , vol. 19, no. 2, pp 025703, Jan 2008	Sindhu, T.K., Chakravarthy,S.R.
2.	Dr.R.Sarathi	Generation of nano aluminium powder through wire explosion process and its characterization	Institute of Physics Materials Characterization Journal , vol. 58, no. 2, pp 148-155, Feb. 2007	Sindhu, T.K., Chakravarthy,S.R.
3.	Dr.R.Sarathi	Impact of binary gas on nano-aluminium particle formation through wire explosion process	Materials Letters, vol. 61, no. 8-9, pp 1823-6, April 2007	Sindhu, T.K., Chakravarthy,S.R.
4.	Dr.R.Sarathi	Generation and characterization of nano aluminium powder obtained through wire explosion process	Bulletin of Materials Science, Indian Academy of Sciences, Vol.30, No.2, pp.187 - 195	Sindhu, T.K., Chakravarthy,S.R.
5.	Dr.R.Sarathi	Analysis of surface degradation of silicone rubber insulation due to tracking under different voltage profiles	Electrical Engineering, vol. 89, no. 6, pp 489-501, June 2007	Chandrasekar, S. Danikas, M.G

S.No	Name of faculty	Title	Publisher	Co-author(s)
6.	Dr.R.Sarathi	Understanding the hydrophobic characteristics of epoxy nanocomposites using wavelets and fractal technique	IEEE Transon Dielectrics and Electrical Insulation, vol. 15, no. 1, pp 178-86, Feb. 2008	Sahu, R.K.; Tanaka, T.
7.	Dr.R.Sarathi	Understanding the thermal, mechanical and electrical properties of epoxy nanocomposites	Materials Science and Engineering vol.445-446, pp 567-578, Feb2007	Sahu, R.K.; Rajeshkumar, P.
8.	Dr.R.Sarathi	Analysis of surface degradation of epoxy nanocomposite due to tracking under AC and DC voltages	Polymer Degradation and Stability Journal, vol.92,no.4, pp 560-568, April 2007	Rajesh Kumar, P.; Sahu, R.K.
9.	Dr.K.S Swarup	Constrained Optimization using Evolutionary Programming for dynamic Economic Dispatch of Power Systems	The Institute of Engineers (India), IE(I) Journal, Vol. 87, pp. 17-22	--
10.	Dr.K.S Swarup	Computationally Efficient Wavelet-Transform based Digital Directional Protection for Bus bars	IEEE Trans on Power Delivery, Vol.22, Issue 3, Page 1342 – 1350	Simi.P. Valsan
11.	Dr.K.S Swarup	Constrained Optimization using Evolutionary Programming for dynamic Economic Dispatch of power Systems	IEEE Trans on Power Delivery, Vol.22, No.3 pp.1342-1350	Simi.P.Valsan
12.	Dr.K.S Swarup	Network loss minimization with voltage security using differential evolution	Electric Power Systems Research, vol. 78, no. 5, pp 815-823, May 2008.	Varadarajan, M.
13.	Dr.K.S Swarup	Protective relaying for power transformers using field programmable gate array	IET Electric Power Applications, vol. 2, no. 2, pp 135-143, 2008	Valsan, S.P.
14.	Dr.K.S Swarup	Artificial neural network using pattern recognition for security assessment and analysis	Neurocomputing, vol. 71, no. 4-6, pp 983-98, Jan. 2008	--
15.	Dr.K.S Swarup	Power system static security assessment and evaluation using external system equivalents	Int. Journal of Electrical Power and Energy Systems, vol. 30, no. 2, pp 83-92, Feb 2008	Srivani, J.
16.	Dr.K.S Swarup	Fault detection and classification logic for transmission lines using multi-resolution wavelet analysis	Electric Power Components and Systems, vol. 36, no. 4, pp 321-344, April 2008	Valsan, Simi P.
17.	Dr.K.S Swarup	Volt-Var optimization using differential evolution	Electric Power Components and Systems, vol. 36, no. 4, pp 387-408, April 2008	Varadarajan, M

S.No	Name of faculty	Title	Publisher	Co-author(s)
18.	Dr.K.S Swarup	Wavelet based transformer protection using high frequency power directional	Electric Power Systems Research vol. 78, no. 4, pp 547-558, April 2008	Valsan, S.P
19.	Dr. Mahesh Kumar	ANN based system for the detection of winding insulation condition and bearing wear in single phase induction motor	Journal of Electrical Engg & Technology, Vol.2., No.4	M.S. Ballal, H.M. Suryawanshi
20.	Dr. Mahesh Kumar	A novel method of load compensation under unbalanced and distorted voltages	IEEE Trans. Power Delivery, Vol. 22, No. 1, Jan. 2007, pp. 288-295	A Ghosh, Joshi. H. M. Suryawanshi
21.	Dr. Mahesh Kumar	A Novel Load Compensation Algorithm under Unbalanced and Distorted Supply Voltages	Int. Journal of Emerging Electric Power Systems, Vol. 8, Issue 5 (1), October 2007	K. Karthikeyan
22.	Dr. Mahesh Kumar	Three-Phase AC-to-DC Resonant Converter Operating in High Power Factor Mode in High-Voltage Applications	Journal of Power Electronics, Vol. 8, No. 1, January 2008, pp. 60-73.	M. A. Chaudhari, H. M. Suryawanshi, A. K. Kulwal
23.	Dr. Devendra Jalihal	Power Allocation in MISO Channel with Co-ordinate Interleaving Technique	IEEE Signal Processing Letters	V. Ganesh
24.	Dr. Jagadeesh Kumar, V	Active fin control for yacht using virtual instrumentation	Ocean Engineering, vol 34, no. 3-4, pp 390-402, March, 2007	Anantha Subramanian, V. Asokumar, G.
25.	Dr. P.A Janakiraman,	Realization of a digital differential analyzer using CPLDs	International Journal of Modelling and Simulation, vol. 27, no. 3, pp 280-286, 2007	Sivaranjani, K. Venkatesh, J.
26.	Dr. P.A. Janakiraman,	Single sensor current control of permanent magnet synchronous motor using field programmable gate array	IET Electric Power Applications, vol.1, no. 3, 2007, p 416-422	Saritha, B.
27.	Dr. P.A. Janakiraman	An observer for three-phase current estimation using nonuniform current samples	IEEE Trans on Power Electronics, vol. 22, no. 2, pp 686-692, March 2007	Saritha, B.
28.	Dr. P.A. Janakiraman	Single sensor current control of permanent magnet synchronous motor using field programmable gate array	IET Electric Power Applications, vol. 1, no. 3, pp 416-22, May 2007	Saritha, B.
29.	Dr. P.A. Janakiraman	Extraction of harmonics using composite observers	IEEE Trans on Power Delivery, vol. 23, no. 1, pp 31-40, Jan 2008	Selvajyothi, K.
30.	Dr. P.A. Janakiraman	Sinusoidal three-phase current reconstruction and control using a DC-link current sensor and a curve-fitting observer	IEEE Trans on Industrial Electronics, vol. 54, no. 5, pp 2657-64, Oct. 2007	Saritha, B.

S.No	Name of faculty	Title	Publisher	Co-author(s)
31.	Dr. P.A. Janakiraman	Integrated phase-locking scheme for SDFT-based harmonic analysis of periodic signals	IEEE Transactions on Circuits and Systems-II: Analog and DSP, vol. 55, no. 1, pp 51-55, Jan. 2008	Sumathi, P.
32.	Dr. A. Jhunjhunwala	Wavelength reassignment algorithms for all-optical WDM backbone networks	Optical Switching and Networking, vol. 4, no. 3-4, pp 147-56, Nov. 2007	Rajalakshmi, P.
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63.	Dr. Srikrishna Bhashyam	Thresholds for LDPC codes over OFDM	Proc. of IEEE COMSWARE 2008, Workshop on Wireless Systems: Advanced Research and Development (WISARD 2008), Bangalore, India, Jan 2008	A. Iyengar, M. K. Dileep, A. Thangaraj
64.	Dr. Srikrishna Bhashyam	Node-Based Scheduling for Network-Coded Wireless Networks	Proceedings of IEEE COMSWARE 2008, Workshop on Wireless Systems: Advanced Research and Development (WISARD 2008), Bangalore, India, January 2008. (Poster)	M. Bama, A. Thangaraj

S.No	Name of faculty	Title	Conference	Co-author(s)
65.	Dr. Srikrishna Bhashyam	Resource Allocation in CDMA Packet Systems with Maximum Rate Constraint	Proceedings of WPMC 2007, Jaipur, India, December 2007	C. Manikandan
66.	Dr. Srikrishna Bhashyam	Subspace Based Channel Estimation with Multiple Receivers in Reuse-1 OFDMA Systems - Impact on Diversity Combining and Nulling	Proceedings of IEEE 8th Workshop on Signal Processing Advances in Wireless Communications, Helsinki, Finland, pp. 1-5, June 2007	M. R. Raghavendra, K. Giridhar
67.	Dr. Srikrishna Bhashyam	Parametric Channel Estimation in Reuse-1 OFDM Systems	Proceedings of ICC2007, Glasgow, Scotland, pp. 2999 - 3004, June 2007	M. R. Raghavendra, K. Giridhar
68.	Dr. Nandita DasGupta	Improved Electrical Characteristics of MOS Devices with Ultrathin Gate Oxide Grown by Chemical Oxidation	ECS Transactions - ULSI vs. TFT Conference Volume 8, from the Intl Conf.on Semiconductor Technology for Ultra Large Integrated Circuits and Thin Film Transistors, July 29-31, Berga, Italy, 2007.	Binsu J Kailath, Amitava DasGupta
69.	Dr. Nandita DasGupta	Novel oxidation techniques for ultrathin SiO ₂ suitable for MOS gate applications	Invited talk presented in the Intl Conf of Advanced Materials (ICAM), Symposium V: Nanomaterials and Nanodevices Oct 11-13, Bangalore,	--
70.	Dr. Nandita DasGupta	Effect of Nitridation on Al/HfO ₂ /Ge MIS Capacitors	International workshop on the Physics of Semiconductor Devices (IWPSD2007) Mumbai, December 2007	Binsu J. Kailath, S. Bhattacharya, Amitava DasGupta
71.	Dr. Nandita DasGupta	Reactive Ion Etching of GaN using SF ₆ + N ₂ /Ar Plasma	International workshop on the Physics of Semiconductor Devices (IWPSD2007) Mumbai, December 2007	T. Sreenidhi, and K. Baskar
72.	Dr. Nandita DasGupta	Novel low temperature techniques for growth of ultrathin oxides for Strained Si MOS Devices	IEEE International conference on Microelectronics (ICM 2007) Cairo, Egypt, December 2007	Binsu J.Kailath, Amitava DasGupta, S Bhattacharya, B. M. Armstrong, H. S. Gamble and J McCarthy
73.	Dr. Nandita DasGupta	Performance Enhancement in Asymmetric Gate Dielectric MOSFET	IEEE International conference on Microelectronics (ICM 2007) Cairo, Egypt, December 2007	Dnyanesh S. Havaladar, Guruprasad Katti, B. M. Jadeja, Rathnamala Rao, Amitava DasGupta

In Refereed National Conferences:

S.No	Name of faculty	Title		Author/Co-author
1.	Dr. Enakshi Bhattacharya	Variable optical attenuators on SOI wafers	National Conf on Optoelectronics, April 9-12, 2007.	S. Tyagi, A. Prabhakar
2.	Dr. Andrew Thangaraj	An Implementation Of A Soft-Input Stack Decoder For Tailbiting Convolutional Codes	NCC 2007, Kanpur, India.	M. Madhavan
3.	Dr. Andrew Thangaraj	Constellation Shaping using Codes with a Tree Tanner Graph	NCC 2007, IIT Kanpur	S. Kaimalettu, S. W. McLaughlin
4.	Dr. Andrew Thangaraj	HARQ Schemes using LDPC codes with Diversity-Combining	NCC 2007, Kanpur, India.	A. S. Mohan Vamsi, B. Ramamurthi
5.	Dr. Anil Prabhakar	Four wavelength Erbium doped fibre laser	Natl. Conf. on Optoelectronics	Khansa, C.A.; Bhattacharya, S.
6.	Dr. Anil Prabhakar	Dispersion measurement of single mode optical fibre using intensity modulators	Natl. Conf. on Optoelectronics	Kumar, P.
7.	Dr. Anil Prabhakar	All optical XOR gate	Natl. Conf. of Optoelectronics	Rao, U.R.
8.	Dr. Anil Prabhakar	Variable optical attenuators on SOI wafers	Natl. Conf. of Optoelectronics	Tyagi, S Bhattacharya, E.
9.	Dr. Srikrishna Bhashyam	Capacity of Network-Coded Wireless Multicast using Node-Based Scheduling	Proceedings of the National Conference on Communications (NCC), Mumbai, India, February 2008	M. Bama, A. Thangaraj
10.	Dr. Srikrishna Bhashyam	Performance of Transmit Antenna Selection with Maximal Ratio Combining in the Presence of Delayed Feedback	Proceedings of the National Conference on Communications (NCC), Mumbai, India, February 2008	T. R. Ramya

Distinguished Visitors to the Department

S.No	Visitor Name & Designation	Affiliation	Date of visit	Purpose of visit
1.	Richard Templeton, CEO	Texas Instruments Inc.	01.04.07 ¹	Discussion
2.	Prof. Ravi N. Banavar	IIT Bombay	25.05.07	Gave a talk titled Perspectives in Nonlinear Dynamical Systems
3.	Dr. Joseph Shapira	Alexander Chair Professor	19.07.07	For giving lectures and research discussions
4.	Prof. Doug McEachern	Deputy Vice-chancellor (Research and Innovation), University of Western Australia	18.09.07	Made brief presentation about (i) Potential areas for research interaction between UWA and IITM; (ii) Programmes available to facilitate interaction

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

Sl. No.	Name of the Student/Scholar	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
India				
1.	M.Santhakumar	COPEN 2007 (International Conference on Precision, Meso, Micro and Nano-Engineering), College of Engg. Trivandrum	13- 14 December, 2007	--
2.	T Periasamy	COPEN 2007 (International Conference on Precision, Meso, Micro and Nano-Engineering), College of Engg. Trivandrum	14 December, 2007	--
3.	M. Jagannath	NaCoMM 2007 (National conference on Mechanism and Machines" and "IFToMM International Workshop on MMS 2007"	IISc Bangalore, 12-14 December, 2007	--

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

Sl.No.	Name of the Student/Scholar	Name of Prize	Prize awarded by
1.	Vineeth Bhandari Apurv Shrivastava	OCBC Design Innovation Award	International Design Exhibition held in London, UK

4.9.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor:

Dr R Krishnakumar
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
Dr Sandipan Bandyopadhyay

Robotics, Mechatronics, Control, Electro Hydraulic Servo Systems
Modeling, Control, Fault Diagnosis, Pneumatics
Robotics, Kinematics, Dynamics of Multibody Systems, Design, Symbolic Computation

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

Sl. No.	Name of faculty	Title	Institution	Period
Workshop:				
1.	Dr S K Saha	New Wings of Mechatronics	Workshop on "Mechatronics--An integrated approach" held at Bengal Engineering and Science University, Shibpur	24 September 2007
2.	Dr Nilesh J Vasa	Lightning attachment manner considering various types of lightning protection measures on wind turbine blades	Workshop on Lightning Protection organized by Center for Innovation in Science and Social Action at IIT Madras	13-14 November 2007
3.	Dr Nilesh J Vasa	Development of lidar system for remote sensing of atmospheric CO ₂ , CH ₄	Winter School on Atmospheric Sciences, Dept. of Physics, IIT Madras	21 - 31 December, 2007

Sl. No.	Name of faculty	Title	Institution	Period
4.	Dr. S Bandyopadhyay	Indo-US Workshop on Spatial Kinematics and Protein Conformations	IISc Bangalore	10-11 December, 2007
5.	Dr. S Bandyopadhyay	IFTOMM International Workshop on MMS 2007	IISc Bangalore	12-14 December, 2007
6.	Dr T Asokan	International Research Workshop	University of New South Wales, Sydney, Australia	20th to 22nd February 2008.
7.	Dr T Asokan	Keynote Address on "Industrial and Service Robots for Indian Industry: Challenges ahead"	National Conference on "Advances in Robotics, Precision Engineering and manufacturing Techniques (AIRPAM 2008)", Anna University, Chennai.	13th March 2008
Symposia:				
1.	Dr Nilesh J Vasa	Presentation: 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.	Dr. S Bandyopadhyay	First International Symposium on Compliant Mechanisms	IISc Bangalore	17 December, 2007
Conference:				
1.	Dr Nilesh J Vasa	Key note address on Laser based micro-manufacturing National Conference on Advances in Mechanical Sciences	Kumaraguru College of Technology, Coimbatore	22 nd March 2007
2.	Dr S K Saha	Minimization of constraint forces in industrial manipulators	IEEE International Conference on "Robotics and Automation 2007" Rome, Italy	10 th April to 14 th April 2007
3.	Dr S K Saha	Keynote Address: Modelling and Analyses of Rural Engineering Problems (MAREP): A Research Direction	National Conference on "Emerging Trends in Mechanical Engineering" SVNIT, Surat	4-5 June, 2007
4.	Dr S K Saha	Tutorial lecture entitled "Robotics@?"	National Conference on Computer Vision, AI and Robotics, SRM University	3-5 October, 2007
5.	Dr T Asokan	Robotics and Mechatronics: Challenges ahead	National Conference on Computer Vision, AI and Robotics, SRM University	4 th October, 2007
6.	Dr Nilesh J Vasa	Development of optical gas sensors for emission monitoring	9th International Symposium on Measurement and Quality Control held at IIT Madras	21-24 November 2007
7.	Dr Nilesh J Vasa, Dr R Sarathi	Application of nonlinear optical technique for electric field measurements	COPEN 2007 (International Conference on Precision, Meso, Micro and Nano-Engineering), College of Engg. Trivandrum	13- 14 December, 2007
8.	Dr Sandipan Bandyopadhyay and Dr Ashitava Ghosal	Classical screw theory: a fresh look using the dual eigenproblem approach	13th National Conference on Mechanisms and Machines (NaCoMM 2007), IISc, Bangalore	12-13, December 2007

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1.	Dr S K Saha	"Robotics [AT] ?"	Fundae Session, Hobby Club, PhLT, IITM	1 st March, 2007
2.	Dr S K Saha	"Robotics[A] ?"	Aarohan 2k7, NIT, Durgapur	10 th March 2007
3.	Dr S K Saha	Pursuing Innovation in Robotics	The Associated Chambers of Commerce and Industry of India (ASSOCHAM) Conference on 'Automation and Robotics: Mega Wave of New Business Opportunities,' New Delhi	26 th May 2007
4.	Dr S K Saha	"MAREP- A new research direction" "Robotics @ ?"	NIT Durgapur	21 st September 2007

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr T Asokan	Brunel University, UK, London	June 2007	To participate in the National Design Exhibition	Brunel University
2.	Dr.T.Asokan	Nanyang University Tech.	25 th November to 5 th December	Short Term Research Attachment	PCF

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 Sandipan Bandyopadhyay	Prof B K Subba Rao Medal	Indian Institute of Science, Bangalore	Best Ph.D. thesis for the year 2006-07	3 rd March 2008

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Others:		
1.	Dr T Asokan Visiting Research Fellow University of New South Wales Sydney 2008-2010	2008

4.9.4 Design and Development Activities:

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

A kit called "Makit Hitech" for developing mechanisms has been procured from Technilab, Bangalore. The kit comes with links, gears, cams etc. of various sizes, and also DC motors, stepper motors and a PLC controller. The kit is being used in the Product Design Lab.

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	5-axis Table-Top Robot (Feedback Instruments, UK)	6.9
2.	Automotive System Laboratory Equipment (LJ Create, UK)	65
3.	Control Laboratory Equipment (Inverted Pendulum, Magnetic Levitation System, Process Control Workshop from Feedback Instruments, UK)	11
4.	Modular Servo Workshop, Automotive Transducer Trainer (Bytronics, UK)	8
5.	NewPort Optical Fiber System Kit (Newport Corp., USA)	8
6.	Mechanical and Electronic Mechanism kit (Makit Hitech, from Technilab, Bangalore)	2.3

Patents filed:

SI. No.	Name of faculty	Topic of patent
1.	Dr T Asokan Dr C S Shankar Ram	Mc Grinder: An automated cleaning mechanism for chemical / oil tankers used in shipping industry

4.9.5 Research and Consultancy:**Sponsored Research Projects:**

SI. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Technology Development for proportional solenoid valve for space applications	2008-2010	ISRO-IITM cell	13.37	Dr.T.Asokan (PI) and Prof.M.Singaperumal
2.	Low Cost Flexible Automation (LCFA) using Robotic Arms	2008-09	TIFAC	108.50	Dr M Singaperumal, ME Dr T Asokan
3.	Measurement of elemental species for space exploration applications by using laser-induced breakdown spectroscopy technique	2008- 2011	ISRO-IITM Cell	19.53	N. J. Vasa (PI) Prof. M. Singaperumal

RBIC projects:

SI. 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	09.54
2.	T Asokan, M Singaperumal D Arun	Modelling and Control of 6 degree of freedom AUV	NSTL, DRDO	38.14

Faculty members participation with other institution under MoU:

SI. No.	Name of faculty	Participation details	Name of University/Institution which has MoU
1.	Dr R Krishna Kumar	Establishing a finishing school on 5th March 2008. A one-year Certificate Program on Engineering Design and Analysis will be offered by IIT Madras to the participants of the finishing school.	Lakshmi Vidya Sangam of the TVS Group of Companies

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	---	4
Total No. of papers presented in National Conferences	---	2
Total No. of papers presented in International conferences	---	6

Details:**In Refereed National Journals: Nil****In Refereed International Journals:**

1. A paper entitled "A note on the flow through porous solids at high pressures," authored by Shankar C. Subramanian and K. R. Rajagopal was published in Computers & Mathematics with Applications, Volume 53, pp. 260-275, 2007.

2. A paper entitled "A Model of the relay valve used in an air brake system" authored by Shankar V Natarajan, Shankar C. Subramanian, Swaroop Darbha and K R Rajagopal was published in Nonlinear Analysis: Hybrid Systems, Vol.1, pp.430-442, 2007.
3. A Journal paper entitled "Preparation of KTiOPO₄ thin films on different substrates by pulsed laser deposition" authored by Dr Nilesh J. Vasa et al was published in the International Journal of Advanced Manufacturing Technology, Springer. DOI 10.1007/s00170-007-1040-x
4. A paper entitled "Vision Enhancement using Stereoscopic Telepresence for remotely operated underwater Robotic vehicles" authored by V. Iastrebov, G. Seet, T. Asokan, Y. P. Chui and M.W.S. Lau¹ was published in the Journal of Intelligent and Robotic Systems.

In Proceedings of National Conferences:

1. A paper entitled "Computer Aided Analysis of a Sheep Shearing Machine" authored by Sham Rane, Varun Grover, Vineet Vashista, Anand Jere and Subir Kumar Saha was published in the Proceedings of the National Conference on Emerging Trends in Mechanical Engineering, SVNIT, Surat, June 4-5, 2007
2. A paper entitled "Classical screw theory: a fresh look using the dual eigen problem approach" by Sandipan Bandyopadhyay and Ashitava Ghosal was published in the Proceedings of the NaCoMM 2007, IISc., Bangalore held during December 12-13, 2007.

In Proceedings of International Conferences:

1. A paper entitled "Modelling of a rack and pinion steering linkage using multi-body dynamics" authored by A.R.Hanzaki, S.K.Saha, P.V.M.Rao was published in the proceeding of the IFToMM 12th World Congress in Mechanism and Machine Science, Besancon, France, June 17-21, 2007.
2. A paper entitled "An improved navigation algorithm for Autonomous Underwater Vehicles (AUV) for pipeline tracking/ following" authored by M.Santhakumar and T.Asokan was published in the Proceedings of the International Conference on Precision, Meso, Micro and Nano-Engineering), COPEN 2007 held at the College of Engg., Trivandrum between 13- 14 December, 2007.
3. A Conference paper entitled "Study of Coupled dynamics of underwater vehicle Manipulator system: A Bond graph Approach" authored by T.Perjasamy and T.Asokan was published in the Proceedings of the International Conference on Precision, Meso, Micro and Nano-Engineering), COPEN 2007 held at the College of Engg., Trivandrum on 14th December, 2007.
4. A Conference paper entitled "Short term prediction of travel time for Indian traffic conditions using buses as probe vehicles", authored by Leitha Vanajakshi, Shankar C. Subramanian and R. Sivanandan," has been published in the Proceedings of the 87th Transportation Research Board Annual Meeting, Washington, D. C., USA, January 2008.
5. N. J. Vasa, I. A. Palani, R. Kona, M. Singaperumal, "Development of optical gas sensors for emission monitoring", Proceedings of the 9th International Symposium on Measurement and Quality Control (9th ISMQC), pp. 206 – 210, November 2007, IIT Madras, India (ISBN: 978-81-904235-2-6).
6. N. J. Vasa, R. Sarathi, "Application of Non-linear Optical Technique for Electric field measurements", Proceedings of International Conference on Precision, Meso, Micro and Nano-Engineering, COPEN 2007, pp. 365 – 368, December 2007, Trivandrum, India (ISBN: 81-8424-265-4).

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Mr. M. Shinohara, Senior Vice President and 9 members of Senior Management Delegation from M/s Nissan Motors Limited	May 7, 2007	To discuss about the activities of the department
2.	Mr Jacques Foulquier, Chief of Operations in India, M/s Renault (France) and Mr. Herteman, Vice-president, Middle-east Operations	June 28, 2007	Visited the JK Singhanian Centre of Excellence for possible collaborative projects.
3.	Ms Tana Utley, Vice-president, Caterpillar's Technology and Solutions Ltd,	July 26, 2007	To discuss about more collaborative projects and opportunities for research with the department of Engineering Design.

Other Activities of the Department/Centre:

1. The Vehicle Dynamics Laboratory was inaugurated by Mr Narain Karthikeyan on 2nd April 2007. Mr Arun Jaura, Sr. Vice President, M&M and Mr V K Misra, Technical Director, JK Tyres addressed the gathering. Members from various departments attended the function. The inauguration was followed by a Press Meet.
2. The Launch of Caterpillar Centre of Excellence for Heavy Vehicles Engineering was held on 11th May 2007. The function was attended by the Director and the deans of the Institute. The function was followed by a Press Meet. Caterpillar Foundation has approved a grant of US\$ 250,000 to IIT Madras towards establishing the Centre.
3. 38 Dual degree students and two faculty members visited the Motor Industries Corporation Limited (MICO), Bangalore on 11th May 2007. MICO had arranged the travel and accommodation.
4. Six Dual degree students of our department were invited to participate in the "Made in Brunel" Innovation Show held at Business Design Exhibition Centre, Islington, London, UK from 9th to 17th June 2007. Two faculty members accompanied the student team to Brunel University. The following projects were done by the students:
5. McGrinder – It deals with cleaning the internal surface of tankers used in the shipping industry. (Mr Vineet Bhandari & Mr Apurv Shrivastava)
6. Poccludo - Aorta suturing in CABG (Coronary Artery Bypass Graft) surgery (Mr Manish Rathore & Mr Madhvendra Singh)
7. APod - Aortic Partial Occlusion Device (Mr Abhishek Gandhi & Mr VLN Praneeth Burra)
8. The second and third projects deal with assisting a surgeon during bypass surgery. The first project won the Award worth 2000 Sterling Pounds at the Brunel Design Exhibition.
9. A team consisting of 42 members which include faculty, research scholars, students and staff members of the department of Mechanical Engineering and department of Engineering design visited the SHAR Centre, Sriharikota on 21st June 2007. It was essentially an educational tour.
10. Bhoomi Pooja for the ED building was held on 25th June 2007.
11. M/s Autodesk Inc., had organised a 4-day Training Programme called "Inventor Training Programme". It was open to all the faculty, staff and students of IIT Madras. 17-19 staff/ students from various departments attended the programme which was held between 23rd and 26th July 2007. The training was conducted by Mr. Muthu of Autodesk Inc.
12. A Committee consisting of Dr Nilesh J Vasa, Dr T Asokan, Dr Paramanand Singh (MM dept) and Dr Pramod S Mehta (ME dept) visited the India Science Laboratory, Bangalore on 26th July 2007 to inspect the R&D facilities available with them for the purpose of external registration of eligible employees for admission to M.S. and Ph.D. programme of our Institute.
13. Prof Dasharath Patel, Director (Retd), National Institute of Design, Ahmedabad delivered a lecture on "Design Engineering Challenges" on 20th August at 3.00 pm in the Metallurgical Seminar Hall.
14. Prof S K Saha and Dr T Asokan attended Innovation Contest and Workshop for school students organised by National Innovation Foundation and officiated as Judge for student level design competition held on 7th and 8th August 2007.
15. Prof S K Saha participated with the India team in the International Robotics Competition held in Hanoi, Vietnam between 24th and 29th August 2007.
16. Dr Ramaa Narayanan, Retd. Professor from Stella Maris College delivered a lecture entitled "Design – Modern or Post Modern" on 8th October 2007. All the dual degree students and faculty attended the lecture.
17. Dr T Asokan organized a study visit to Research Centre Immarat, Hyderabad on 29th October 2007. Many research scholars and graduate students participated in the visit.

18. A MoU was signed between Consortium and DST: Technology Development Project on "Low Cost Flexible Automation" at IIT Madras on November 1, 2007.

Consortium members:

Lead Agency: IIT Madras (PI: Prof. M. Singaperumal, Co-PI: Dr. T. Asokan)

R&D Partners: M/s Systemantics India Pvt. Ltd, Bangalore, IIT Bombay, M/s Magtorque Pvt. Ltd., Hosur

User Partners: TVS Motor Co., Mahindra and Mahindra, Sona Koyo, TVS Lucas, MICO Ltd.

19. Prof Subir Kumar Saha returned to IIT Delhi on completion of his lien period at IIT Madras from December 2006 to December 2007.
20. Prof R Krishna Kumar re-joined the Department of Engineering Design on 4th January 2008 on completion of his sabbatical leave for one year
21. A lecture titled "Intelligent Ground Vehicle" was delivered by Dr Mohan Krishnan of the University of Detroit Mercy on 10th January 2008(Thursday) at the Chemical Engineering Seminar Hall.
22. A lecture titled "Molecular diagnosis of cancers: a role for nanoscale mechanics and assembly" was delivered by Dr. Rustom Bhiladvala of the Pennsylvania State University on 11th January 2008 (Friday) at 3.30 pm at MSB 348.
23. Dr T Asokan has been appointed as a Visiting Research fellow of the University of New South Wales, Australia for a period of three years from March 1, 2008.

International collaboration achievements by the Department

Faculty visit

N. J. Vasa was invited to by the Faculty of Engineering Sciences at Kyushu University, Japan to participate in a Symposium on "Practical Education in Graduate School of Engineering Sciences" between 6/3/2007 and 13/3/2007.

Dr T Asokan has been appointed as a Visiting Research fellow of the University of New South Wales, Australia for a period of three years from March 1, 2008.

4.10 DEPARTMENT OF HUMANITIES AND SOCIAL SCIENCES

4.10.1 Introduction:

The five year integrated MA programme launched by the Department of Humanities and Social Sciences (HSS) in the academic year 2006-07, is now in the phase of stabilisation.

The second batch of MA students joined the Department in August 2007. Allocation of specialisations for the first batch that had joined in 2006 was successfully done in March 2008. 10 students will pursue MA in Economics, 10 in Development Studies and 9 in English Studies from the Odd semester 2008-09.

4.10.2 Academic Programmes: Five year integrated MA programme introduced in July 2006

New Courses introduced:

HS501	Feminism concept & Theories
HS502	Gender and Development
HS503	Urbanisation and Development
HS504	Built Environment and Society
HS506	Technology & Sustainable Development
HS507	Science and Society
HS508	Human Rights and Justice
HS509	Accounting for Social Sciences
HS510	Introduction to Film Studies
HS511	Introduction to Carnatic Music
HS539	Technical Communication for Executives
HS567	Principles of English for Specific Purposes
HS586	Contemporary Indian Novel and Drama in English
HS588	Corruption and Development
HS590	Information & Communication Technologies and Development
HS592	Indian Art
HS594	Theory and Practice of International Relations
HS631	Women in India: Problems & Prospects
HS633	Demography, Infrastructure & Housing in India
HS635	Science & Technology in Independent India
HS726	Principles & Practice of English Language Teaching
HS741	Film Theory and Practice
HS754	Philosophy of Education

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
MA	29	28	-	-	-	57
Ph.D.	04	04	06	11	16	41
Total	33	32	06	11	16	98

Names of Students/Scholars 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	Nivedita Kumari	Workshop and Conference	International Joint Conference on Natural Language Professing	IIIT Hyderabad Feb 7-12 2008
2	Sruthi Chandrasekhar	Conference on 'Sustainable Development'	National Bal Bhavan and International Children's Forum New Delhi	New Delhi Nov. 13-17 2007

Sl. No.	Name of the Student/Scholar	Programme	Name of the Conference/Seminar / Symposia	Venue and Date
3	Vidya Sarveswaran	Presented a paper titled 'Stewardship as a trope in Bibutibhudhan Bandyopadhyaya's Aranyak: of the Forest	Second OSLE International Conference	Bangalore June 2007
4	Vidya Sarveswaran	Presented a paper titled 'A Perspective of Engagement: An Ecological Reconnaissance in to the Garden of Earthly Delights in Terry Tempest Williams' Leap	Third OSLE International Conference	Hyderabad January 2008
5	Vidya C T	Presented a paper entitled 'Analysing the contribution of business services in India's economic growth'	7 th Annual Development Convention of ICCSR titled ' Rethinking and growth Strategy: Service Vs Manufacturing	Institute of Public Enterprises (IPE) Hyderabad Feb 20-22 2008
6	Ajit R Joshi	Presented a paper entitled 'Inflation and Trade Openness – Empirical Investigation for India'	National Conference on Macroeconomic Issues and Challenges in India	Institute of Economic Growth New Delhi Feb 14-15 2008
7	K Kanthimathi	"Mixing mother tongue and English: exploring the reasons and functions of code mixing"	" 2nd Biennial International conference on Teaching and Learning of English in Asia"	14-16th June 2007 Universiti Utara Malaysia Langkawi, Malaysia
8	V Rajesh	"Imagining Collectives: Continuities, Changes and Contestation"	2nd Annual Tamil Studies Conference	31st May 2007 to 2nd June 2007 University of Toronto, Canada
9	R Evangeline Sabina	National Conference on Innovative approaches & Techniques of Teaching English	Department of English PSG College of Tech. Coimbatore	13th to 14th July 2007
10	O J Joycee	5th International conference on New Directions in the Humanities	American University of Paris, Paris	17th to 20th July 2007
11	Raphael Joseph	Twelfth National Workshop – "Cognitive Language Skills for the 21st Century"	Centre for Contemporary Theory Baroda	3rd to 5th Nov 2007
12	Teena Augustine Joseph	Title of Paper: Life skills As An Innovative Learning Method In Higher Education Event: International Conference on Active Learning and in Higher Education	ICFAI National College Trichy	December 8, 2007
13	Teena Augustine Joseph	Jivan Vidya (Life Skills) Workshop	SIDH – Society for the Integrated Development of the Himalayas, Kempty, Mussorie, Uttaranchal	March 21 – 27, 2008

4.10.3 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
Sudhir Chella Rajan M.S. D. Env.	Environment, Energy and Climate Policy, Political Theory, Development.
Assistant Professors:	
Aysha Iqbal Viswamohan Ph.D. (Vikram University)	American Studies, World Drama, and Intercultural Communication.
Debashis Acharya, Ph.D. (Univ. of Hyderabad)	Macro and Monetary Economics, International Trade and Finance; Health Care Finance
Devaki Reddy, Ph.D. (JNU, New Delhi)	English, Sociolinguistics, ELT
John Bosco Lourdasamy, D.Phil. (Oxon)	History of Science, Science, Technology and Society
Jyotirmaya Tripathy, Ph.D (IIT,Kharagpur)	Literary Theory, American Studies, Cultural Studies
Milind Brahme, Ph.D. (JNU, New Delhi)	German Studies, Comparative Literature and Modern Marathi Literature
Mohan S, 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
Sreekumar N, Ph.D. (Univ. of Hyderabad.)	Philosophy of Language, Hermeneutics, Indian Philosophy
Srilata K, Ph.D. (Central Univ., Hyderabad)	African Literature, Cultural Studies, Creative Writing.
Suresh Babu M, Ph.D (JNU, New Delhi)	Industrial Economics, Applied Macro Economics
Swamalatha R, Ph.D (Univ. of Madras)	Eco Philosophy, American Literature
Umakant Dash, Ph.D. (IIT Kanpur)	Energy Economics; Health Care Economics
Veeraraghavan D, Ph. D. (IIT Madras)	Social and Economic History, Indian National Movement, Technology and Development
Sudarsan Padmanabhan Ph D (Uni. of South Florida)	Social and Political Philosophy, Indian Philosophy and culture
Rajshri Jobanputra Ph D (IIT Bombay)	Western Philosophy, Ethics, Philosophical counselling, Morel Education
Sonika Gupta	International Relations Theory, China's Domestic Politics and Defence & Foreign Policy, Human Rights.

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

Sl. No.	Coordinator(s)	Title	Period
1	V R Muraleedharan	"Technology Assessment and Health Care"	10th December 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
1	John Bosco Lourdusamy, Milind Brahme, N Sreekumar	National Convention on Value Education	IIT Delhi	22 to 24th May '07
2	V R Muraleedharan	Visiting Professor	Graduate Institute of Development Studies, Geneva	29/5/07 to 19/06/07
3	Evangeline Manickam	5th International conference on "New directions in the Humanities"	American University of Paris, France	17th to 20th July 2007
4	V R Muraleedharan	Mid Term Review Meeting of the Consortium for Research on Equitable Health	London School of Hygiene & Tropical Medicine London	3rd to 5th July 2007
5	Debashis Acharya	Annual Meeting of the Consortium for Research on Equitable Health System	Cape Milner Hotel, Tamboerskloof, Cape Town, South Africa	23rd to 27th July 2007
6	Umakant Dash	Panel Discussion of the International Health Economics Association's 6th World Congress	Copenhagen, Denmark and Lund Sweden	5th to 11th July 2007
7	R Swamalatha	Library of Tibetan Works and Archives	Dharamsala Karnataka	11th to 20th July 2007
8	John B Lourdusamy	National Conference on Science Education: Challenges of Quality	Homi Bhabha Centre for Science Education Mumbai	12 – 13 Sep 2007
9	John B Lourdusamy	National Symposium on History of Indian Science and Technology: Pre & Post Independence Era;	Saha Institute of Nuclear Physics, Kolkata	4 - 5th October 2007

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	V R Muraleedharan	"The structure and functioning of Private Health care Sector in India"	Madras Medical Mission 26th October 2007
2.	VR Muraleedharan	"Equity in an Age of Developing Health Care Markets (with special focus on gender)"	Shree Chitra Tirunal Institute for Medical Sciences & Technology, Tiruvananthapuram. 13th January 2008
3.	VR Muraleedharan	"Health Economics: Equity in Finance and Delivery of Health Care"	JIPMER, Puducherry 24th January 2008
4.	Devaki Reddy	"English for Communication"	Guru Nanak College, Chennai 28th January 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1	Sudarsan Padmanabhan	Reed Congress Center, Vienna, Austria	7th to 9th December 2007	"Community in Difference : Collective Agents in Intercultural Contexts"

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:

Research Publications:

1. Evangeline Manickam "Literature in a Technological Age" Forthcoming in Conference Proceedings of *New Directions: Perspectives on the Humanities* Conference held in Paris, France, July 2007
2. Evangeline Manickam "MG Vasanthi and the Articulation of the Marginal Voice" with Shweta Kushal in *Proceedings of the National Seminar on Issues of Identity Culture in Recent Asian Diasporic Fiction*, New College, Chennai, 2007.
3. Evangeline Manickam " Exile and Expatriation: Marginalisation in Bapsi Sidhwa's 'The American Brat' and 'Cracking India'" in Conference Proceedings *Globalisation & Marginalisation in the Diaspora Literature "* National Conference, Lucknow University, 2007
4. Evangeline Manickam " A Generation in Exile: A Reading of VS Naipaul's 'Magic Seeds'" with Shweta Kushal, Forthcoming in *South Asian Diasporic Fiction*, ed Binod Mishra, New Delhi, 2007
5. V R Muraleedharan, 'Benchmarking the Performance of Public Hospitals in Tamil Nadu: An Application of Data Envelopment Analysis' with Umakant Dash, SD Vaisharvi and Debashis Acharya, *J of Health Management*, 9 (1) 2007.
6. V R Muraleedharan, 'Technical Efficiency In The Use Of Health Care Resources: A Case Study Of Tamil Nadu' with Umakant Dash and SD Vaishnavi, *Indian Economic Review* (forthcoming, 2007)
7. V R Muraleedharan, 'International Market Access And Sanitary And Phytosanitary (SPS) Regulations: An Analysis Of Trade And Competitiveness Effects', with Nalin Kumar, *International J of Applied Business and Economics Research*, 5(1) 2007
8. V R Muraleedharan, 'Indian Spice Exports and Sanitary Regulations : A Gravity Panel Data Analysis' with Nalin Kumar, *Indian Economic Journal* (forthcoming, 2007)
9. V R Muraleedharan, 'Regulating India's Health Services: To what end and To what future' with David H Peters, *Social Science and Medicine (Special Issue on Future of Health Services)* Vol 66 (March 2008).
10. V R Muraleedharan, 'Malaria and the Rockefeller Foundation in South India: 1936-41' (Forthcoming in an edited book on Colonialism and Public Health)
11. Sudhir Chella Rajan, 'Global Politics and Institutions: A 'Utopistic' View', *Economic and Political Weekly* October 13, 2007.
12. Sudhir Chella Rajan, 'Automobility and discomposure in liberal ethics' *Environmental Ethics* Spring 2007, 77-90.
13. Devaki Reddy, 'A Study of Linguistic and Non-linguistic Factors for the Interpretation of Meaning in Communication' In M.Ashraf Rizvi et al (ed.) *Business Communication Challenges and Prospects*. Delhi: Paragon International Publishers. 2007,
14. Devaki Reddy 'Variation in Indian English: A case study of Vowel Length in Oriya English' with Shashikantha Tarai, *Indian Linguistics*, 2007,
15. K Srilata, 'Family Storytelling', with OJ Joycee, *Journal of Children's Literature*. Vol.1, No.2, 2007
16. K Srilata, 'From Subjugation to Celebration: A Study of Bama's *Karukku* and *Sangati*', with K.A Geetha in *Language Forum* Vol.33, No.1. Jan-June 2007.
17. K Srilata, *Short Fiction from South India*. (Co-edited with Subashree Krishnaswamy) OUP, Delhi: 2007
18. Acharya, Debashis and Arun Kumar Gopalaswamy, "Evidence from A New Currency Equivalent Monetary Aggregate", *Banks and Bank Systems*, in Vol.2 No. 4, p.101-106, 2007
19. Acharya, Debashis, S. Amanulla and Sara Joy, "Financial Development and Economic Growth in Indian States: An examination", *International Research Journal of Finance and Economics*, forthcoming

20. Gopaldaswamy Arun Kumar, Debashis Acharya, and Jaideep Malik, "Stock Price Reaction to Merger Announcements: An Empirical Note on Indian Markets", *Investment Management and Financial Innovations*, Vol.5 No. 1 (in press)
21. Amanulla. S and Debashis Acharya, "Public Expenditure and Income in Uttar Pradesh: Evidence from Wagner's Law", *Lucknow Management Association Convention Journal*, Vol.3, No.1, p.9-16, 2007
22. Acharya, Debashis and S. Amanulla, "Indian Trade with Indian Ocean Rim", *GITAM Review of International Business*, forthcoming
23. Acharya, Debashis and Arun Kumar Gopaldaswamy, "Stock Prices and Money Velocity in India: A Note", *Panjab University Research Journal (Arts)*, Vol. 34 No. (1&2), p.63-70, 2007.
24. Dash, Umakant, S.D.Vaishnavi, V.R.Muraleedharan and Debashis Acharya, "Benchmarking the Performance of Public Hospitals in Tamilnadu- An Application of Data Envelopment Analysis", *Journal of Health Management*, Vol. 9, No.1, p.59-74, 2007.
25. Sidana, Gajendra and Debashis Acharya, "Classifying Mutual funds in India: Some Results from Clustering", *Indian Journal of Economics and Business*, Vol. 6, No.1, p.71-79, 2007.
26. N Sreekumar, "Wittgenstein and the Christian Faith", in *Ludwig Wittgenstein: Ethics and Religion*, Edited by K.C. Pandey, Rawat Publications, Jaipur, 2008
27. N Sreekumar, "Identity Politics and Democratic Politics", in a book edited by Prof. Panneerselvam, (Univ of Madras), to be published by the Indian Institute of Advanced Study, Shimla
28. N Sreekumar, "Postmodern Discontents of Liberal Democracy", in a book edited by Prof. R.C. Pradhan, to be published by the Indian Institute of Advanced Study, Shimla (IIAS)
29. N Sreekumar, Translation as an Event of Interpretation: Language and Meaning in Hans-Georg Gadamer's Philosophical Hermeneutics", *Yearbook of the Goethe Society of India*, (forthcoming).
30. Umakant Dash, "Importance associated to Retail Service Attributes: a Study on Indian Consumers" *ICFAI Journal of Management Research* (Forthcoming). (co-author Mridula Mishra)
31. Umakant Dash, "Technical efficiency in the use of health care resources: A case study of Tamilnadu", *Indian Economic Review* (Forthcoming). (co-author S D Vaishnavi, V R Muraleedharan)
32. Umakant Dash, "Consumers and Retailers perception for Organized and Traditional Retail Stores", *Prajnan*, Vol. XXXVI, No.2, July-September 2007, pp 147-59. (co-author Mridula Mishra)
33. Umakant Dash, "Benchmarking the Performance of Public Hospitals in Tamilnadu- An Application of Data Envelopment Analysis", *Journal of Health Management*, Vol 9, No.1, Jan-June 2007, pp 59-74. (co-author S D Vaishnavi, V R Muraleedharan, Debashis Acharya)
34. Jyotirmaya Tripathy, "Postmodern India? The Nation in spite of Fragments". *Indian Journal of Political Science*. Vol. LXVIII, No-2, 2007.
35. Jyotirmaya Tripathy, "Decimation as Civilization in Colonial America". *Journal of Language, Literature and Culture Studies*. Spring 2007.
36. Jyotirmaya Tripathy, "Ecocriticism and Ecofeminism: Pushing the Limits of Postmodernism". *ICFAI Journal of English Studies*. Vol. 2, No-1, 2007.
37. Jyotirmaya Tripathy, "Frontier Legacy of America". *Indian Journal of Political Science*. (Accepted).
38. Jyotirmaya Tripathy, "Puritan Legacy of America". *Indian Journal of Politics and International Relations*. (Accepted).
39. R Swamalatha, "Nature as Third Space: A Study of Perumal Murugan's Seasons of the Palm." *Literature, Ecology and Meaning*. New Delhi: BR Publishers, 2008. (Forthcoming publication)
40. R Swamalatha, "Becoming the "Transparent Eye-Ball": Ecodharma in American Transcendentalist Writing." *Essays in Ecocriticism*. New Delhi: Sarup & Sons, 2007.
41. M Suresh Babu, Trends in Savings, Investment and Consumption in Indian Economy, *Economic and Political Weekly*, May 5, 2007. (jointly with Pulapre Balakrishnan)

42. Aysha Iqbal, *EAP/ESP in Developing Countries. EAP and ESP in Developing Countries: Current State of Play vs Actual Needs and Wants*. British Council, UK, 2007.
43. Sonika Gupta, "An Assessment of China's Ballistic and Cruise Missile Programmes" in *Indian National Security Review* (New Delhi, Knowledge World, 2007). (Forthcoming)
44. Sonika Gupta, "An Update on Pakistan's Ballistic Missile Programme" in *Indian National Security Review* (New Delhi, Knowledge World, 2007). (Forthcoming)
45. Sonika Gupta, "The Role of Political Culture in Building Sino-Pak Ties" in Swaran Singh (ed), Manohar Publishers and Centre de Sciences Humaines, New Delhi, 2007.
46. Sonika Gupta, "The Role of Political Culture in Building Sino-Pak Ties" in Swaran Singh (ed), Manohar Publishers and Centre de Sciences Humaines, New Delhi, 2007.
47. Sonika Gupta, "An Update on Pakistan's Ballistic Missile Programme" in *Indian National Security Review* (New Delhi, Knowledge World, 2007). (Forthcoming)
48. Rajshri Jobanputra, "Unmasking the Layers of Fear Through Philosophical Counselling", *The Visva-Bharati Quarterly*, Vol. 14, No. 3 & 4, 2007.
49. Rajshri Jobanputra, "Reviewing Some Contextual Approaches to the Sorites Paradox: Raffman, Goldstein and Soames", *Forthcoming in Journal of Indian Council of Philosophical Research*, Vol. XXIII.
50. Sudarsan Padmanabhan, Review of Philip Walsh, *Skepticism, Modernity and Critical Theory*, New York: Palgrave-Macmillan, 2005, *Human Studies* 2007.
51. Sudarsan Padmanabhan, On Medieval Islamic Philosophy, *Encyclopedia of Love in World Religions*, Ed. Yudit Greenberg, ABC-CLIO, California, 2007.
52. Sudarsan Padmanabhan, On Sexual Pleasure in Islam, *Encyclopedia of Love in World Religions*, Ed. Yudit Greenberg, and ABC-CLIO, California, 2007.
53. Sudarsan Padmanabhan, Indian Americans and Political Empowerment, Indian American Press, Indian American Religious Movements (Accepted) in *ASIAN AMERICAN HISTORY AND CULTURE: AN ENCYCLOPEDIA*, Eds. Huping Ling and Allan W. Austin, M.E. Sharpe, New York (expected publication 2007).
54. Milind Brahme, "Hermann Broch's Political Writings", in APPERCEPTION. Journal of the Department of English and Other Modern European Languages, Visva-Bharati, Santiniketan (Volume III, 2007).
55. John Bosco Lourdasamy, *Religion and Modern Science in Colonial Bengal (1870-1940)*, Sujan Publications, 2007 on behalf of the Maulana Abul Kalam Azad Institute of Asian Studies, Kolkata

Other Activities:

The Director, Management Center, INNSBRUCK, Austria, (A technical university under the Austrian System) visited HSS Department on 6th August 2007 in connection with the MOU signed with them particularly in the areas of Development Studies, Economics, Health and Intercultural Communication.

Dr. Aysha Viswamohan has published a book titled "English for Technical Communication" published by M/s Tata McGraw-Hill Publishing Company, New Delhi.

Dr. V R Muraleedharan was invited by National Health System Resource Centre – (NHSRC) and Tamil Nadu Health System Development Project to make a presentation on the various research projects being carried out by the HSS Department in the field of Health Policy and Planning.

The HSS department in collaboration with Goethe Society of India and Swiss Arts Council organised a lecture on "Democratization of Democracy - Language in a multi-cultural Nation" by Hugo Loetscher, eminent Swiss writer-philosopher at IIT Madras on 13/10/07

HSS Department IIT Madras & ICPR New Delhi jointly celebrated the INTERNATIONAL PHILOSOPHY DAY Dr. PREMA NANDAKUMAR a noted Scholar and Writer in Indian Philosophy, Culture and Literature delivered a lecture on SRI AUROBINDO: PHILOSOPHER OF THE FUTURE on 16 - 11- 2007 at 3 pm. A Quiz Competition was also conducted on 15th November 2007 and the certificates distributed to the participants.

Professor Mukesh Williams who teaches at the Universities of Keio and Soka in Japan delivered a lecture on "The Making of Modern India: Nineteenth Century Continuities and Change" on February 8, 2008.

Professor P S Sri, Professor of Comparative Literature, Royal Military College of Canada, Kingston, Canada, read from his recently published humorous novel, " The Temple Elephant" and also conducted a question answer session pertaining to the study of English and other world literatures in North America, on Wednesday, 27 February, 2008

Dr Ravi Narayanan,(of Community Health Cell, Bangalore) visited our department on 28-29th February and delivered the following lectures: "Rediscovering Health for All in the New Millennium", "Globalisation of Health from Below: Grassroots collaboration in a globalised world".

Prof G P Deshpande, renowned scholar on China, reputed writer/translator and literary critic, visited this department and delivered the following series of lectures: "Chinese Civilisation and History", "On Bhakti literature" "Translating Phule, Translation as Cultural/Creative Praxis" "China - security and foreign policy aspects with reference to South Asia". Prof Deshpande also delivered an EML on "Emergence of China as a Power" on 27 February 2008.

V. R. Muraleedharan has been made a member of the Mission Steering Group under (NRHM) National Rural Health Mission (Ministry of Health and Family Welfare) Government of India for a period of two years.

Prof.K.K.N.Kurup, renowned Historian, Director General, Centre for Heritage Studies Kerala and Former Vice Chancellor, University of Calicut, Kerala, delivered the following lectures in the department , "Tribal Land Question in India" , "Wayanad - its Socio-Economic Transition" , " Indian Land Reforms and Ideology".

Research and Discussion Forum

Several leading scholars visited the Department during this year and delivered lectures at the R&D forum of the Department. The details are given below:

S.No	Name of the Speaker & Institution	Date	Topic
1.	Prof. Champakalakshmi Former Professor Jawaharlal Nehru University	02/04/2007	"The Making of Religious Tradition in Pre-Modern South India"
2.	Prof. Deepak Kumar School of Social Sciences, JNU, New Delhi	09/07/2007	Knowledge Society and Knowledge Economy: A Historian's View
3.	Prof Levy-Garboua Professor of Economics , University of Paris	07/08/2007	Aspiration Levels and Educational Choices – An Experimental Study
4.	Dr. JBP More Director Institute for Research in Social Sciences and Humanities University of Kannur, Kerala	16/08/2007	Tamil Muslims and the Separatist Movement
5.	S. Jeyasankar Sr. Lecturer, Dept of Fine Arts Eastern University, Batticaloa. Sri Lanka	17/08/2007	Trends in Contemporary Tamil Theatre in Srilanka
6.	Dr. Herman Tiekem Professor of Sanskrit and Tamil University of Leiden, CA Leiden	31/08/2007	An attempt to define the literary and linguistic context of the Sangam Poetic corpus
7.	Ms. Rama Narayanan Art Historian and artist	14/09/2007	Raja Ravi Varma :: A phenomenon in Indian Art
8.	Prof. M.S. Nagarajan Former Professor and Head, Department of English, University of Madras	28/09/2007	An Introduction to Critical Theory
9.	Dr. Mangala Subramaniam Associate Professor of Sociology, Purdue University	10/10/2007	The Politics of Empowerment: Gender, Caste and Class
10.	Ms. Chithra Madhavan	17/10/2007 and 26/10/2007	The Temples in South India
11.	Dr. Rudi Jansma International lecturer for The Theo-sophical Society, Pasadena, CA	21/01/2008	Role of Ecology and Spirituality in Future Development
12.	Madhav Badami McGill University, Canada	13/02/32008	Urban Transport in India: Beyond the Nano and the Metro and Back to Basics

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 (the previous Central Library) 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, to the Department's MBA and research programmes, the first rate career placements secured by the graduating students, the research publications in top tier journals, the many prestigious awards earned by the faculty, research scholars and students, and internationally reputed clients seeking the Department's consulting and educational services are the best indicators 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 2007-08.

4.11.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	MS 549	Management of Change and Transformation
2.	MS 651 V	Computer Integrated Manufacturing
3.	MS 652 V	Frontier Technologies
4.	MS 653 V	Automation and Robotics
5.	MS 664	Venture Capital and Private Equity
6.	MS 693	Entrepreneurship
7.	MS 742	Organizational Development - I
8.	MS 743	Organizational Development – II
9.	MS 744	Emotions and Ethical Decision Making
10.	MS 745	Creativity for Organizational Excellence
11.	MS 746	Transformational Leadership

Students on Roll:

Programme	I year	II Year	III Year	IV Year	V Year & later	Total
M.B.A.	62	61	--	--	--	123
MS (by Research) and MS (Entrepreneurship)	02	06	07	08	02	25
Ph.D.	07	07	10	11	32	67
Total	71	74	17	19	34	215

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

Sl. No.	Name of the Student	Programme	Title	Date & Venue
(a) Papers Presented				
1.	Kashi Komala (Research Scholar) and Prof. L.S. Ganesh	International Management and Information Technology Research Conference	<i>"Individual Spirituality at work and its relationship with job satisfaction and burnout: An exploratory study among healthcare professionals"</i>	May 23–26, 2007 - New York, USA
2.	Manish Kumar (Research Scholar)	International Academy of Business and Economics (IABE-2007)	<i>"Predictability and Trading Efficiency of S&P CNX Nifty Index return using support Vector Machines and Random Forest (forecast) Regression"</i>	October 14-17, 2007 - Las Vegas, USA
3.	S. Shijin (Research Scholar)	International Academy of Business and Economics (IABE-2007)	<i>"Risk and Return in the Presence of Human Capital: Some Evidence"</i>	October 14-17, 2007 - Las Vegas, USA
(b) Conferences attended :				
1.	Manish Kumar (PhD Scholar)	Research Methodologies	<i>"Monte Carlo Methods in Finance"</i>	October 24–27, 2007 - IFMR, Chennai
2.	S. Priya (MS Scholar)			
3.	Nachiketa Misra (PhD Scholar)			
4.	B. Srirangacharyulu (PhD Scholar) (Guide: Prof G Srinivasan)	40th Annual Convention of Operational Research Society of India (ORSI)	<i>"Algorithms and Heuristics for the Single Machine Completion Time Variance Minimization Problem"</i>	December 04–06, 2007, New Delhi.
5.	A. Mohammed Faisal, (MS Scholar) (Guide: Prof. T T Narendran)	<i>"A Study of Ergonomics in the Leather Cutting Workplace"</i>	International Conference on Ergonomics – Humanizing Work and Work Environment (HWWWE) 2007	December 04-14, 2007, Bhopal.

Sl. No.	Name of the Student	Programme	Title	Date & Venue
6.	V. Vijayalakshmi, (PhD Scholar) (Guide: Dr Sanghamitra Bhattacharyya)	"The Impact of Emotional Contagion on Team Effectiveness" (Best Paper Award and First Prize)	VII Consortium of Students in Management Research (COSMAR-2007)	December 12-13, 2007, Bangalore.
7.	P. N. Ramkumar, (PhD Scholar) (Guide: Prof. TT Narendran)	XI Annual International Conference of 'Society of Operations Management (SOM)'	"Bounds for the Convoy Movement Problem". (Best Paper Award and First Prize)	December 21-23, 2007, Nashik.
8.	S. Priya, (MS Scholar) (Guide: Prof. M Thenmozhi)	1st International Conference on Emerging Financial Markets	"Price Discovery in Commodity Markets: A Study of Indian Gold Market" (Best Paper Award and First Prize)	December 26-28, 2007, Coimbatore.
9.	Srinivasan Suresh, Ph D Scholar (Guides: Prof. M Thenmozhi and Prof. P Vijayaraghavan)	International Conference of Global Academy of Business & Economic Research	"Effect of Ownership Dynamics on Firm Justification Performance Relationship"	December 27-29, 2007, Bangkok.
10.	Mathew Cherian, Ph D Scholar	International Conference on "Expanding Horizons of Indian Business and Indian Management" organized by Indian Business Academy	"Globalizing through Cross Border Alliance: The Indian Experience"	January 16, 2008 Bangalore

4.11.3 Faculty and their activities:

Faculty:

Name and Qualifications

Major area of specialization (only 3 areas)

Professor

Anantharaman R N

MA, PhD (Univ. of Madras)

Organizational Behaviour, Human Resources Management, Industrial Relations

Jayachandran S

MA, MBA, PhD (IIT M)

Marketing Management

Kamalanabhan T J

MA, MPhil, PhD (Univ. of Madras)

Industrial Psychology, Organizational Behaviour, Human Resources Management

Ganesh L S

BE(Hons.), MTech, PhD (IIT M)

Systems Thinking and Applications, Project Management, Technology and Knowledge Management

Narendran T T

BE, MS, PhD (IIT M)

Operations Management, Cellular Manufacturing, Logistics and Supply Chain Management

Rajendran C

BE, ME, PhD (IIT M)

Production and Operations Management, Scheduling, Computer Simulation

Srinivasan G

BE, MS, PhD (IIT M)

Operations Research, Supply Chain Management, Cellular Manufacturing

Thenmozhi M

MCom, MPhil, PhD (Univ. of Madras)

Financial Management, Strategic Management, Computational Finance

Name and Qualifications**Major area of specialization (only 3 areas)****Vijayaraghavan P***BE, MBA, Fellow IIM Bangalore*

[TTK Chair Prof]

Strategic Marketing, Brand Management, Advertising and Sales Promotion

Associate Professor**Madhumathi R***MCom, PhD (Univ. of Madras)*

Financial Management and Accounting, Working Capital Management, Forex Research

Assistant Professor**Arun Kumar G***MCom, PhD (IISc Bangalore)*

Market Microstructures, IPOs, Joint ventures and multinational business

Bharadhvaj S*MBA, PhD (Univ. of Maryland)*

Consumer Behaviour, International Marketing, Brand Management

Sanghamitra B*BE, Fellow IIM Calcutta*

Organizational Behaviour, Human Resources Management

Thillairajan A*BE, MSc, Fellow IIM Bangalore*

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

Rahul R. Marathe*BE, MS, PhD (Iowa State Univ.)*

Operations Research, Stochastic Processes, Supply Chain Management

Visiting Faculty**Prakash Sai L***BE, MTech, PhD (IIT M)*

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

Ramesh Subramanian*PGDBM (XLRI), MBA, PhD (Rutgers Univ.)*

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.	P. Vijayaraghavan and G. Arun Kumar	Management Training Programme (for HAL engineering graduates)	Management Development Programme	May 7-June 8, 2007 - Dept of Management Studies
2.	L. S. Ganesh	Management Development Programme (for Murugappa Group executives)	Project Management	May 25 – 26, 2007 - Parry House, Chennai
3.	L. S. Ganesh (in association with Tata Consultancy Services, Chennai)	Faculty Development Programme (for Young Teachers from Engineering Colleges in Tamil Nadu)	"Thinking for Design"	June 22 - 23, 2007 - Dept of Management Studies
4.	L.S. Ganesh	3-day Workshop in association with Case Research Society of India and Indian Institute of Management, Ahmedabad	"Case Method of Teaching"	August 30 – 31, 2007, DoMS, IIT Madras

Sl. No.	Name of the Co-ordinators	Programme	Name of the Conference/Seminar/ Symposia	Date & Venue
5.	L.S. Ganesh	2-day Workshop for Rajiv Gandhi Institute of Aquaculture	"Project Management"	September 7 - 8, 2007, DoMS, IIT Madras
6.	M. Thenmozhi	Management Development Programme	'Finance for Non Finance Executives'	October 6th and 13th, 2007 – Caterpillar Ltd, Chennai
7.	L. S. Ganesh	1-day Faculty Development Workshop	"Making Management Teaching Effective"	October 15, 2007 - Coimbatore Management Association.
8.	G. Srinivasan	3-Day Workshop	'Supply Chain Management'	November 21-23, 2007 - IBM, Bangalore
9.	L. Prakash Sai	Faculty Development Programme	"Case Study Writing" Workshop	February 2008 – Dept. of Management Studies, Vel Tech Engineering College, Chennai.
10.	L. Prakash Sai	National Seminar on "Creative HRM For Corporate Excellence"	"Human Capital Management"	February 2008 – Montessori Mahila Kalasala, Vijayawada
11.	M. Thenmozhi	Prof. A. G. Soundarajan Memorial Lecture series	'Current Scenario of Financial Markets' (Invited Lecture)	Feb. 15, 2008 – Dept of Commerce, Loyola College, Chennai
12.	M. Thenmozhi	Special Lecture Series Programme	'Customers Meet' (Invited talk)	Syndicate Bank, Regional Office, Chennai –February 28, 2008

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

Sl. No.	Name of faculty	Title	Institution	Period
Conference (Paper Presented) :				
1.	A. Thillai Raaj	"Capstone Simulation Training Programme"	SansRisk Business Solutions P, Ltd., Hyderabad	July 12-14, 2007 – ICRISAT, Hyderabad
2.	L. Prakash Sai	"Capstone Simulation Training Programme"	SansRisk Business Solutions P, Ltd., Hyderabad	July 12-14, 2007 – ICRISAT, Hyderabad

Sl. No.	Name of faculty	Title	Institution	Period
3.	L. Prakash Sai	"ISO Standards" – Workshop organized by TUV India		July 16-20, 2007 – Chennai
4.	Thillai Rajan A.	The art and craft of case study discussion	Harvard Business School	October 2007
5.	Rahul R. Marathe	IRCA Registered Lead Auditor Course on ISO-9001:2000	TUV India Pvt Ltd, Chennai)	January 28 – February 01, 2008

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Venue and Date
1.	L.S. Ganesh	"Education: What about Character?" (Keynote Address delivered during the Inaugural of Seminar on "Achieving and Sustaining Excellence in Education Delivery")	Anna University, Chennai - April 09, 2007
2.	L.S. Ganesh	"Self-Analysis for Professional Excellence" (Lecture delivered during the Integrated Officers' Development Programme)	Reserve Bank of India Staff College, Chennai - April 26, 2007
3.	M. Thenmozhi	Special invited lecture at the Seminar 'Empowering Women'	Marudhar Jain College, Vaniyambadi – September 21, 2007
4.	L. Prakash Sai	"Innovation Management" at the National Seminar on "Technology Management" organized by	DRDO, New Delhi January 30, 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit
1.	Dr. R. Madhumathi	Melbourne, Australia	April 1-4, 2007	Presented a paper titled "Thermodynamic Applications in Financial Markets" International Conference on Global Finance Association, Australia.
2.	Dr. A. Thillai Rajan	USA	Oct 23 - 27	To attend the program on "The art and craft of case study discussion"
3.	Dr. T. J. Kamalanabhan	Bangkok, Thailand	December 27-29, 2007	International Conference of Global Academy of Business Economic Research

Honours and Awards obtained:

Sl. No.	Name of faculty	Name of Award	Awarded by	Awarded for	Date of Award
1.	A. Thillai Rajan	Endeavour Executive Award, 2008	Department of Education, Science and Training, Government of Australia	Professional Development	Oct 2007
2.	A. Thillai Rajan	Broad Outlook Learner – Teacher (BOLT) Award	Air India, 2007	Teaching Excellence	October 2007
3.	A. Thillai Rajan	Ramaswamy P. Aiyar Best Young Teacher Award	Association of Indian Management Schools (AIMS), 2007	Teaching Excellence	August 2007
4.	A. Thillai Rajan	Best Case Study Award (Third place),	19th Annual Convention of Association of Indian Management Schools (AIMS), Kolkata, 2007.	Case Study Development	August 2007
	A. Thilla Rajan	“2008 Endeavour Executive Award”	An Australian Scholarships initiative by the Department of Education, Science and Training, Government of Australia	Research Excellence	November 2007

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. lacs)
1.	Dr. G. Srinivasan	International Collaborative co-development in the machine sector'	"Swiss Innovation Promotion Agency"	0.85
2.	Dr. A. Thillai Rajan	Evaluating financial alternatives for ORR project	Infrastructure	10.96

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. lakhs)
1.	Dr. A. Thillai Rajan	Advisor, Agada Healthcare	Healthcare	---
2.	Dr. A. Thillai Rajan	Advisor, Indus Capital Advisory	Financial services	---

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

1. The University of Karlsruhe, under DAAD Student Exchange Programme.
2. Technical University of Munich under DAAD Student Exchange Programme.
3. University of Mannheim, Germany, student exchange.

Research Publications:

Total No. of papers published in Refereed National Journals	...	05
Total No. of papers published in Refereed International Journals	...	11
Total No. of papers presented in National Conferences	...	Nil
Total No. of papers presented in International conferences	...	Nil

In Refereed National Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	T T Narendran, K. Ganesh, Ph D and Sam Nallathamby	"CAGE: A Heuristic to Solve Simultaneous Delivery and Pick up Problem for the Application of Port Logistics"	ICFAI Journal of Operations Management – May 2007 Issue, Vol VI, No.2 pg. 59-79	---
2.	Suhanya Aravamudhan and T.J. Kamalanabhan	"Implementing Strategy - The balanced scorecard way	Leathers, Central Leather Research Institute, Issue: May 2007, Page Nos: 62-67	---
3.	Thillai Rajan A., Mukund, S.P., and Siddharth, R	The pug goes red: Vodafone acquires Hutch in India	Metamorphosis – A Journal of Management Research. 6(2): 184 – 211.	---
4.	S. Jayachandran	"Market Based Organizational Learning – A Study in the Indian Industry"	'Indian Journal of Marketing, Pg 47-51, Vol. XXXVII Number 8 Aug 2007	---
5.	Manish Kumar (PhD Scholar)	"Predictability and Trading Efficiency of S&P CNX Nifty Index return using support Vector Machines and Random Forest (forecast) Regression"	Journal of Academy of Business and Economics (Vol.7 (1), pp. 150-164, 2007)	---

In Refereed International Journals:

Sl. No.	Name of the Author	Title	Journal	Co-author
1.	Suhanya Aravamudhan	"An AHP study on the Critical Factors for Balanced Scorecard Implementation in Indian Organizations"	International Journal of Business Innovation and Research, Vol. 1, No. 4, April 2007.	T. J. Kamalanabhan
2.	Kashi Komala	<i>Individual Spirituality at work and its relationship with job satisfaction and burnout: An exploratory study among healthcare professionals</i>	'The Business Review, Cambridge', Vol. 7, 1, pp. 124 – 130 (2007)	L. S. Ganesh
3.	L. Prakash Sai	"Live and Let Live: The Evolution of Modern Retailing"	CAPITAL - Vol. 2, Issue 20, May-June, 2007 Issue.	---
4.	T.T. Narendran	"TASTE: Two-Phase Heuristic to Solve a Routing Problem with Simultaneous Delivery and Pick-up"	The International Journal of Advanced Manufacturing Technology – Springer-Verlag London Limited – July 2007	K. Ganesh

Sl. No.	Name of the Author	Title	Journal	Co-author
5.	Chandrasekaran Rajendran	"Metaheuristics for solving economic lot scheduling problems (ELSP) using time-varying lot-sizes approach"	<i>European Journal of Industrial Engineering</i> , Vol. 1, 152-181 (2007).	Chetty, O.V.K., and Hanumanna, D.
6.	Padma, P	"A study on the ISO 14000 certification and organizational performance of Indian manufacturing firms"	<i>Benchmarking: An international Journal</i> , Vol. 15, 73-100 (2008).	Ganesh, L.S., and Rajendran, C.
7.	Megala, N.,	"An ant colony algorithm for cell-formation in cellular manufacturing systems"	<i>European Journal of Industrial Engineering</i> , Vol. 2, 298-336 (2008).	Rajendran, C., and Gopalan, R.
8.	T.T. Narendran	' <i>Freight Train Routing and Scheduling in a Passenger Rail Network: Computational Complexity and the Stepwise Dispatching Heuristic</i> '	Asia-Pacific Journal of Operational Research – Year 2007 Vol 24, Issue 4 (Aug 2007) Page 499-533.	Ram Gopalan, T. Godwin
9.	Madhuri Malhotra	" <i>Effect of Bonus Issue Announcement on Stock Returns using Market Model</i> "	Journal of International Finance and Economics, Vol. V, Number 1, 2007	M Thenmozhi and G Arun Kumar
10.	Manish Kumar	" <i>Comparison of Different Hybrid ARIMA - Neural Network Models for Stock Index Return Forecasting and Trading Strategy</i> "	Proceedings of 20th Australasian Finance & Banking Conference 2007	M Thenmozhi
11.	T. Godwin	' <i>Tactical Locomotive Fleet sizing for Freight Train Operations</i> '	Transportation Research E, ELSEVIER, pp.440-454, Part E 44 (2008)	T. T. Narendran and Ram Gopalan

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Prof. Murugappa Krishnan, Yeshiva University, USA.	April 04, 2007	Lecture on "Analysts' Herding Propensity: Theory and Evidence from Earnings Forecasts"
2.	Mr. P. V. Ananthakrishnan, Vice President, HDFC Bank Ltd	April 17, 2007	Talk on 'Role of Banks in Commodity, Agri and Rural Banking' at the Corporate Wisdom event organized by the Department.

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
3.	Mr. Sampath 'Sam' Srinivas, Vice President, Jumiper Networks and CEO, Neoteris	April 24, 2007	Shared his views on the ' <i>Story of Start Ups</i> ' at the event Corporate Wisdom organized by the Department.
4.	Ms. Veronique Darleguy, Professor, INSA, Lyon, France and Coordinator (India) for National Institute of Applied Science & Technology, Pune	May 3, 2007	Interaction with HoD to discuss about student exchange programmes.
5.	Prof. Dr. Armin Heinzl – Academic Director, Mannheim Business School, University of Mannheim, Germany	July 28, 2007	Signing MOU between IIT Madras and University of Mannheim, Mannheim, Germany
6.	Mr. Srini Nageshwar, Director & CEO, DYANSYS	August 14, 2007	To share his experience with MBA students and Research Scholars at the Corporate Wisdom Forum
7.	Mr G D Gopinath, Managing Director, AIR DECCAN LIMITED	August 16, 2007	To deliver a lecture to MBA students and Research Scholars at the CEO Connect Forum on his entrepreneurial experiences
8.	Mrs. Ingrid Srinath, CEO, CHILD RIGHTS AND YOU	August 23, 2007	To deliver a lecture on "Business and Leadership in the Non-Profit Space" and interact with MBA students and Research Scholars at the MIST (Management Insights for Social Transformation) Forum.
9.	Professor Bert de Groot, Dean - Neynrode Business Universiteit, Netherlands.	September 18, 2007	Interaction/discussion with Faculty Members for a possible MOU with DoMS, IIT Madras
10.	- Dr Subramaniam , Risk Consultant - Malavika Sreejit, HR Head - Bhavdeep Virdi, (MBA Alumnus, Class of 2004). - Dun & Bradstreet, Mumbai	October 4, 2007	Interaction with MBA Students
11.	Professor K. Sumit , Indian School of Business, Hyderabad	October 9, 2007	Lecture to MBA students and Research Scholars

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
12.	Dr. Ramesh, Professor & Dean Goa Institute of Management, Goa	October 10, 2007	Interaction with MBA Students
13.	K. Kathikeyan, VP (Finance) Ganesh S. Kavattur, GM (Finance) IBM India Pvt Ltd, Bangalore	October 10, 2007	Interaction with MBA Students
14.	Venkatraman Acharya, Vice President (Retail Liabilities & Branch Banking) Kotak Mahindra Bank Ltd, Chennai	October 10, 2007	Interaction with MBA Students
15.	Prof. Dr.-Ing. Bharat Balasubramanian, Vice President, Group Research & Advanced Engg. Daimler Corpn, Germany	October 26, 2007	Invited lecture for MBA students under the Corporate Wisdom forum.
16.	Prof. M. R. Rao, Dean Prof. Dishan Kamdar, Director (Research), ISB Hyderabad.	Nov. 5, 2007	For signing MOU with IIT Madras and interactions with faculty members/ research scholars on research programmes at DoMS, IIT Madras.
17.	Mrs. Bhuvana Ramalingam, Director (Communications) ISB, Hyderabad.	Nov. 5, 2007	To learn about IIT's educational system, including curriculum and methodology, and exchange information on the future of IT education.
18.	Mr Rajeev Karwal, Founder and CEO, Milagrow Business & Knowledge Solutions	Nov. 5, 2007	Invited lecture on 'Retailing Business in India' for MBA students under the CEO Connect forum.
19.	Dr. Atanu Ghosh, Associate Professor, SJSOM, IIT Bombay	Nov.13, 2007	Invited lecture for Research Scholars.
20.	Mr. Thyagesh, Director, Investment Banking, Spark Capital	Nov. 15, 2007	Invited lecture on 'Role of Investment Banking in Venture Capital/Private Equity' for MBA students.
21.	Mr. S. Srinivasan, (ex-Chief Development Officer, Emirates Airlines, Dubai)	Nov. 15, 2007	Invited guest lecture on "Mergers & Acquisitions" for MBA students under the Corporate Wisdom forum.
22.	Dr. Asha Krishnakumar, Divisional Manager, Customer Service Relationship, Ashok Leyland Ltd, Chennai	Nov.19, 2007	Invited lecture for MBA students under the Corporate Wisdom forum.

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
23.	Mr. Srivatsa Krishna, Senior Economist , World Bank, Washington, USA	Nov. 19, 2007	Invited lecture on topic "Making Infrastructure Happen" for MBA and Research Scholars.
24.	Mr. Eliyahu Goldratt, Renowned Management Guru	December 12, 2007	Gave a lecture to the students and research scholars
25.	Representatives of John Deere, Rolls Royce, Colgate Palmolive, and WalMart as participants of the TUCK School of Business at Darmouth, USA (through CII)	January 22, 2008	Interaction with Faculty Members about the Management Programme at IITM
26.	Srihari Krishnaswamy, Binghamton University, State University of New York, USA	January 29, 2008	Interaction with MBA Students/ Research Scholars and Faculty Members
27.	Mr Krishnan Venkataraman , Radix Global Solutions, New Delhi	January 30, 2008	Interaction with Faculty Members on incubation / new ventures with IIT M
28.	Mr. C. Venugopal, MD & CEO Krysalis Consultancy Services Pvt, Ltd, Chennai	February 4, 2008	Gave lecture on "Econometrics: Applications, Possibilities & Careers" as part of CEP Connect Programme organized by MBA Students.
29.	Prof. Oger and Prof. Romelaer - MBA program, Sorbonne Univ. Prof. Fortin – ParisTech Master Program and Van-Rillas Thibaud – Renault Foundation program, Paris, France	February 5, 2008	Interacted with Faculty and students to offer their Foundation's help in enabling students to pursue a specialized International MBA programme.
30.	Prof. M.P. Narayanan Professor of Finance Chair, Finance Area, Stephen M. Ross School of Business, University of Michigan, USA	February 7, 2008	Discussed with faculty members and HoD for possible collaboration in offering specialized Executive programmes.
31.	Mr. K. Hariharan Director, L.V. Prasad Film & TV Academy & Guest Faculty at - Miami University in Oxford; Film & TV Institute in Pune, India, and the Asian College of Journalism, Chennai.	February 8, 2008	As part of MIST Programme (Management Insight for Social Transformation)
32.	Professor Allan Hodgson (Director and Vice-Dean, Faculty of Economics and Business) Mrs. Annemarie de Koning (Coordinator, International Contacts) Amsterdam Business School	February 11, 2008	Interacted with our Faculty Members to explore possibilities for international co-operation.

Sl. No.	Name of the visitor and Designation	Date of visit	Purpose of visit
33.	Capt. Mohan Ram Ex-President, TVS Industries	February 13, 2008	Lecture on 'TQM' to MBA Students
34.	Prof. Pandurang Bhat IIM Calcutta	February 13, 2008	Delivered lecture on "Spirituality in Management" to our Research Scholars and Faculty Members
35.	Mr. M. R. Venkatesh Chartered Accountant, Columnist and Author, Moolyankan Diversified Fund (MDF)	February 13, 2008	Shared his experience with MBA students at the CORPORATE WISDOM forum
36.	Mr. Rohit Modi, Chief Executive, L & T Limited	February 28, 2008	Gave a lecture on "Infrastructure Development and Finance in India".
37.	Prof. Sanjay Sharma, Dean – John Molson School of Business, Concordia University, Canada	March 2008	Interacted with MBA students and Research Scholars on various management issues.
38.	* Prof. Rolf Buhner * Prof. Gertrud Moosmuller * Prof Klaus Dittmar Haase (Chair for Tax Management) University of Passau, Germany	March 2008	Met the faculty members of the department and discussed about Faculty and Student Exchange Programmes.
39.	- Prof. Gert Bruche, Vice President and Dean, Faculty of Business and Economics - Mr Ingrid Sperbet, International Office Co-ordinator Berlin School of Economics, Germany	March 2008	Met the faculty members of the department and discussed about a possible MoU.
40.	Prof. Balaji Narasimhan, Associate Dean for Research & Economic Development, College of Engineering, Iowa State University, USA	March 2008	Delivered a lecture and interacted with Faculty and Research Scholars
41.	Mr Furuhashi Takeyuki, Advisor, ChuSanRen Institute of Management, Nagoya, Japan	March 2008	Met the faculty members of the department and discussed about our VLM Programme.
42.	Mr. Keiichi Tanabe, JIICA Expert for Visionary Leaders for Manufacturing Programme C/o. CII, New Delhi	March 2008	Met the faculty members of the department and discussed about our VLM Programme.

23. Prof. L. S. Ganesh was the Chief Guest at the Inauguration of the Center for Competence Development for Educators, Vidya Mandir, Chennai, on 22nd November, 2007.
24. An article titled "*Commodity Markets: A Necessary Evil?*" by Aastha Gulathi and Pronojit Saha (II MBA) has been chosen for publication in the journal of National Commodity Exchange, Mumbai (NCDEX) in their forthcoming Issue.
25. Dr. Sandhya Shekar's thesis "*Knowledge Transfer Effectiveness for Knowledge Workers in Virtual Organizations*" received the Emerald and the European Foundation for Management Development (EFMD) **Outstanding Doctoral Research Fund Award 2007**. This is a prestigious international award for the best theses in the area of Management. The award presentation ceremony is expected to take place later in our campus.
26. Tanim Verma (II MBA) 's paper titled "*Innovations Driving Service Excellence*" received the Infocomm Future Leadership Award and published in the INFOCOMM'2007 – jointly organized by BusinessWorld and CeBIT and released at the International Conference & Exhibition held at Hyderabad on Dec 15, 2007.
27. Prof. L. S. Ganesh was invited to join the Experts' Colloquium on Indo-US Collaboration in Higher Education held on 24th January 2008 and organized by USIS and the Chennai-Houston sister city Association
28. Prof T J Kamalanabhan has been nominated as 'Expert Member' in the National Board of Accreditation (NBA) of AICTE for accreditation of Management programmes.
29. Prof L S Ganesh delivered the Keynote Address "The Imperative of Excellence" at the UGC National Seminar on Psychology : Promoting Corporate Excellence organized by the Department of Psychology, University of Madras.
30. Prof L S Ganesh delivered a Special Address on "Certainty and Uncertainty in Science" at the National Seminar of Researchers organized by the Department of Zoology, University of Madras.
31. Dr. Rahul R. Marathe has attended the **IRCA Registered Lead Auditor Course on ISO-9001:2000** conducted by TUV India Pvt Ltd, Chennai between January 28 – February 01, 2008.

4.12 DEPARTMENT OF MATHEMATICS

4.12.1 Introduction:

The Department of Mathematics was established in 1959 along with the Institute. It offers M.Sc. programme in Mathematics, M. Tech. program in Industrial Mathematics and Scientific Computing [IMSC] and Ph.D. programme. In addition, the Department has taken the responsibility of teaching Mathematics courses to B.Tech., M. Tech. (other than IMSC), Dual Degree in ED, M.Sc. and Ph.D students of the Institute. The major areas of research of the department are:

- | | |
|---|---|
| <ol style="list-style-type: none"> 1. Algebra and its applications 2. Applied Probability 3. Approximation Theory 4. Computational Fluid Dynamics 5. Continuum Mechanics 6. Coding Theory 7. Complex Analysis 8. Data Networks 9. Differential Equations 10. Inverse and Ill- Posed problems 11. Fluid Mechanics 12. Functional Analysis 13. Fuzzy Sets and Systems 14. Graph Theory and Combinatorics 15. Harmonic Analysis | <ol style="list-style-type: none"> 16. Inventory and Reliability 17. Mathematical logic & Applications 18. Mathematical Modeling 19. Mathematical Physics 20. Nonlinear Analysis 21. Numerical Analysis 22. Operations Research 23. Operator Theory 24. Queueing Theory 25. Statistical Quality Control 26. Stochastic Processes and their applications 27. Theoretical Computer Science 28. Wavelets and their applications 29. Introduction to Algebraic Geometry |
|---|---|

4.12.2 Academic Programmes:

New Courses Introduced:

S.No.	Course No.	Title
1.	MA 618	Introduction of Algebraic Geometry

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year & Others	Total
M.Sc.	28	31	--	--	--	59
M.Tech.	07	11	--	--	--	18
Ph.D.	02	05	06	09	29	51
Total	37	47	06	09	29	128

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

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia	Date and Venue	Financial Assistance from
Conference:					
1.	Mr. V. Sankar Raj	MA03D011	Geometry and Topology.	August 17 – 26, 2007 IIT Bombay, Mumbai.	--
2.	Mr. Jajati Keshari Sahoo	MA05D001	Application of Statistics and Operation Research	December 17-20, 2007 ISI, Hyderabad	--
3.	Mr. A. Chandrashekar	MA05D003			
4.	Mr. I Jeyaraman	MA06D005			
5.	Mr. D. Venku Naidu	MA04D007			
6.	Mr. Jitendriya Swain	MA04D001			

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia	Date and Venue	Financial Assistance from
7.	Mr. G. Ramesh	MA04D001	Functional Analysis and its Applications	November 28 – December 2, 2007 Scott Christian College Nagarcovil	--
8.	Mr. Sachindranath Jayaraman	MA05D005			
9.	Mr. V. Sankar Raj	MA03D011			
10.	Mr. K. P. Deepesh	MA06D001			
11.	Mr. Sankaraju Kosuru	MA07D004			
12.	Ms. Pallavi Mahale	MA03D009			
13.	Mr. D. Venku Naidu	MA04D007			
14.	Mr. T. Kurmayya	MA04D002			
15.	Mr. G. Krishna Kumar	MA07D005	Harmonic Analysis	December 28, 2007 to Jan 1, 2008	--
16.	Mr. D. Venku Naidu	MA04D007			
17.	Mr. Jitendriya Swain	MA04D001	Harmonic Analysis	December 28, 2007 to Jan 1, 2008	--
Instructional School:					
1.	Mr. E. Natarajan	MA04D013	Theory of Partial Differential Equations	May 27 – June 24, 2007 IIT Bombay, Mumbai	--
2.	Mr. Nachiketa Mishra	MA05D009			
3.	Mr. P. Ravishankar	MA04D003			
4.	Mr. S. Sivananthan	MA05D002	Tutotial assistance, NBHM – Nurture Programme Topic: Matrix Theory	June 2007 The Institute of Mathematical Sciences Chennai	--
5.	Mr. Venku Naidu Dogga	MA07D007			
6.	Mr. N. Ramakrishna	MA06D002	CIMPA School on Commutative Algebra	Jan. 2-7, 2008 IIT Bombay, Mumbai	--
Workshop:					
1.	Mr. Vasudeva Rao Allu	MA04D010	Complex Analysis and 22 nd Annual Conference of Ramanujan Mathematical Society	May 31 – June 9, 2007 NIT, Surathkal	--
2.	Mr. L. Jeganathan	MA04D017	IEEE Congress on Evolutionary Computation 2007.	September 25 – 28, 2007 IEEE, Singapore	--
3.	Mr. Ritabrata Sengupta	MA05D010	Quantum Correlation and Quantum ComOuting	December 11 – 16, 2007 IISER, Mohali	UGC
4.	Mr. Bappaditya Bhowmik	MA04D009	CMFT-2008	Jan. 1 – 15, 2008 Institute of Advanced Study in Science & Technology, Guwahati, Assam	--
5.	Mr. P Ravi Shankar	MA04D003	Topological Dynamics, Differential Equations and Applications	March 11-16, 2008 Hyderabad Central University, Hyderabad	--

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar/ Symposia	Date and Venue	Financial Assistance from
6.	Mr. S. Sivananthan	MA05D002	Basics of Wavelets and Applications	March 13-15, 2008 Basaveshwar Engineering College, Bagalkot	--
7.	Mr. D. Venku Naidu	MA04D007	Algebra, Analysis and Geometry of Compact quotients of the Heisenberg group	Jan. 7 – 17, 2008	--
8.	Mr. Jitendriya Swain	MA04D001	Algebra, Analysis and Geometry of Compact quotients of the Heisenberg group	Jan. 7 – 17, 2008	--
Research Collaborative:					
1.	Mr. Ritabrata Sengupta	MA05D010		November 9 – December 10, 2007 and February 4 – April 11, 2008 IISER, Mohali	--

4.12.3 Faculty and their activities:

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)	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, Summability Theory
M. Thamban Nair	Ph.D. (IIT Bombay) PDF (Univ. Grenoble)	Spectral Approximation, Operator Equations, Inverse and Ill-posed Equations
R. Usha	Ph.D. (IIT Madras)	Fluid Dynamics, 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 Language & Automata Theory / Molecular computing.
Satyajit Roy	Ph.D. (IISc. Bangalore)	Convective Heat and Mass Transfer, Computational Fluid Dynamics
S. Sundar	Ph.D. (IIT Madras)	Computational Fluid Dynamics, Numerical Analysis for Partial Differential Equations, Mathematical Modeling
V. Vetrivel	Ph.D. (IIT Madras)	Non-Smooth Optimization, Fixed Point Theory
Associate Professors:		
Y.V.S.S. Sanyasiraju	Ph.D. (IIT Madras)	Computational Fluid Dynamics

Asst. Professors:

A.V. Jayanthan	Ph.D.(IIT Bombay)	Commutative Algebra and Algebraic Combinatorics
R. Radha	Ph.D. (IMSC. Chennai)	Harmonic Analysis, Wavelets, Sampling Theory
K.C. Sivakumar	Ph.D. (IIT Madras)	Functional Analysis and Mathematical Programming
Ch. Srinivasa Rao	Ph.D.(IISc. Bangalore)	Non-linear Differential Equations
W.B. Vasantha	Ph.D. (Ramanujan Institute for Advanced study in Mathematics, Chennai)	Group Theory, Application of Algebra, Fuzzy Algebra and Linear Algebra
Sounaka Mishra	I.S.I. Kolkata	Approximation Algorithm / Combinatorial optimization
V. Uma	Ph. D. (IMSC Chennai)	Geometry and Topology of toric varieties
T.E. Venkata Balaji	Ph. D (CMI, Chennai)	Commutative Algebra , Algebraic, Geometry
Manam Srinivasa Rao (On Contract)	Ph.D. (IISc. Bangalore)	Applied Mathematics

Senior Scientific Officer (Gr.I) :

K. Swaminathan	Ph.D. (Agra University, Agra)	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
Workshop:			
1.	A.V. Jayanthan & V. Uma	Advanced Training in Mathematics (ATM) Workshop on Commutative Algebra and Algebraic Geometry	June 10 – 23, 2007
2.	R. Radha	National Symposium on Mathematical Methods and Applications – NSMMA 2007	December 22, 2007

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

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
Symposium:					
1.	P. Veeramani	On completeness axiom and real numbers	National Symposium	Govt. College Perintalmanna, Palakkad, Kerala	Jan.7, 2008
Conference:					
1.	S. Kalpakam	Stochastic Processes and Applications	Perishable Inventory Models and Cost Optimization	I.I.Sc. Bangalore	July 20, 2007
2.	S. H. Kulkarni	Projection methods and unbounded operators	Functional Analysis and its Applications	Scott Christian College (Autonomous, Nagercoil – 3)	Nov. 28 – Dec. 1, 2007.
		Teaching of Functional Analysis	Ramanujan Mathematical Society	NIT, Karnataka Surathkal	June 7, 2007
3.	P.R. Parthasarathy	State-dependent Discrete Queues	8 th German Open conference on Probability and Statistics	Aachen, Germany	March 4-8, 2008

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
4.	P.V. Subrahmanyam		Dynamic Systems and Applications	Atlanta, Georgia, U.S.A.	May 30 – June 2, 2007
5.	M. Thamban Nair	Operator Theory and related Topics	On convergence of regularized solutions of ill-posed operator equations	University of Delhi	January 11, 2008
6.	R. Usha	Dynamics of waves in a shallow layer of inelastic non-Newtonian viscous fluid of shear-thinning type flowing down an inclined plane	Applications of Dynamical Systems	Snowbird Sky and Summer Resort, Utah, U.S.A	May 28 – June 1, 2007
7.	R. Usha	Dynamics and Stability of thin film on a porous inclined plane	60 th American Physical Society Division of Fluid Dynamics Meeting	Salt Lake City, Utah, USA	Nov.18-20, 2007
8.	P. Veeramani	Best proximity pair theorems and their applications	Functional Analysis and its Applications	Scott Christian College (Autonomous, Nagercoil – 3)	Nov. 29 – 30, 2007.
9.		Existence of equilibrium pair for constrained generalized games	International Academy of Physical Sciences	Guru Ghasidas University Bilaspur Chhattisgarh	Jan. 11, 2008
10.	S. Ponnusamy		Finland – Japan Joint Seminar on Analysis	University of Helsinki, Finland	August 27 – 28, 2007
11.	Satyajit Roy	Natural convection flows within Trapezoidal enclosures	Frontier Mathematics & Applications	Department of Mathematics University of Burdwan, West Bengal	Jan. 16-18, 2008
12.	R. Radha		Artificial Intelligence and Pattern recognition	Orlando, Florida, U.S.A	July 9 – 12, 2007
13.	K.C. Sivakumar	Positivity and its Applications		Queen's University of Belfast, Northern Ireland	July 9 – 12, 2007
14.	A.V. Jayanthan	On depth of blowup Algebras of certain ideals in $k[x,y]$	Commutative Algebra	IIT Bombay, Mumbai	Jan. 8-11, 2008
15.	V. Uma	Group Embeddings: Geometry and Representations	Equivariant K-theory of Group Compactifications	Banff International Research Station Banff, Alberta, Canada	September 16 – 21, 2007
Seminar:					
	S. Sundar	Introduction to H matrices	Frontiers of Mathematics and Applications	Sona College of Technology, Salem	Feb.15, 2008
Workshop:					
1.	S. H. Kulkarni	Wavelet Analysis	Frames and Generalized Inverses	Department of Mathematics, Banaras Hindu University, Varanasi	October 25 – 26, 2007
2.	S. H. Kulkarni	Approximate Solutions of Operator equations & eigenvalue problems	Condition Spectrum	IIT Bombay Mumbai	Feb.25-29, 2008

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
3.	M. Thamban Nair	Use of functional analysis in solving equations	Mathematics	Sri Sathya Sai University, Prasanthi Nilayam Puttaparthi Andhra Pradesh	Sep. 22 – 23, 2007
4.		Approximate solution of Operator equations and eigenvalue problems	Regularization of ill-posed-equations	IIT Bombay	January 12, 2008
5.		Regularization of ill-posed operator equations	Approximate Solutions of Operator equations & Eigenvalue problems	IIT Bombay Mumbai	Feb.25-26, 2008
6.	S. Ponnusamy	Harmonic Mappings	CMFT – 2008	Institute of Advanced Study in Science & Technology, Guwahati, Assam	Jan. 3 – 10, 2008
7.	Satyajit Roy	Multiple slot suction/injection into an exponentially decreasing free stream flow	Complex Systems in Fluid Flows and Sedimentation Processes	Physics and Applied Mathematics Unit ISI Calcutta, Kolkata.	August 27-31, 2007
8.	R. Radha	Wavelets: Unconditional basis (4 Lectures)	Wavelet Analysis	Department of Mathematics Banaras Hindu Univ. Varanasi	Oct. 24 – 26, 2007
9.	Ch. Srinivasa Rao	Analysis of the self-similar solutions of a generalized burgers equation	Mathematics	Sri Sathya Sai Univ. Prasanthi Nilayam Puttaparthi Andhra Pradesh	Sep. 22, 2007
10.	T.E. Venkata Balaji	Clay lectures in Mathematics	--	Tata Institute of Fundamental Research, Mumbai	Dec. 10 – Dec. 14, 2007
Summer School:					
1.	S. Ponnusamy	Jyvaskyla Summer School	--	University of Jyvaskyla, Finland.	August 8 – 24, 2007
2.	T.E. Venkata Balaji	INSA-Nepal Academy of Science and Technology – Summer School in Algebraic Geometry	--	Tribhuvan University, Kathmandu, Nepal	May 28 – June 15, 2007
Summer Training Programme:					
1.	M. Thamban Nair	Summer Training Program	Measure and Integration	Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Chennai.	July 10 – 13, 2007
2.	Dr. R. Radha				
Refresher Course:					
1.	M. Thamban Nair	Refresher Course	Four important theorems of Functional Analysis	Ramanujan Institute for Advanced Study in Mathematics,	Nov. 24 & 26, 2007

Sl. No.	Name of Faculty	Title of the talk	Name of the workshop	Institution	Period
2.	P. Veeramani		i) Korovkin's Theorem and its applications ii) Stone Weierstrass Theorem	University of Madras, Chennai	Nov. 20 & 22, 2007
3.	R. Radha	NBHM – Nurture Programme	Matrices and Vectors	The Institute of Mathematical Sciences	June 2007

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of Faculty	Name of the Conference	Title of the talk	Institution	Period
1.	S. A. Choudum	DST – Sponsored group discussion	Perfect colorings of graphs	RIE, Mysore	Nov.22 – 23, 2007
2.	S. Kalpakam	--	Stochastic Modeling in inventory Systems	National Statistics Day celebration at ISI, Chennai	June 29, 2007
3.	S. H. Kulkarni	--	Spectral Theorem	Ramanujan Institute for Advanced Study in Mathematics, University of Madras, Chennai	June 2007
4.			Fourier Series in Hilbert Spaces		Nov. 20 & 23, 2007.
5.	P.R. Parthasarathy	--	Birth and Death Processes	SERC School on Special Functions St. Thomas College Palakkadu	May 2, 2007
6.		--	P. .Exact Transient solution of state dependent queues b) Processes with state – dependent rates	P. . Ecole Polytechnique Federale De Lausanne b) University of Neuchatel	P. . June 22, 2007 b) June 26, 2007
7.		Stochastic Processes and Applications	Exact representations for tumour incidence for some density-dependent models	I.I.Sc. Bangalore	July 19, 2007
8.		Mathematics for the new era	Application of Probability and its extension to Orthogonal, Polynomials and continued Fractions	Vimaltai Tidke Convent & Junior College, Nagpur	Sep 27 – 29, 2007.
9.	P.V. Subrahmanyam	--	Classical problems of Optimization	Stella Maris College, Chennai	Dec. 27 – 28, 2007
10.	M. Thamban Nair	--	On Solving Linear equations	Vivekananda College Mylapore	April 12, 2007
11.	P. Veeramani	On Recent Trends in Discrete Mathematics	Best proximity pair theorems and applications	SSVP Science College, Dhule Maharashtra.	August 30 – Sep 3, 2007

Sl. No.	Name of Faculty	Name of the Conference	Title of the talk	Institution	Period
12.		--	On LUB Axiom	St. Joseph College Tiruchirappalli	Dec. 10, 2007
13.		--	i) On Real numbers and LUB Axiom ii) Introduction to Fuzzy set Theory	Bharathidasan University Tiruchirappalli	Dec. 10 & 11, 2007
14.		--	What is the need of Calculus	Sri Vidya Mandir Arts and Science College Katteri Uthangarail	Feb.28, 2008
15.	Arindama Singh	--	Linear Algebra	Ramanujan Institute for Advanced Study in Mathematics Chennai	June 2007
16.		--	Non-standard Analysis	Univ. of Pondicherry	Sep. 2007
17.	S. Ponnusamy	--	Intellectual Perspective of Mathematics	Cauvery College For Women, Annamalai Nagar Trichy	April 5, 2007
18.		Jyvaskyla Summer School		University of Jyvaskyla, Finland.	August 8 –24, 2007
19.		Finland – Japan Joint Seminar on Analysis		University of Helsinki, Finland	August 27 – 28, 2007
20.	Satyajit Roy	Complex systems in fluid flows and sedimentation processes.	Multiple slot suction/ injection into an exponentially decreasing free stream flow	ISI Calcutta, Kolkata	August 31, 2007
21.	Prof. S. Sundar	Optimization: Theory & Practice	Optimization Tool Box of Matlab	Stella Maris College, Chennai	Dec. 27-28, 2007
22.		Ramanujan Symposium on Dynamics Equations	Hierarchical Matrices on FPM	Ramanujan Institute for Advanced Study in Mathematics Chennai	Feb. 4-6, 2008
23.		National level Seminar on Frontiers of Mathematics and applications	Introduction to H matrices	Sona College of Technology, Salem	Feb.15, 2008
24.		Matlab & Applications	Introduction to Matlab	St. Xavier's College, Palayamkottai	Feb. 21-2008
25.	V. Vetrivel	--	On Non-smooth Programming	The American College, Madurai	April 3, 2007
26.			On Borsuk-Ulam Theorem	MNM Jain Engg. College	Sep.21 2007
27.	Y.V.S.S.S. Raju	Matlab & Applications, Digital Topology and Latex for curriculum Development	Applications of Matlab in Numerical Analysis	St. Xavier's College, Palayamkottai	Feb.21, 2008
28.		--	Higher order compact schemes for fluid flow problems	Pondicherry University Pondicherry	March 31 – April 1, 2008

Sl. No.	Name of Faculty	Name of the Conference	Title of the talk	Institution	Period
29.	R. Radha	Multipliers for the Heidsenburg group	Harmonic Analysis	IISc. Bangalore	May 2007
30.		--	Artificial Intelligence and Pattern recognition	Orlando Florida USA	July 9 – 12, 2007
31.		Emerging Trends in Applications of Mathematics	Fourier Series & Isoperimetric Problem	Fatima College Madurai	Feb.14-15, 2008
32.	K.C. Sivakumar	--	Positivity and its Applications	Queen's University of Belfast Northern Ireland	July 21 – 27, 2007
33.	Ch. Srinivasa Rao	Mathematics	Analysis Construction of the solutions of a generalized Burgers equation	Sri Sathya Sai University, Prasanthi Nilayam Puttaparthi Andhra Pradesh	Sep. 23, 2007
34.	T.E. Venkata Balaji	--	What is good quadratic form in Characteristic two	Ramanujan Institute for Advanced Study in Mathematics Univ.of Madras Chennai	March 17, 2008
35.	K. Swaminathan	--	Mathematical Simulation of Ocean Going vehicles	VMKV Engg. College Salem	March 27-28, 2008

Visits Abroad by Faculty:

Sl. No.	Name of Faculty	Country Visited	Period of Visit	Purpose of Visit	Funding from
1.	P.R. Parthasarathy	Ecole Polytechnique Federable de Lausanne (EPFL) Switzerland	May 8 – July 7, 2007	Visiting Scientist	--
2.	P. R. Parthasarathy	University of Karlsruhe Germany	Oct 8, 2007 – Sep 30, 2008.	DAAD Visiting Professor	--
3.	P.V. Subrahmanyam	University of Clark Atlanta, U.S.A	June 3 – July 20, 2007	Visiting Professor	--
4.	R. Usha	Snowbird, Utah, Salt Lake City, USA	May 28 – June 1, 2007	SIAM Conference on Applications of Dynamical Systems	--
5.	R. Usha	Department of Chemical Engineering, University of Santa Barbara, California	June 2 -27, 2007	Research	--
6.	R. Usha	University of Delaware, Newark, Delaware, U.S.A.	Sept 1, 2007 – August 31, 2008	Senior Research Visitor	--
7.	Satyajit Roy	Centre for Differential Equations, Continuum Mechanics and Applications, University of Witwatersrand Johannesburg, South Africa	June 1 – 30, 2007	Research	National Research Fund
8.	S. Sundar	University of Kaiserslautern Germany	May 1 – July 3, 2007	Visiting Professor	--
9.	S. Ponnusamy	University of Turku, Finland.	August 30 – Nov 11, 2007	Joint Research work	--

Sl. No.	Name of Faculty	Country Visited	Period of Visit	Purpose of Visit	Funding from
10.	T.E. Ventakata Balaji	Nepal	May 28 – June 15, 2007	Summer School on Algebraic Geometry	INSA & Nepal Academy of Science & Tech.

Honours and Awards obtained by faculty:

S.No	Name of faculty	Name of Award	Awarded by	Date of award
1.	P.R. Parthasarathy	DAAD W3 (Outstanding Scholar) Visiting Professor	Uni Karlsruhe	Oct. 2007 to Sep. 2008
2.	T.E. Venakata Balaji	Certificate of Appreciation	Nepal Academy of Science & Technology	June 15, 2007

Journal Editorial Boards:

Sl.No.	Name of Faculty	Level	Journal	
1.	S.H. Kulkarni	Editor (Co-opted) for Volume 14	Journal of Analysis published by Forum D' Analystes	
2.	P.R. Parthasarathy	Advisory Editor	Journal of Information and Optimization Sciences	
3.		Associate Editor	International Journal of Computer Mathematics	
4.			Assam Statistical Review	
5.			American Journal of Mathematics and Managements Sciences	
6.			Pure and Applied Mathematika Sciences	
7.			Journal of Decision and Mathematika Sciences	
8.			Journal of Applied Statistical Sciences, USA	
9.			Stochastic Modelling and Applications	
10.			Advisory Editor	Journal of Statistics and Management Systems
11.			Member	Editorial Board, International Journal of Modern Mathematics
12.		Member	Editorial Board, Far Eastern Journal of Mathematics	
13.		Member	Reviewer Advisory Board, ACM Computing Reviews	
14.		P.V. Subrahmanyam	Editor	Journal & Analysis, Forum D' Analystes
15.	Journal & Differential Equations and Dynamical Systems			
16.	Associate Editor		International Journal of Biomedical Soft Computing and Human Sciences	

4.12.4 Research and Consultancy:

Sponsored Research Projects:

SL. No.	Title	Period	Funding Agency	Amount (Rs.in lacs)	Co-ordinators
1.	Modeling of High Power passive components for HP Applications.	Sep. 2007 – August 2008	Institute for Plasma Research	7.47	Prof. S. Sundar and Prof. V. Subramanian Dept. of Physics
2.	Non-uniform single/multiple slot injection (suction) into water boundary layer flows	April 1, 2006 – March 31, 2009	CSIR, New Delhi, India	6.5	Prof. Satyajit Roy and Dr. Tanmay Basak Dept. of Chem. Engg.
3.	Studies in Numerical Harmonic Analysis	Upto Sep. 2008	NBHM (DAE)	6.1	Dr. Radha and Prof. S.H. Kulkarni Project Staff: S. Sivananthan

SL. No.	Title	Period	Funding Agency	Amount (Rs.in lacs)	Co-ordinators
New Faculty Scheme:					
1	A Study of generalized Burgers equations	Upto July 2008	IC&SR	4.3	Dr. Ch. Srinivasa Rao
2.	Hilbert-Kunz Multiplicities of Ideals and their Blowup Algebras	Upto 2009	IC&SR	4.6	Dr. A.V. Jayanthan
3.	Combinatorics of Coxeter Groups and its application to Geometry and Representation Theory	Upto 2009	IC&SR	5.0	Dr. V. Uma
4.	Desingularisation, deformations, singularities and specializations of important moduli spaces in algebraic geometry	Upto 2009	IC & SR	5.0	Dr. T.E. Venkata Balaji

Exchange programme with other Universities:

SI.No.	Programme Name	Name of University	Student Name	Guide Name
1.	DAAD Sandwich – Ph.D.	TU-Darmstadt, Germany	Mr. Maddushankar	Prof. S. Sundar
2.	DAAD Sandwich – Ph.D.	TU-Kaiserslautern, Germany	Mr. K. Selvanayagam	Prof. V. Vetrivel & Prof. S. Sundar
3.	Internship programme	Italy	Mr. Sudhakar Matle	Prof.S. Sundar
4.	Student Exchange Programme	Universitat Manheim, Germany	Mr. Basil Ell	Prof.S. Sundar
5.		TU-Kaiserslautern, Germany	Mr. Michael Beck	Prof.S. Sundar

Research Publications:

Total No. of papers published in Refereed National Journals	...	4
Total No. of papers published in Refereed International Journals	...	44
Total No. of papers published in Proceedings of National Conferences	...	0
Total No. of papers published in Proceedings of International Conferences	...	4

Details:

In Refereed National Journals:

SI.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	S.H. Kulkarni	A Relatively Elementary Proof of a Characterization of Polynomials	Indian J. Pure and Appl.Math.38(4): pp. 299 – 230, Aug. 2007
2.	S. Ponnusamy and Antii Rasila	Planar Harmonic Mappings	Ramanujan Mathematics Newsletter 17 (2) (2007), 40 – 57
3.	S. Ponnusamy and Antii Rasila	Planar Harmonic and Quasiregular Mappings	Ramanujan Mathematics Newsletter 17 (3) (2007), 85 - 101
4.	Ch. Srinivasa Rao and E. Satyanarayana	A survey on shooting arguments for boundary value problems	Indian J. Pune. Appl. Math. 38(6), 495 – 516, 2007.

In Refereed International Journals:

SI.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 colouring and linearly chi-bound P6-free graphs	Journal of GraphyTheory 54 (2007), No.4, 293 - 306

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
41.	R. Radha and S. Sivananthan	Shannon type sampling theorems on the Heisenberg group	Fields Institute Communications Amer. Math. Soc. 52 (2007), 367 – 374
42.	S. Jitendriya and R. Radha	Characterisation of L^1 – Multipliers for the Heisenberg Group	I. Jour. of Math. Analysis, Vol. 2, 2008, no.8, 353 – 363.
43.	P. Sankaran and V. Uma	K-theory of quasi-toric manifolds	Osaka J. Math.44 (2007),71-89.
44.	V. Uma	Equivariant K-theory of compactifications of algebraic groups,	Transformation Groups, 12, (2007), 371 – 406.

In Proceedings of International Conferences:

Sl.No.	Name(s) of the author(s)	Title of the paper	Name of the Journal
1.	B. Uma and R. Usha	Nonlinear Stability analysis of a falling film in the presence of gas flow	Proceedings of FEDSM 2007 5 th Joint ASME-JSME Fluids Engineering Conference, July 30 – Aug 2, 2007, San Diego, California, USA FEDSM2007-37207 (1-10), 2007.
2.	I. Mohammed Rizwan Sadiq and R. Usha	Weakly nonlinear Stability analysis of a non-uniformly heated non-Newtonian falling film	Proceedings of FEDSM 2007 5 th Joint ASME-JSME Fluids Engineering Conference, July 20-Aug.2, 2007, San Diego, California, USA 2007. FEDSM 2007-37201(1-10), 2007
3.	S. Mishra, V. Raman, S. Saurabh, and C.R. Subramanian	The Complexity of finding subgroups whose matching number equals the vertex cover number	ISAAC 2007, LNCS 4835, pp. 268-279, 2007.
4.	R. Radha and S. Sivananthan	Reconstruction of image in shift invariant spaces,	Artificial Intelligence and Pattern recognition, Orlando, Florida, USA, 2007 pp. 58 - 62

Distinguished Visitors to the Department:

Sl. No.	Name of the visitor and Designation	Date	Purpose of visit
1.	Prof. Dr. Gerald Warnecke Institut fuer Analysis und Numerik Otto-von-Guercke-Universitaet Magdeburg, Germany	April 20 – 30, 2007	To give a Series of lectures on Homogenization Methods for Multi-Phase mixtures with Phase Transition
2.	Prof. Xiantao Wang Hunan Normal University, Chasngsha, Hunan People's Republic of China	May 2007	To give a Series of lectures on Mobius Transformations and their Representations
3.	Prof. James Tanton St. Mark's School, U.S.A	June 22, 2007	Gave a lecture: Sums of Powers A Historical Review
4.	Prof. P. Bhimasankaram Hyderabad University	Dec.24,26 & 27, 2008	Matrix partial orders
5.	Prof. Ratnasingham Shivaji Dept. of Mathematics and Statistics Mississippi State University, USA	January 2, 2008	To give a series of lectures i) Classes of Singular Reaction Diffusion Equation ii) Rellich & Pohozaev Identities and Application
6.	Prof. Doraiswamy Ramachandran College of Natural Science and Mathematics, California State University, USA	January 11, 2008	Gave a lecture: Assignment Models for Markets
7.	Prof. J. Pikho University of Helsinki Finland	March 2008	Gave a series of lectures i) The Erdos-Turan Conjecture in Additive Number Theory ii) Egyptian Fractions iii) On the average number of summands in the Zeckendorf Representation

4.12.5 Other Activities:

Seminar Talks:

Sl. No.	Name of the Faculty	Title	Date
1.	Prof. T.S.S.R.K. Rao Department of Mathematics Indian Statistical Institute Bangalore	Proximity in Higher Dual spaces	April 13, 2007
2.	Dr. V. Kannan Professor Hyderabad Central University Hyderabad	Understanding Simple Dynamical Systems	April 20, 2007
3.	Prof. Xiantao Wang Hunan Normal University Chasngsha, Hunan People's Republic of China	Mobius Transformations and their representations	May 15, 2007
4.	Dr.C. Balaji Department of Mechanical Engineering IIT Madras	The Use of Bayesian Inference in Heat Transfer Problems	August 3, 2007
5.	Dr. Sounaka Mishra Department of Mathematics IIT Madras	Koenig-Egervary Graphs and Related Problems	August 10, 2007
6.	Prof.P.B. Sunil Kumar Department of Physics IIT, Madras	Modelling the Elasticity of Cystoskeleton	August 17, 2007
7.	Prof. Somdeb Lahiri Institute for Financial Management & Research, Chennai	Existence of Market Equilibrium in Multi-Unit Auctions with Emission Constraint.	August 24, 2007
8.	Prof. M. S. Sivakumar Department of Applied Mechanics IIT Madras.	On Topological Aspects of Mesh Free Methods	August 31, 2007
9.	Prof. Arindama Singh Department of Mathematics IIT Madras	Berry, Cantor and Richard	September 7, 2007
10.	Dr. Ch. Srinivasa Rao Department of Mathematics IIT Madras.	Solution of a Generalized Burger's Equation	September 14, 2007
11.	Dr. V. Kamakoti Department of Mathematics IIT Madras.	Evolutionary Hardware	September 21, 2007
12.	Prof. S. K. Saha Department of Engg. Design IIT Madras	Modelling, Mathematics and MAREP	September 28, 2007
13.	Prof. G. Srinivasan Dept. of Management Studies IIT Madras	OR Applications in Industrial Problems: Case Studies	October 5, 2007.
14.	Dr. V. Srinivasa Chakravarthy Dept. of Bio Technology IIT Madras	Modeling the Enigmatic Systematic Error in Performance of Simple Copying Tasks Using Nonlinear Oscillators	October 12, 2007
15.	Prof. K. Mangala Sundar Department of Chemistry IIT Madras	Microwave Spectra of Non-regid Molecules in External Electric Fields	October 19, 2007.
16.	Prof. K. Murali Dept. of Ocean Engineering IIT Madras	Applicability of RANS Solvers to Ship Hydrodynamics	October 26,2007
17.	Prof. P. Ganesan Department of Mathematics Anna University	Flow Over Inclined Surfaces	November 2, 2007.
18.	Prof. A. Avudainayagam Department of Mathematics IIT Madras	Orthonormal Bases. Who cares?	November 9, 2007

Sl. No.	Name of the Faculty	Title	Date
19.	Prof. S. H. Kulkarni Department of Mathematics IIT Madras	Frames and Generalized Inverses	November 16, 2007
20.	Prof. Sreenivas Jayanti Department of Chemical Engineering. IIT Madras	Mathematical Modeling of Turbulent Combustion	November 23, 2007
21.	Prof. Ratnasingham Shivaji Mississippi State University USA	Classes of Singular Reaction Diffusion Equation	December 12, 2007
22.	Prof. A.S. Vasudev Murthy TIFR Centre Bangalore	The Amazing Accessibility and Utility of Computational Mathematics	December 17, 2007
23.	Prof. Michel Waldschmidt Insitute de Mahthematics de Jussieu, France	Some recent results in Mathematics related to data transmission	December 18, 2007
24.	Prof. P. Bhimasankaram Hyderabad University	Matrix partial orders	December 24, 26 & 27, 2007
25.	Prof. Ratnasingham Shivaji Dept. of Mathematics and Statistics Mississippi State University, USA	Rellich & Pohozaev Idetities and Application	January 2, 2008
26.	Prof. Doraiswamy Ramachandran College of Natural Science and Mathematics California State University, USA	Assignment Models for Markets	January 11, 2008
27.	Prof. Theo Driessen University of Twente The Netherlands	Shapley Value for TU Games	January 14, 2008
28.	Prof. Anna Khmel'nitskaya St. Petersburg Institute for Economics & Mathematics Russian Academy of Sciences	Values for Graph – Restricted Games with Coalition Structure	January 16, 2008
29.	Prof. Dale Cutkosky Department of Mathematics University of Missouri-Columbia, USA	Polynomial Mappings	January 17, 2008
30.	Prof. P. Veeramani Department of Mathematics IIT Madras	On Tychonoff Theorem and Ascoli Arzela Theorem	January 18, 2008
31.	Prof. David Mumford University of Brown, USA	Grammers as a general principle I perception and thought	January 21, 2008
32.	Prof. Antti Rasila Institute of Mathematics Helsinki University of Technology, Finland	Planar Harmonic Mappings	January 22, 2008
33.	Prof. B.S. Mandal Physics and Applied Mathematics Unit Indian Statistical Institute Calcutta, Kolkata	Water Wave Scattering by a Floating Elastic Strip	February 1, 2008
34.	Prof. H.N. Mhaskar California State University, U.S.A.	Learning Functions on the Sphere	February 5, 2008
35.	Dr. B. Uma University f California Santa Barbara	Change in Fracture Aperture due to Poro-Thermoelastic Stresses	March 5, 2008
36.	Prof. M.V. Satyanarayana Department of Physics IIT Madras	Mathematical Formulation of Optical Coherence	March 7, 2008
37.	Prof. J. Pikho University of Helsinki Finland	i) The Erdos-Turan Conjecture in Additive Number Theory	March 14, 2008
		ii) Egyptian Fractions	March 20, 2008
		iii) On the average number of summands in the Zeckendorf Representation	March 28, 2008

Ph.D. Viva – Voce Examination:

Sl.No.	Name of the Ph.D. scholar	Title of the thesis & Viva date
1.	Mr. D. Sukumar	Ransford Spectrum in Banach Algebra April 13, 2007
2.	Mr. A. Anthony Eldred	Existence and Convergence of Best Proximity Points April 20, 2007
3.	Mr. I. Mohammed Rizwan Sadiq	Thin Liquid Film Flow and Instability August 3, 2007
4.	Mr. V. Antony Vijesh	Studies on Generalized Newton Methods and their Applications December 20, 2007
5.	Mr. V. Murugan	Solutions of nonlinear iterative functional equations December 20, 2007
6.	Ms. G. Chandhini	Radial Basis Function Based Gridfree Schemes for Convection-Diffusion Type Equations March 14, 2008

Ph.D. Seminar Talks:

Sl.No	Name of the scholar	Title	Date
1.	Ms. G. Chandhini	Radial Basis Function Based Schemes for Convection-Diffusion Type Equations	August 1, 2007
2.	Mr. S. Sivananthan	Sampling Problem	August 7, 2007
3.	Mr. Jitendriya Swain	Characterisation of Multipliers for the Heisenberg Group	August 9, 2007
4.	Mr. Venku Naidu Dogga	Segal-Bargmann Transform	August 16, 2007
5.	Mrs. R. Indhumathi	Embedding of Height-balanced Trees in Hypercubes	August 20, 2007
6.	Mr. Sachindranath Jayaraman	Weak Monotonicity and Non-negative Generalized Inverses	September 17, 2007
7.	Mr. T. Kurmayya	Nonnegative Moore-Penrose Inverses of Hilbert Space Operators	October 31, 2007.
8.	Mr. S. Sivananthan	Non Uniform Sampling in Shift Invariant Spaces	November 27, 2007
9.	Mr. E. Natarajan	Heatline Visualization of Natural Convection Flows Within Trapezoidal Enclosures	November 27, 2007
10.	Mr. Param Jeet	Numerical Studies of Mixed Convection Boundary Layer Flows	November 29, 2007

Sl.No	Name of the scholar	Title	Date
11.	Mr. H. Ramesh	On Two Variant of Membrane Systems	November 29, 2007
12.	Mr. Swadesh Kumar Sahoo	Inequalities and geometry of the Apollonian and related metrics	December 5, 2007
13.	Mr. Bappaditya Bhowmik	On Concave univalent function	December 12, 2007
14.	Mr. Jitendriya Swain	Fourier Multipliers on the Heisenberg Group	January 18, 2008
15.	Mr. K. Selvanayagam	Film Casting Process	March 10, 2008
16.	Mr. Maddu Shankar	Analysis of Extrapolation Boundary Conditions for Lattice Boltzmann Method	March 10, 2008

Other Activities of the Department/Centre:

Sl.No	Name of the Faculty	Activity
1.	A. Avudainayagam	Re-employed after superannuation July 3, 2007
2.	S.A. Choudum	Ph.D. Viva-voce Examiner IIT Kharagpur May 23, 2007
3.	S. Kalpakam	Served as an Expert in Board of Studies Amritha School of Engineering, Coimbatore June 15, 2007
4.		Served as a Chairperson International conference on Stochastic Processes and Applications, I.I.Sc., Bangalore July 19, 2007
5.		Served as a Chairperson International Conference on Stochastic Processes and Applications I.I.Sc., Bangalore July 19, 2007.
6.		Selection committee meeting at National Institute of Technology, Calicut, Kerala. November 5 – 6, 2007.
7.	M. Thamban Nair	Chairman, GATE 2008, JAM- 2008-03-27 Member, Board of Studies, Pondicherry University Member, Board of Studies, Bharathiar University Member, Board of Studies, University of Calicut Reviewer to Zentrablatt MATH Reviewer to American Mathematical Society

Sl.No	Name of the Faculty	Activity
8.	P. Veeramani	Ph.D. Viva-voce Examiner, Alagappa university, Karaikudi May 21 – 22, 2007
9.		Served as an UGC nominee-SAP, Manonmaniam Sundaranar University, Tirunelveli July 19, 2007
10.		Chief Guest for the Symposium (Sankhya) at Sri Venkateswara College of Engg., Chennai. August 21, 2007
11.		Ph.D Viva-Voce Examiner University of Pune, Pune. November 5 – 6, 2007.
12.		Selection Committee Member University of Pune March 17-18, 2008
13.	Arindama Singh	Ph.D. Viva-voce Examiner IIT Kanpur February 28-29, 2008
14.	S. Ponnusamy	Discussions on Indian Journal of Pure and Applied Mathematics, INSA, Hyderabad July 9, 2007
15.	Satyajit Roy	Chief Guest for the Sri Ramanujan Mathematics club SRM University, Chennai. August 11, 2007
16.	S. Sundar	Project proposal presentation at Institute for Plasma Research, Ahmedabad April 4, 2007
		Ph.D. Viva-voce Examiner April 27, 2007
		Ph.D. Viva-voce Examiner IIT Kanpur March 25-26, 2008
17.	V. Vetrivel	Member, Board of Studies, T.N. Open University Ph.D. Viva-voce Examiner, IIT Khargpur, May 2007
18.	R. Radha	Joint research collaboration Indian Institute of Science, Bangalore May 28 – June 1, 2007

SI.No	Name of the Faculty	Activity
19.	Ch. Srinivasa Rao	Joint research collaboration Indian Institute of Science, Bangalore November 8 – 12, 2007.

Socially relevant activities carried out by the Department:

FORAYS 2008 – A MATH FEST

An annual mathematical event initiated in 1992, was conducted this year on 1st and 2nd March 2008. It is entirely managed by the students.

Events:

- Lecture by Prof. R. Sridharan of CMI on Ancient Indian Tradition in Combinatorics beginning with Sanskrit Prosody
- Big Fight, Olympiad, Math Models and Seminar Presentations

The event was coordinated by Dr. A.V. Jayanthan

NATIONAL SYMPOSIUM ON MATHEMATICAL METHODS AND APPLICATIONS (NSMMA – 2007)

National Symposium on Mathematical Methods and Applications (NSMMA 2007) was held on 22nd December 2007 to commemorate the birthday of Srinivasa Ramanujan (1887 – 1920).

- The symposium was inaugurated by Prof. S. Santhakumar, Dean (Academic Courses). There were 80 participants.
- The program consisted of 4 invited lectures and 55 postal presentations on various branches of Mathematics.
- The invited lectures were given by
 1. Prof. B. Sury, ISI Bangalore: Ramanujan's route to roots of roots
 2. Prof. S. Thangavelu, IISc. Bangalore: Analytic vectors for representations of the Heisenberg group
 3. Prof. Ratnasingham Shivaji, Mississippi State University, USA: Reaction diffusion systems with combined non linear effects
 4. Prof. Bhimashankaram, University of Hyderabad: Matrix Partial Orders – Yesterday, Today and Tomorrow
- The symposium concluded with a valedictory function presided over by Prof. V.G. Idichandy, Dean (Students).

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.

4.13.2 Academic Programmes:

New Courses introduced:

Sl. No.	Course No.	Title
1.	ME 553	Introduction to Atmospheric Science
2.	ME 555	Flow and Thermal instabilities

Students on roll:

Programme	I year	II Year	III Year	IV Year	V Year & others	Total
B.Tech.	54	54	58	70	09	245
Dual Degree	43	50	44	49	26	212
M.Tech.	77	77	--	--	--	154
M.S.	12	26	22	17	16	093
Ph.D.	04	22	33	32	107	198
Total	190	229	157	168	158	902

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	D. Jayakrishna	ME04D025	SES Conference, Texas A & M University, USA	Oct. 21-24, 2007 TAMU, USA	IITM & IIT MAANA
India					
1.	A. Ajil Kumar	ME04D047	International Conference & XX National Conference on I. C. Engines and Combustion	Dec.6-9, 2007 JNTU, Hyderabad	IIT Madras
2.	T. J. S. Jothi	ME05D013	Thirty Fourth National Conference on Fluid Mechanics and Fluid Power-2007	Dec.10-12,2007 BIT MESRA, Ranchi.	IIT Madras
3.	S. Jayavel	ME06D015	19 th National and 8 th ISHMT-ASME Heat and Mass Transfer Conference	Jan. 3-5, 2008 JNTU, Hyderabad.	IIT Madras

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
4.	Vishnu Vardhan	ME04D014	ANDE 2007	Busan, Kane	
5.	Kathirvel Thiyagarajan	ME04D033	National Metallurgist Day 2007	Nov 14-17, 2007 IIM, Mumbai	
6.	Atul Daga	ME06D005	CAE 2007 ICTACEM 2007	Dec. 13-15, 2007 IIT Madras Dec. 27-29, 2007 IIT Kharagpur	IIT Madras
7.	P. Jeyaraj	ME05D020	CAE 2007 ICTACEM 2007	Dec. 13-15, 2007 IIT Madras Dec. 27-29, 2007 IIT Kharagpur	IIT Madras
8.	Sharnappa	ME05D003	CAE 2007 ICTACEM 2007	Dec.13-15, 2007 IIT Madras Dec.27-29, 2007 IIT Kharagpur	IIT Madras
9.	R. Surya Pratap	Ph.D. Scholar	CAE 2007 ICTACEM 2007	Dec.13-15, 2007 IIT Madras Dec. 27-29, 2007 IIT Kharagpur	IIT Madras
10.	Gireesh Kumar V.R	Ph.D.	CAE 2007	Dec.13-15, 2007 IIT Madras	CWET
11.	M.K. Ravishankar	ME04D058	ICSV14	July 9 –12, 2007	AICTE and Hassan Engg. College
12.	Prabakar R.S	Ph.D. Scholar	International Conference on Smart Devices Modelling of Materials Systems January	Jan. 10 –12, 2008	--
13.	Prabakar R	Ph.D. Scholar	ICTACEM 07	Dec. 27 –29, 2007 IIT Kharagpur	adras
14.	Ramkumar A	Ph.D. Scholar	Proc of International Conf and INCCOM-6 on Future Trends in Composite Materials and Processing	Dec.12-14, 2007 IIT Kanpur	--
15.	S Senthilvelan	Ph.D. Scholar	9th International Symp on Measurement & Quality Control,	Nov. 21-24, 2007	--
16.	Ramkumar A	Ph.D. Scholar	Diamond Jubilee Symposium and International Conf on Advances in Materials Engineering	IISc Bangalore, July 4-6, 2007	--
17.	M C Lenin Babu	Ph.D. Scholar	National Symposium on Acoustics	Dec. 5-7, 2007 KSR College of Engg	Institute
18.	Muralidhara	ME05D036	9 th International Symposium on Measurement and Quality Control	Nov. 21-24, 2007 IIT Madras	IIT Madras

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
19.	R.M.Kuppan Chetty	ME05D007	International Conference on Precision, Meso, Micro and Nano-Engineering(COPEN 2007)	Dec.13-14, 2007 College of Engg, Trivandrum,	IIT Madras
20.	Muralidhara	ME05D036	-do-	-do-	IIT Madras
21.	G.Satheesh Kumar	ME00P018	-do-	-do-	IIT Madras
22.	T.Periasamy	ME06D018	-do-	-do-	IIT Madras
23.	I.A.Palani	ME06D017	-do-	-do-	IIT Madras
24.	M.Sreekumar	ME04D035	International Conference on Advances in Manufacturing Technology(ICAMT 2008) for Young Engineers, IIT Madras, Chennai – Organized by Indian National Academy of Engineering (INAE) & Department of Atomic Energy (DAE)	Feb. 6-8, 2008 IIT Madras, Chennai	IIT Madras
25.	Muralidhara	ME05D036	-do-	-do-	IIT Madras
26.	I.A.Palani	ME06D017	-do-	-do-	IIT Madras
27.	G. Rajamohan	ME05D038	9 th International Symposium on "Measurement and Quality Control"	Nov. 21-24, 2007 IC&SR, IIT Madras	--
28.	A. Murugarajan	ME06D031	9 th International Symposium on "Measurement and Quality Control"	Nov. 21-24, 2007 IC&SR, IIT Madras	--
29.	S. Denis Ashok	ME05D026	"Data Logging Solutions Simplified" Organized by National Instruments	Feb.14, 2008 The Park Hotel, Sankara Hall, Chennai	--
30.	Y.V. Srinivasa	ME05D005	International Conference on precision, Meso, Micro and Nano Engineering(COPEN2007)	Dec.13-14, 2007 College of Engineering Trivandrum	--
31.	K. Manesh	ME05D032	9 th International Symposium on "Measurement and Quality Control"	Nov. 21-24, 2007 IC&SR, IIT Madras	--
32.	B. Anand Ronald	ME03D020	9 th International Symposium on "Measurement and Quality Control"	Nov. 21-24, 2007 IC&SR, IIT Madras	--
33.	B. Anand Ronald	ME03D020	International Conference on 'Total Engineering, Analysis & Manufacturing Technologies' (TEAMTECH 2007)	Oct. 4–6, 2007 Indian Institute of Science (IISc), Bangalore.	--
34.	S. Rajakumar	ME06D007	Fluent – Gambit training programme	Mar. 3–6, 2008 HPCE Lab,IIT Madras,	--
35.	S. Rajakumar	ME06D007	"Data Logging Solutions Simplified" Organized by National Instruments	Feb. 14, 2008 The Park Hotel, Sansara Hall, Chennai	--

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
36.	Dinesh Thakur	Ph.D. Scholar	6 th International conference on Materials Processing for properties and performance (MP3 2007)	Sept.14 –16, 2007 Beijing, China	--
37.	Dinesh Thakur	Ph.D. Scholar	"Data Logging Solutions Simplified" Organized by National Instruments	Feb.14, 2008 The Park Hotel, Sansara Hall, Chennai	--
38.	D. Giridhar	ME06D014	"Data Logging Solutions Simplified" Organized by National Instruments	- do -	--
39.	Vidhya Venket	M.S.Scholar	9 th International Symposium on "Measurement and Quality Control"	Nov. 21-24,2007 IC&SR, IIT Madras	--
40.	K. Shekar Reddy	M.S.Scholar	International Conference on Frontiers in Design & Manufacturing Engineering.	Feb. 1-2, 2008	--
41.	S. Swaminathan	ME03D022	ICONICE 2007 (International. Conf.)	Dec. 6-9,2007 JNTU, Hyderabad	Self
42.	S. Swaminathan	ME03D022	SAE India Mobility Conference	Jan. 9-11, 2008 New Delhi	Institute
43.	B. Muralikrishna	ME06D030	RAEFM 2008 (International. Conf.)	Feb. 3-6, 2008 K.L.C.E., Vijayawada	Institute
44.	B. Muralikrishna	ME06D030	15 th ISME 2008 - New Horizons in ME (International. Conf.)	Mar.18-20,2008 RGTU, Bhopal	Institute
45.	Benny Paul	ME03D039	International. Conf. on CAE 2007	Dec.13-15, 2007 IIT Madras	Own fund
46.	Micha Prem Kumar, T.	ME05D014	34th National Conference on Fluid Mechanics and Fluid Power	Dec.10-12, 2007 BIT, Mesra	Institute
47.	Guganesan, M.	ME98M09	34th National Conference on Fluid Mechanics and Fluid Power	Dec.10-12, 2007 BIT, Mesra	Project
48.	N. Sendhil Kumar	ME03D016	19 th National and 5 th ISHMT-ASME	Jan. 3-5, 2008 JNTU, Hyderabad	IITM
49.	D. Jayakrishna	ME04D025	19 th National and 5 th ISHMT-ASME	Jan. 3-5, 2008 JNTU, Hyderabad	IITM
50.	M.V.Jogi Janaki Suresh	ME04D028	Int. Seminar on Coal Gasification: Challenges and Opportunities for India	Oct. 3, 2007 IIT Bombay	IITM
51.	F. Ruben Sudhakar	ME04D024	Int. Seminar on Coal Gasification: Challenges and Opportunities for India	Oct. 3, 2007 IIT Bombay	IITM
52.	G. Venugopal	ME05D035	19 th National and 5 th ISHMT-ASME	Jan. 3-5, 2008 JNTU,Hyderabad	IITM through CCE
53.	M. Srikanth	ME02D019	19 th National and 5 th ISHMT-ASME	Jan. 3-5, 2008 JNTU, Hyderabad	IITM
54.	B.V. Krishna Reddy	Me05D011	19 th National and 5 th ISHMT-ASME	Jan. 3-5, 2008 JNTU,Hyderabad	IITM
55.	P.V. Ramana	ME05D040	19 th National and 5 th ISHMT-ASME	Jan. 3-5, 2008 JNTU, Hyderabad	IITM

Sl. No.	Name of the Student/Scholar	Roll No.	Name of the Conference/ Seminar / Symposia / Workshop	Date and Venue	Financial Assistance from
56.	M.V. Jogi Janaki Suresh	ME04D028	Int. Conf. on Thermal Power India-2	Dec. 11-12, 2007 India Habitat Centre, New Delhi	IITM
57.	Sujit Karmakar	ME06D035	Int. Conf. on Thermal Power India-2	Dec. 11-12, 2007 India Habitat Centre, New Delhi	NIT Durgapur
58.	P. Karthikeyan	ME03D019	Int. & INCCOM-6 Conf. On Future Trends in Composite Materials & Processing	Dec. 12-14, 2007 IIT Kanpur	Own fund
59.	M. Ashok Kumar	ME06D003	34 th National Conference on Fluid Mechanics and Fluid Power	Dec. 10-12, 2007 BIT, Mesra	
60.	P.V.Ramakrishna	ME06S030	International Conference on Theoretical, Applied, Computation and Experimental Mechanics	Dec. 27-29, 2007 IIT Kharagpur	
61.	M. Ashok Kumar	ME06D003	19 th National & 8 th ISHMT – ASME Heat and Mass Transfer Conference	Jan. 3-5, 2008 JNTU, Hyderabad	

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.	Dr S Sethivelan		2007 INAE Student Innovative Project Award	INAE
2.	M.Sreekumar	Ph.D	Received First Prize for the essay titled Manufacturing Technology in 2050 in the Essay Competition conducted during the International Conference on advances in Manufacturing Technology (ICAMT 2008)	Organized by INAE and DAE held during 6-8, Feb.2008 at IIT Madras
3.	S. Swami Nathan	ME03D022	Create the future contest award	NASA Tech Brief & Solid Works
4.	S. Swami Nathan	ME03D022	Best Research Paper Award	ICONICE 2007 JNTU, Hyderabad
5.	M.V.J.J. Suresh	ME04D028	I Runner up prize	Indian Institute of Chemical Engineers
6.	D. Jayakrishna	ME04D025	3 rd Prize in Poster Competition	Texas A & M Univ., USA

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	Raghav, H.V.	ME03B044	Best UG project In Mech. Engg. (Siva Sailam Merit Prize)	Mr. Siva Sailam
2	Srinivas Padala	ME05M031	Best M.Tech. project in Mech. Engg.	M/s Micobosh
3	Abhay Wakankar	AT05M001	Best M.Tech. project in Automotive Engine Technology (AET)	M/s Lucas TVS Limited

4.13.3 Faculty and their activities:

Faculty:

Name and Qualifications	Major area of specialization (only 3 areas)
Professor:	
Shunmugam M.S., Ph.D. (Head)	Metrology, Manufacturing, Computer Aided Manufacturing Systems and Control.
Ajit Kumar Kolar, Ph.D.	Fluidised Bed Combustion, Biofuels, Fuel Cells
Balabaskaran V., Ph.D.	Fluid Mechanics, Pumps and Hydroturbines, Computational Fluid Dynamics
Chandramouli P., Ph.D.	Non-linear Dynamics, Acoustics and Fluid-structure interactions
Das S.K., Ph.D.	Heat Exchangers, Two phase flow, Nano fluids, Jet Oscillations, Nuclear Heat Transfer
Ganesan N., Ph.D.	Finite Element Analysis, Vibration and Smart Structures
Ganesan V., Ph.D.	Theoretical and Experimental Studies in Fluid Flow, Heat Transfer and Combustion in I.C Engines, Gas Turbines, After-burners and Related Engg. Equipment.
Gnanamoorthy R., Dr. Eng.	Machine design, Design of test machines, Fatigue and fracture mechanics, Gear and bearings, Rolling contact fatigue, Failure analysis, Tribology, New materials and components, Mechanical behaviour of materials
Gopinath K., Ph.D.	Design of test rigs, Presses, SPM, Process equipment, Powder metallurgy and superplastic forming equipment, Friction and wear, Brakes, Clutches, Bearings, Gears and filters, Powder metallurgy, Failure analysis and development of new materials
Govardhan M., Ph.D.	Compressors, Steam and gas turbines, Cascade secondary flows, Boundary layers-inlet flow distortion, Tip clearance flows, Wells turbine, Cross flow fans, CFD
Krishnan Balasubramanian, Ph.D.	Nondestructive Evaluation, Materials Characterization, Online Measurements
Kumaraswamy S., Ph.D.	Fluid Mechanics, Pumps and Hydroturbines, Cavitation in hydroturbomachines
Maiya M.P., Ph.D.	Refrigeration (Sorption systems and co-generation) Air Conditioning (Desiccant and evaporative cooling and energy aspects), Ventilation, Drying and effluent evaporation, Metal hydride energy conversion systems
Mani A., Ph.D.	Solar energy, Refrigeration and air conditioning, Cryogenic engineering, Alternate working fluids, Effluent treatment
Mayuram M.M., Ph.D.	Surface engineering, Wear and wear control, Thermal sprayed coatings, Fatigue and fracture aspects in design and analysis
Muthuveerappan G., Ph.D.	Machine design, Vibrations of structures in fluid environments, Generation of gear teeth and fillet profiles for stress analysis and design
Nagarajan T., Ph.D.	Robotics, Pneumatics Medical Instruments
Narayanan S., Ph.D.	Random and Nonlinear Vibration, Smart Structures, Acoustics
Pramod S.Mehta, Ph.D.	Combustion Modelling, Fluid Dynamics in IC Engines, Engine Emission Control
Prasad B.V.S.S.S., Ph.D.	CFD in turbo machines, Turbine blade cooling, Rotor-stator interactions, Heat flux measurements, Thermal hydraulics
Premananda Shet U.S., Ph.D.	Design of gas oil and solid fuel burners, Swirl combustion, Flame image analysis, Control of combustion generated pollutants, Supersonic combustion, Thermodynamics, Combustion and propulsion

Raju Sethuraman, Ph.D.	Computational Solid Mechanics, Fatigue and fracture of materials
Ramamoorthy B., Ph.D.	Metrology, Computer Aided Inspection, Metal cutting Manufacturing processes
Ramesh Babu N., Ph.D.	Computer Aided Manufacturing, Robotics, Unconventional Machining Process
Ramesh A., Ph.D.	IC Engine Combustion and Emission, Alternative Fuels, Energy Conservation
Seshadri Sekhar A, Ph.D.	Rotordynamics, Tribology, Condition-monitoring
Singaperumal M., Ph.D.	Fluid Power, System Simulation, Mechatronics, Precision Engineering
Sitaram N., Ph.D.	Turbomachinery / end wall flows, Computational fluid dynamics, Compressors and turbines, Boundary layers, Tip clearance flows
Siva Prasad N., Ph.D.	Finite element analysis, Computer aided design, Stress analysis, Machine design
Srinivasa Murthy S., Ph.D.	Refrigeration & Airconditioning, Energy Conservation & Heat Recovery, Solar & Hydrogen Energy Utilisation
Sujatha C., Ph.D.	Machine Dynamics, Vehicular Vibration, Instrumentation and signal analysis
Sundararajan T., Ph.D.	Droplet combustion, Supersonic reacting jet flows, Computational fluid dynamics
Swarnamani S., Ph.D.	Structural Health monitoring/Diagnostics/Active Control
Venkatarathnam G., Ph.D.	Refrigeration, Cryogenic Engineering, Heat Exchangers
Venkateshan S.P., Ph.D.	Heat Transfer, Instrumentation
Vijayaraghavan L., Ph.D.	Machining, CAD, Surface Engineering
Associate Professor	
Babu Viswanathan, Ph.D	CFD, High speed reacting flows, High performance computing
Chakravarthy Balaji, Ph.D.	Fundamental Heat Transfer, Optimization of Thermal Systems, Inverse Problems in Heat Transfer, Satellite Meteorology
Srinivasan K., Ph.D.	Jet Flow and Noise, Active and Passive Flow Control, Measurement and Instrumentation
Raghu Prakash V, Ph.D.	Experimental Fatigue Analysis, Structural integrity, Test systems design
Assistant Professor	
Arunn Narasimhan, Ph.D.	Heat Transfer and Fluid Flow in Porous Media, Phase Change and Convection
Shaligram Tiwari, Ph.D.	Refrigeration and Airconditioning, Flow Transition, Vortex Dynamics, CFD, Maragonic Convection
Dhiman Chatterjee, Ph.D.	Cavitation, Turbomachines, Microscale Flows
Mallikarjuna J.M., Ph.D.	Simulation of Engine processes, Data Acquisition, Design of Engine Components, PIV
Samuel GL., Ph.D.	Micro Machining, CAD-CAM, Metrology and Computer Aided Inspection
Shamit Bakshi, Ph.D.	CFD in I.C. Engines, Liquid Atomization and Spray Systems, Fuel Nozzle Modeling
Shankar Krishnapillai, Ph.D.	Structural vibrations, Design optimization, System identification, Genetic algorithm
Srinivas Reddy K., Ph.D.	Renewable Energies, Solar Energy, Energy Conservation, Energy Environment, Heat Transfer in Two-Phase Systems

Parag Ravindran, Ph.D. Viscoelastic Fluids Constitutive Modeling

Krishna Kannan, Ph.D. Continuum mechanics, Thermodynamics and Constitutive modeling of polymeric materials

Ravikiran Sangras, Ph.D. Experimental Fluid Mechanics, Combustion, Turbulent Flows

Raghavan V, Ph.D. Combustion modeling, Droplet combustion, Laminar flames

Visiting Faculty:

Ramamurthi K., Ph.D. Combustion, Propulsion, Explosions

Sujatha Srinivasan, Ph.D. Biomechanics, Mechanisms, Rehabilitation Engineering

Henry Ford Chair Professor

M.K. Gajendra Babu, Ph.D. I.C. Engine Combustion & Emission, Alternative Fuels, Energy Conservation

Technical Superintendent

Mr P V Mannivannan Microprocessors and control system, Mechatronics and Embedded system, Automotive Electronics

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

Sl. No.	Coordinator(s)	Title/ place	Period
Conference:			
1.	Dr S. Srinivasa Murthy, President Dr T Sundararajan Secretary Dr M. P. Maiya, Treasurer Indian Society for Heat and Mass Transfer	19 th National and 8 th ISHMT-ASME Heat and Mass Transfer Conference, JNTU College of Engineering, Hyderabad	Jan. 3-5, 2008
2.	Dr. Krishna Kannan	Advanced Mechanics of Materials	Dec. 17-22, 2007
3.	Dr N.Siva Prasad	CVRDE Course on Computer Aided Engineering	Sept. 3 -14, 2007
4.	Chairman: Dr. N. Siva Prasad Organizing Secretary: Dr. A. S. Sekhar Dr. Shankar Krishnapillai	International Conferences on Computer Aided Engineering" CAE 2007.	Dec.13-15, 2007
5.	Chairman Dr. S. Narayanan Organizing committee, CAETS, INAE, IIT Madras	International Engineering Education Chennai	2007
Seminar:			
1.	Dr. V. Raghu Prakash	Fatigue Analysis to CEP course on Finite Elements In Analysis and Design IITM	Aug.31, 2007
2.	Dr. V. Raghu Prakash	One day seminar on Design by arability IIT Madras	May 11, 2007
Symposia:			
1.	Dr B. Ramamoorthy	9 th International Symposium on Measurement and Quality Control	Nov. 21-24, 2007

2.	Dr B. Ramamoorthy	Technology Appreciation Program on Metrology and Quality Control, IIT Madras	Sep. 06, 2007
3.	Dr M.S. Shunmugam	9 th International Symposium on Measurement and Quality Control	Nov. 21-24, 2007
4.	Dr M.S. Shunmugam	Technology Appreciation Program on Metrology and Quality Control, IIT Madras	Sep. 06, 2007,
Sl. No.	Coordinator(s)	Title/ place	Period
5.	Dr.L.Vijayaraghavan	9 th International Symposium on Measurement and Quality Control	Nov. 21-24, 2007
6.	Dr. G.L. Samuel	9 th International Symposium on Measurement and Quality Control	Nov. 21-24, 2007
7.	Dr. G.L. Samuel	Technology Appreciation Program on Metrology and Quality Control, IIT Madras	Sep. 06, 2007
8.	Dr U. S. P. Shet Dr. V. Raghavan Dr. Ravikiran Sangras	Burner Design for Clean and Efficient Combustion, IIT Madras	Nov.16-17, 2008
9.	Dr S. Srinivasa Murthy	Low Carbon Technologies for Decentralised Power Production: An Indo – UK Workshop, IIT Madras, Chennai	Mar.17-18, 2008
Workshop:			
1.	Dr. N. Siva Prasad	Advance Finite Element Analysis	Dec.10-12, 2007
2.	Dr. N. Siva Prasad	Engineering Optimization Theory and Practice	Dec.17-19, 2007
3.	Dr. N. Siva Prasad	Computational Fluid Dynamics	Dec. 27-29, 2007
4.	Coordinator: Dr. N. Siva Prasad Delivered by: Dr. N. Siva Prasad Dr. M. M. Mayuram Dr. R. Gnanamoorthy Dr. Raghu Prakash Dr.G. Muthuveerappan	Engineering Mechanics, Springs, Fasteners, Pressure Vessel Brakes Weld V – Belt Failure Theories Module on Materials Science Gears, Pressure Vessel	Satyam Computer Associates Feb 18–29 , 2008
5.	Dr BVSSS. Prasad	International work shop on “modeling on coal combustion and gasification” organized combinendly with M/S BHEL, Trichy	Oct. 29 – Nov.1, 2007
6.	Dr BVSSS. Prasad	Two day work shop on Gas Turbine Heat Transfer	Jan. 7-8, 2008

Short term Course:			
1.	Dr. K. Srinivasan Dr. K. Ramamuthi	Thermodynamics of Propulsion (STTP & CEP), IIT Madras	June 18-23, 2007
2.	Dr. Krishnan Balasubramaniam - Organizing Committee member	The ANDE 2007 held in Busan, Korea in Oct 2007. Technical paper presented and chaired a session, BUSAN	Oct 2007
3.	Dr. Krishnan Balasubramaniam	Advanced Ultrasonic Transducer Non-Contact Ultrasound	Jan.21-22, 2008
4.	Dr. Seshadri Sekhar	Organized short term course (QIP)	July 9-14, 2007
5.	Dr. J.M. Mallikarjuna	Finite Elements in Analysis and Design using ANSYS	Aug. 28-Sept. 01, 2007
6.	Dr. Shamit Bakshi Dr. A. Ramesh	CEP course on "IC Engines with Special Emphasis on Engine Valves" for Engineers of M/s Rane Engines Valves Ltd., Chennai	Conducted on Saturdays from June 9- Oct.13, 2007
Sl. No.	Coordinator(s)	Title/ place	Period
7.	Dr. M.K. Gajendra Babu	Coordinated a 2-day TOPTECH Program on "Engine and Powertrain Simulation", organized by SAE India	Jan. 10 - 11, 2008
8.	Dr. A.K. Kolar Dr. B. Viswanathan Dr. K.S. Reddy	Fuel Cells: Power Source of the Future	Dec. 1-7, 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.	Dr. M.K. Gajendra Babu	National Workshop on Recent Advances in Internal Combustion Engines (RAICE-2008)	NIT Warangal	March 28-30, 2008
2.	Dr. Kumaraswamy, S	Low Carbon Technologies for decentralized power production – An Indo UK workshop	IIT Madras, Asia Pacific Centre for Energy and Environment and British Council	March 17-18, 2008
Seminar:				
1.	Dr. S. Narayanan	Degenerative shell finite element for smart structures, Seminar talk delivered	University of Southern California, Los Angeles	July 19, 2007
2.	Dr. Kumaraswamy, S	Autodesk : India Solution day	Autodesk Inc.	June 14, 2007
3.	Dr. Kumaraswamy, S	IT in aviation	Aeronautical Society of India, Chennai branch and IIT Madras	Nov. 25, 2007

Sl. No.	Name of faculty	Title	Institution	Period
Symposia:				
1.	Dr P. Chandramouli	National Symposium on Acoustics (NSA 2007)	KS Rangaswamy College of Engg., Tiruchengode	Dec. 5-7, 2007
2.	Dr. Raghu Prakash	Fatigue and Fracture	Seventh International ASTM/ESIS Symposium at Junpa, FL, USA	Nov. 14-16, 2007
3.	Dr. Krishnan Balasubramaniam	Chaired Technical Session	ANDE 2007 Busan, Kane	Oct. 17-19, 2007
4.	Dr. S. Narayanan	Smart structures in vibration and noise control, M S Narayanan Memorial Lecture, National Symposium on Acoustics (NSA 2007)	K S R College of Engineering, Erode.	Dec. 5 -7, 2007
5.	Dr. M.K. Gajendra Babu	Int. Symposium on Fuels & Lubricants	Organised by IOCI at Jakranda Hall of India Habitat Centre, New Delhi	March 11, 2008
Conference:				
1.	Dr. V. Raghavan	International Conference & XX National Conference on I. C. Engines and Combustion	JNTU, Hyderabad	Dec. 6-9, 2007
2.	Dr. Ravikiran Sangras	International Conference on Computer Aided Engineering-2007	IIT Madras	Dec. 14-15, 2007
3.	Dr. M. P. Maiya	ACRECONF 2007	IIT Delhi, New Delhi	Dec. 7-8, 2007
4.	Dr. G. Venkatarathnam	19 th National and 8 th ISHMT-ASME Heat and Mass Transfer Conference	JNTU College of Engineering, Hyderabad	Jan. 3-5, 2008
5.	Dr. Shaligram Tiwari	19 th National and 8 th ISHMT-ASME Heat and Mass Transfer Conference	JNTU College of Engineering, Hyderabad	Jan 3-5, 2008
6.	Dr S Swarnamani- International Conference attended by the student (PhD)	Influence of stiffness and mass charges on higher frequencies of beam with pig electric patch	14 th International Conference on Sound and Vibration, Cairns, Australia	July 2007
7.	Dr. S. Narayanan	Vibration control using smart piezoelectric structures, Invited paper presented at the Vibration Engineering and Technology of Machinery (VETOMAC IV)	Organized by Osmania University and BHEL Hyderabad	Dec. 17-19, 2007

SI. No.	Name of faculty	Title	Institution	Period
8.	Dr. S. Narayanan	Degenerate shell finite element model of piezolaminated smart composites for active control, Paper presented	9th US National Congress on Computational Mechanics, San Francisco, California,	July 22-26, 2007
9.	Dr S Swarnamani	Influence of stiffness and mass charges on higher frequencies of beam with piezoelectric patch.	14 th International Conference. Sound & Vibration, Cairns, Australia	July 2007
10.	Dr.M.Singaperumal	PAN IIT Global Meet Santa Clara, USA	-	July 4-8, 2007
11.	Mr..P.V.Manivannan	Low Cost Engine Management System for the cost sensitive two wheeler application	ASME IC Engine Division International Conference, Charlton, SC, USA	Oct. 14-17, 2007
12.	Mr.P.V.Manivannan	Development of Engine Management System for Small DI Petrol Engine	TIFAC Project Meeting held at New Delhi.	Dec. 20, 2007
13.	Mr.P.V.Manivannan	Development of a system for control of Airfuel ratio in a small two-wheeler Engine.	SAE INDIA International Conference, New Delhi, India	Jan.10, 2008
14.	Dr M.S. Shunmugam	9 th International Symposium on Measurement and Quality Control	Indian Institute of Technology Madras	Nov. 21-24,2007
15.	Dr B. Ramamoorthy	Factory automation, Robotics and Soft computing Key Note address,	NITW	Jan. 18-19,2007
16.	Dr B. Ramamoorthy	National Conference on Advances in Manufacturing Valedictory	KSR College of Technology	Feb. 22, 2007
17.	Dr B. Ramamoorthy	International Conference on Adv. in Mechanical Engineering, Key Note address	MIT Manipal	Oct. 24-25, 2007
18.	Dr B. Ramamoorthy	Organizing Chairman, 9 th International Symposium on Measurement and Quality Control	Indian Institute of Technology Madras	Nov. 21-24, 2007
19.	Dr B. Ramamoorthy	COPEN,CEG,	College of Engineering, Trivandrum	Dec. 12-14, 2007
20.	Dr L.Vijayaraghavan	9 th International Symposium on Measurement and Quality Control	Indian Institute of Technology Madras	Nov. 21-24, 2007

Sl. No.	Name of faculty	Title	Institution	Period
21.	Dr. N. Ramesh Babu	COPEN 2007, International Conference on Precision, Meso, Micro and Nano Engineering	College of Engineering, Trivandrum	Dec. 13-14, 2007
22.	Dr. G.L. Samuel	9 th International Symposium on Measurement and Quality Control	Indian Institute of Technology Madras	Nov. 21-24, 2007
23.	Dr. G.L. Samuel	COPEN 2007, International Conference on Precision, Meso, Micro and Nano Engineering	College of Engineering, Trivandrum	Dec. 13-14, 2007
24.	Dr. A. Ramesh	International. Conf. on I.C. Engines & Combustion	JNTU, Hyderabad	Dec. 6-8, 2007
25.	Dr. J.M. Mallikarjuna	International. Conf. on I.C. Engines & Combustion	JNTU, Hyderabad	Dec. 6-8, 2007
26.	Dr. A. Ramesh	SAE India 5 th International. Mobility Conf. on Emerging Automotive Technologies Global and Indian Perspective	India Habitat Centre, New Delhi	Jan. 9-11, 2008
27.	Dr. J.M. Mallikarjuna	SAE India 5 th International. Mobility Conf. on Emerging Automotive Technologies Global and Indian Perspective	India Habitat Centre, New Delhi	Jan. 9-11, 2008
28.	Dr. M.K. Gajendra Babu	SAE India 5 th International. Mobility Conf. on Emerging Automotive Technologies Global and Indian Perspective	India Habitat Centre, New Delhi	Jan. 9-11, 2008
29.	Dr. Dhiman Chatterjee	34 th National Conference on Fluid Mechanics and Fluid Power	BIT, Mesra	Dec.10-12, 2007
30.	Dr. Kumaraswamy, S.	Flotek.g – Global conference and exhibition on 'Towards intelligent flow measurement and control system'	Fluid Control Research Institute, Palakkad	Sept. 26-28, 2007
31.	Dr. Kumaraswamy, S.	59 th AGM of the Aeronautical Society of India and discussion meet on 'Indian aeronautics at a crossroads'	IIT Madras and Aeronautical society of India	Feb.1-2, 2008
32.	Dr. Ajit Kumar Kolar	15 th European Biomass Conference & Exhibition	Berlin Germany	May 7-11, 2007
33.	Dr. Ajit Kumar Kolar	USAID sponsored Asian Clean Energy Forum	Manila	June 26-28, 2007

Sl. No.	Name of faculty	Title	Institution	Period
34.	Dr. M. Govardhan	34 th National Conference on Fluid Mechanics and Fluid Power	BIT, Mesra, Ranchi	Dec. 10 – 12, 2007
35.	Dr. BVSSS. Prasad	34 th National Conference on Fluid Mechanics and Fluid Power	BIT, Mesra, Ranchi	Dec. 10 – 12, 2007
36.	Dr. BVSSS Prasad	19 th National & 8 th ISHMT – ASME Heat and Mass Transfer Conference	JNTU College of Engineering, Hyderabad	Jan. 3-5, 2008
Training:				
1	Dr. V. Ganesan Dr.J.M. Mallikarjuna	Flow Master PIV System	LaVision, GmbH, Gottengen, Germany	July 23-28, 2007

Special Lectures delivered by the faculty in other Institutions:

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
1	Dr V. Raghavan	Spray Combustion	DRDL, Hyderabad	Nov 14, 2007
2.	Dr V. Babu	Numerical Simulation of Supersonic Combustion	DRDL, Hyderabad	Nov 15, 2007
3.	Dr U. S. P. Shet	Fundamentals of Combustion: Lecture Series on CFD in Combustion	DRDL, Hyderabad	Nov 13, 2007
4.	Dr. V. Babu	Numerical Simulation of 3D, Reacting flows in model supersonic combustion using hydrogen fuel	7 th Asian CFD Conference, NAL, Bangalore	Dec 2, 2007
5.	Dr A.Mani	Advances in Refrigeration Technologies	Arunai Engineering College, Tiruvannamalai	Aug.14,2007
6.	Dr A.Mani	Advances in Solar energy Technologies	Pondicherry Engineering College, Puducherry	Feb. 29, 2008
7.	Dr A.Mani	Solar refrigeration	Sri Sairam Engineering College, Chennai	March 28, 2008
8.	Dr. Shaligram Tiwari	Advanced Heat and Mass Transfer	IGCAR, Kalpakkam.	Nov. 19-30, 2007
9.	Dr P. Chandramouli	Machinery Noise and Control	BHEL, Hyderabad	Sep. 22, 2007
10.	Dr P. Chandramouli	Wave propagation in structures	NPOL, Kochi	April 23-27, 2007
11.	Dr. N. Siva Prasad	A Conference on Engineering Design 2007		Aug.10,2007
12.	Dr. N. Siva Prasad	Finite Element Analysis		Aug.30, 2007
13.	Dr C. Sujatha	Fundamentals of Noise and Noise registrations	Anna University	Sept. 28-29, 2007
14.	Dr C. Sujatha	Fundamentals of Vibrations CVRDE Course on CAE	IIT Madras	Sept.10-14, 2007
15.	Dr. V Raghu Prakash	"Theme Meeting on Material Properties Characterization".	BARC, Mumbai	Oct. 10-11, 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
16.	Dr. V Raghu Prakash	ME-310 Stanford Design Course	Stanford University, USA.	Oct. 18, 2007.
17.	Dr. V. Raghu Prakash	Panacea 2007	DOMS, IIT Madras	Dec.12, 2007
18.	Dr. Krishnan Balasubramaniam	National Conference on Ultrasonics	Cochin,	Dec.17-19, 2007
19.	Dr. M. M. Mayuram Dr. R Gnanamoorthy Dr. V Raghu Prakash	Invited lecture at TVS electronics	Nandampakkam Chennai 89	Jan. 23, 2007
20.	Dr. V Raghu Prakash	Fatigue Response of Materials using Novel Test Methods on One-day Theme Meetr on Small Specimen Test Methods	IGCAR, Kalpakkam	Feb. 25, 2008
21.	Dr. Gnanamoorthy R.	Wear Mechanisms – An overview	Advances in Surface Technology – International Workshop, Chennai	June 29-30, 2007
22.	Dr. V Raghu Prakash	Delivered inaugural lecture for SME	S.V. College of Engineering	July 19, 2007
23.	Dr S. Narayanan	Vibration control using smart piezoelectric structures	Organized by Osmania University and BHEL Hyderabad	Dec. 17-19, 2007
24.	Dr S. Narayanan	Smart structures in vibration and noise control	M S Narayanan Memorial Lecture at K S R College of Engineering, Erode.	Dec. 5 –7, 2007
25.	Dr S. Narayanan	Smart structures, Guest lecture delivered.	Rajalakshmi Engineering College, Chennai	Aug. 21, 2007
26.	Dr S. Narayanan	Random processes and application to random vibration, Guest lecture delivered.	Rajalakshmi Engineering College, Chennai	May 2007
27.	Mr P.V.Manivannan	Design and Development of low cost Engine Management System for small capacity SI Engines	M/s Techtronic Industries North America Inc, Anderson, South Carolina, USA	Oct.18, 2007
28.	Mr. P.V.Manivannan	Embedded Systems in Automobiles	National Level Technical symposium, Eswari Engineering College, Chennai	Sept. 27, 2007
29.	Dr M.S. Shunmugam	Measurement and Characterization of Surface Roughness	Technology Appreciation Program on Metrology and Quality Control, IIT Madras	Sept. 06, 2007
30.	Dr B. Ramamoorthy	Laser Interferometer and its Applications	Technology Appreciation Program on Metrology and Quality Control, IIT Madras	Sept. 06, 2007
31.	Dr. L. Vijayaraghavan	Fundamentals of CIM	CVRDE, Chennai,	Aug. 20, 2007

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
32.	Dr. L. Vijayaraghavan	Machinability of ceramic composites	Sathyabama University, Chennai	Nov. 29, 2007
33.	Dr. L. Vijayaraghavan	Machine tool Engineering	NIT Trichy	Jan. 18, 2008
34.	Dr. L. Vijayaraghavan	Research Methodology	Anna University	Feb.1, 2008
35.	Dr. L. Vijayaraghavan	Machining of Composites	Trichy Engineering College, Trichy,	March 20, 2008
36.	Dr. G.L. Samuel	Keynote address on "Micromachining"	International Seminar on World Class Manufacturing (ISWCM-07) KIT's College of Engg. Kolhapur	June, 2007
37.	Dr. G.L. Samuel	Introduction to Micro Machining	National Conference on "Advances in Materials and Manufacturing Processes", Davangere,	Oct., 2007
38.	Dr. G.L. Samuel	Form Measurement	Technology Appreciation Program on Metrology and Quality Control, IIT Madras	Sept. 06, 2007
39.	Dr. V. Ganesan	Non-Reacting and Reacting Flow Analysis in an Aero-Engine Gas Turbine Combustor using CFD	SAE 2007 World Congress, Detroit, USA	April 17, 2007
40.	Dr. A. Ramesh	Hydrogen Energy in I.C. Engines	Adhiyamaan College of Engg., Hosur	Sept.10, 2007
41.	Dr. J.M. Mallikarjuna	Use of Hydrogen in Internal Combustion Engines and Control of Emissions	Siddartha Institute of Technology, Vijaywada	Oct.12, 2007
42.	Dr. A. Ramesh	How to enable Mechanical Engineering Students Design FPGA based Embedded Controllers for Today's Challenging Automotive Needs – The Experimental Way	M/s National Instruments, Bangalore	Oct. 26, 2007
43.	Dr. A. Ramesh	Advances in Automotive Engines at Int. Conf. & Exhibition on Emerging Challenges in Design and Mfg. Technologies-2007	Sathyabama University, Chennai	Nov. 29, 2007
44.	Dr. A. Ramesh & Dr. Krishna Vasudevan (EED)	Simulation of Diesel Electric Locomotives	M/s BHEL, Bhopal	Dec. 27-29, 2007
45.	Dr. A. Ramesh	Fundamentals of Engines Control	Vellore Institute of Technology, Vellore	Feb. 22, 2008
46.	Dr. A. Ramesh	Advances in Automotive Engines Technology	Bharat University Chennai	Feb. 29, 2008
47.	Dr. A. Ramesh	Advances in Engine Technology	SAE Collegiate Club, PSG College of Technology, Coimbatore	March 15, 2008

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
48.	Dr. A. Ramesh	Biofuels for Engines	British Council Sponsored Workshop on Low Carbon Fluids	March 18, 2008
49.	Dr. Shamit Bakshi	On the Impact of Liquid Droplets onto Solid Substrates	Jawaharlal Nehru Centre for Advanced Scientific Research	Jan. 23, 2008
50.	Dr. M.K. Gajendra Babu	Diesel Engine Combustion and Emission CNG Utilization in Transportation Sector	NIT Warangal	March 28, 2008
51.	Dr. K. Srinivas Reddy	Advances in Solar Thermal Energy Conversion	Vellammal Engg. College, Chennai	April 3, 2007
52.	Dr. C. Balaji	Determination of Temperature Wall Function for High Rayleigh Number Flows at the Fluid Dynamics	Jawaharlal Nehru Centre for Advanced Scientific Research, Bangalore	July 4, 2007
53.	Dr. K. Srinivas Reddy	Renewable Energy Technologies for Sustainable Development	Kings Engg. College, Irungattukottai, Chennai	July 26, 2008
54.	Dr. K. Srinivas Reddy	Global Warning: An Anthropogenic Climate Change	Arunai Engg. College, Thiruvannamalai	Aug.14, 2007
55.	Dr. K. Srinivas Reddy	Renewable Energy Technologies for Sustainable Development	Bapatla Engg. College, Bapatla, Andhra Pradesh	Aug. 31, 2007
56.	Dr. C. Balaji	Estimation of Rainfall from Microwave Satellites Radiances	Institute of Mathematical Sciences, Chennai	Aug.7, 2007
57.	Dr. K. Srinivas Reddy	Energy & Environment: Technologies for Sustainable Development	Suddhartha Engg. College, ijayawada	Oct.13, 2007
58.	Dr. A.K. Kolar	Biomass Combustion at the National Workshop on Burner Design	Combustion Institute (India) at IIT Madras	Nov. 2007
59.	Dr.A.K. Kolar	Fuel Cells	Arya Group of Engineering Colleges in Jaipur	Dec.17, 2007
60.	Dr. A.K. Kolar	Fuel Cells for Low Power Applications	SRM University, Chennai	Feb. 22, 2008
61.	Dr. S.P. Venkateshan	Aerodynamic Heating and Ablative Coding	Dept. of Aero Space Engg., IIT Bombay	March 26, 2008
62.	Dr. C. Balaji	Advanced Numerical Methods in Atmospheric Sciences	Air Force Administrative College, Coimbatore	March 17, 2008
63.	Dr. A.K. Kolar	Fuel Cells: A Sustainable Energy Alternative?	SDM College of Engineering, Hubli	March 14, 2008
64.	Dr. BVSSS. Prasad	Finite Volume techniques and its application to convection diffusion problems.	Easwari Engineering College, Chennai	June 16, 2007
65.	Dr. BVSSS. Prasad	Expert lecture - 2 day workshop	Siddhartha Engg. College, Vijayawada	Feb. 06, 2008
66.	Dr. BVSSS. Prasad	Expert lecture - Two day national level technical meet on emerging trends in technology	Avanathi Institute of Engineering & Technology, Visakhapatnam	Feb. 28-29, 2008
67.	Dr. M. Govardhan	Deliver lecturers on Aerodynamics of Turbomachinery	M/s OYL. R&D Centre SDN, BHD, Malaysia	March 26-28, 2008

Sl. No.	Name of faculty	Topic of Lecture	Institution	Date
68.	Dr. BVSSS. Prasad	Expert lecture - Two day workshop on CFD Basics & Applications	BVC Engineering College, Odalareve, Andhra Pradesh	April 5-6, 2008

Visits abroad by faculty:

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
1.	Dr A. Mani	Canada	June 3-7, 2007	To attend 21st Canadian Congress of Applied Mechanics, Canada	IIT Madras
2.	Dr A. Mani	USA	June 7-18, 2007	To visit Universities	IIT Madras
3.	Dr S. Srinivasa Murthy	Netherlands	June 16-21, 2007	Technical University, Eindhoven	Asia-Link Project
4.	Dr S. Srinivasa Murthy	Germany	June 21-26, 2007	Aachen University of Applied Sciences, Juelich	Asia-Link Project
5.	Dr S. Srinivasa Murthy	Spain	June 26-July 15, 2007	Universitat Rovira I Virgili, Tarragona	Inviting University
6.	Dr S. Srinivasa Murthy Dr M. P. Maiya	China	Aug. 17-31, 2007	International Congress of Refrigeration, Beijing/ University of Architecture and Technology, Xian	IIT Madras and PCF
7.	Dr S. Srinivasa Murthy	Spain	Oct.14-21, 2007	International Congress on Polygeneration / International Conference on Solar Airconditioning	Conference Organizers
8.	Dr P. Chandramouli	Turkey	Aug. 28-31, 2007	INTERNOISE Conference (INVITED PAPER)	IIT Madras
9.	Dr P. Chandramouli	Spain	Sept. 1-5, 2007	International Congress on Acoustics	PCF
10.	Dr. V Raghu Prakash	University of Oklahoma, OK, USA	Nov 11-19, 2007	Visited Department of Mechanical and Aerospace Engineering	----
11.	Dr. S. Narayanan	USA	July 17-26, 2007	To present a paper at the 9th US National Congress on Computational Mechanics and deliver a seminar talk at the University of Southern California, Los Angeles, USA	IIT Madras
12.	Dr. S. Narayanan	UK	July 28 – Aug. 2, 2007	Visit to Universities of Sussex and Southampton, England	

Sl. No.	Name of faculty	Country Visited	Date	Purpose of visit	Funding from
13.	Dr M. Singaperumal	Santa Clara, USA	July 4-8, 2007	PANIIT global meet	
14.	Dr M. Singaperumal	Northeastern University Boston, USA	July 9-13, 2007	Discussions with Mr.Paul Posco, the IXA University Program manager regarding INTEL Network Controller	
15.	Dr M.Singaperumal	Karlsruhe, Germany	July 14 –17, 2007	Discussions with Prof.Albers and Dr-Ing.Wolfgang Burger, Universitat Karlsruhe (TH) regarding Micro actuators and Sensors	
16.	Dr N. Ramesh Babu	M/s. Amada Co. Ltd., Japan	Dec. 18-22, 2007	R& D Meeting	
17.	Dr. A. Ramesh	Malaysia	June, 2007	For delivering invited lectures & interacting with faculty members on topics of research interest in the area of internal combustion engines and automobile engineering	Univ. Tun Hussin Onn Malaysia
18.	Dr. V. Ganesan	Germany	July 23-28, 2007	To get training on Flow Master PIV System	Project
19.	Dr. J.M.Mallikarjuna	Germany	-do-	-do-	Project
20.	Dr. K. Srinivas Reddy	Univ. of Jordan, Amman, Jordan	Sept. 4-5, 2007	To attend GNLEADER Meeting	Univ. of Jordan
21.	Dr. A.K. Kolar	Germany	May 7-11, 2007	To attend 15 th European Biomass Conf. and Exhibition in Berlin	Institute
22.	Dr. A.K. Kolar	Manila	June 26-28, 2007	USAID Sponsored Asian Clean Energy Fourm	
23.	Dr. BVSSS. Prasad	Montreal, Canada	May 14-17, 2007	ASME Turbo Expo 2007 conference	PCF
24.	Dr. M. Govardhan	Malaysia	March 26-28, 2008	Deliver lecturers on Aerodynamics of Turbo-machinery at M/s OYL. R&D Centre SDN, BHD, Malaysia	From Malaysian Organisation
25.	Dr. BVSSS. Prasad	Berlin, Germany	May 7-11, 2007	15 th European Biomass Conference & Exhibition	By Project fund

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. Narayanan	M S Narayanan Memorial Oration Award	Acoustical Society of India	For contributions to Acoustics	Dec. 2007
2.	Dr. V. Ganesan	Certificate of Merit for 2006-2007	Instn. of Engineers, India	Certificate of Merit for 2006-2007 was awarded for the paper "Mean flow field measurements in an axisymmetric afterburner model with V-Gutter Flame Stabilizer" published in the JI. of Instn. Of Engineers, India	Dec. 14, 2007
3.	Dr. C. Balaji	Prof. K.N. Seethramu Medal & Prize	ISHMT	Research in Heat & Mass Transfer	Jan. 3, 2008

Books, Monographs authored/co-authored:

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
Books:				
1.	Dr. V. Babu	Gas Dynamics	ANE Books, India CRC Publications, New York	Dr. V. Babu
2.	Dr P Chandramouli	Theory of Vibration with Applications	Pearson India	W. T. Thomson and M. Dahleh
3.	Dr. V. Ganesan	Internal Combustion Engines	Tata McGraw Hill, (3 rd Edn.) New Delhi	
4.	Dr. S.P.Venkateshan	Mechanical Measurements	Ane Books India and CRC Press USA	Sole Author

Fellowships of Academies and Professional Societies:

Sl. No.	Name of faculty	Year of admission
Others:		
1.	Dr. A.Mani (Life Member, Desalination Society)	2007

Journal Editorial Boards:

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
1.	Dr. K. Srinivasan	Member	International Journal of Aeroacoustics
2.	Dr S. Srinivasa Murthy	Regional Editor	Applied Thermal Engineering / Elsevier
3.	Dr S. Srinivasa Murthy	Editorial Board	Int. Journal of Low Carbon Technologies / Cambridge University Press
4.	Dr S. Srinivasa Murthy	Editorial Board	Journal of Energy, Heat and Mass Transfer / APCEE
5.	Dr S. Srinivasa Murthy	Editorial Board	Innovative ACR / Hightech Publishers

Sl. No.	Name of faculty	Position (Editor/Member)	Journal Name
6.	Dr. S. Narayanan	Member	Int. J. of Computational Mechanics
7.	Dr. S. Narayanan	Member	Acoustical Society of India
8.	Dr. S. Narayanan	Board Member	International Association of Structural Control and Monitoring
9.	Dr.M.Singaperumal	Member	International Journal of Automation & Control
10.	Dr.M.Singaperumal	Chairman	PG 18 of the Bureau of Indian Standards
11.	Dr. M. Govardhan	Member	Journal of Thermal Science

4.13.4 Design and Development Activities:

New facilities added or major equipment procured:

Sl. No.	Name of Equipment	Value (Rs. in lakhs)
1.	1146A 100A DC/70A AC 100 KHZBW Current Probe with BNC Terminator	Rs.48,357.00
2.	AB 135 – SIFACT EI.Analytical Balance	CHF 3450.00
3.	Particle Image Velocimetry (PIV)	1 crore

Patents:

Patents filed:

Sl. No.	Name of faculty	Topic of patent
1.	Dr. A. Ramesh and Mr. Loganathan (Ph.D. student)	Mixture Injection System for a Two Stroke SI Engine for Improving Fuel Economy and Reducing HC Emissions

Patents awarded:

Sl. No.	Name of faculty	Topic of patent
1.	Dr. G. Venkatarathnam	A Refrigerant Composition for Refrigeration Systems, India Patent No. 211637
2.	Dr. G. Venkatarathnam	Entitled A Refrigerant Composition for a Single Stage Refrigerant System, India Patent No. 205644

4.13.5 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
1.	Transient temperature, pressure and flow distribution in the steam generator building consequent to a sodium pool	April 2005 - April 2008	IGCAR, Kalpakkam	Rs. 12 Lakhs	Dr. U. S. P. Shet Dr. T. Sundararajan Dr. T. Sreenivas Jayanti
2.	Development of Mathematical model for melt relocation studies	07.11.2005 - 06.11.2008	IGCAR, Kalpakkam	Rs. 12.65 lakhs	Dr. T. Sundararajan Dr. S. K. Das
3.	Acoustic Reating Effects in Hartmann Whistle	March 2007 - March 2009	ISRO	Rs. 12 Lakhs	Dr. K. Srinivasan Dr. K. Ramamurthi Dr. T. Sundararajan

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
29.	Development of an Engine management System for a small Two Wheeler Engine	18 months from 15 th June 2005	TIFAC-DST	Rs. 110 lakhs	Dr. A. Ramesh Mr. P.V. Manivannan
30.	Augmentation of Research Facilities	2006-2008	DST	Rs. 158 lakhs	Dr. V. Ganesan Dr. J.M. Mallikarjuna
31.	Exploratory studies on a cavitation-induced ignition system for non-hypergolic propellant rockets	2 years	ISRO-IIT(M)	Rs.18.66 lakhs	Dr. Dhiman Chatterjee & Dr. S. Kumaraswamy
32.	Experimental Studies on Hydraulic Transport of Large Solids in Hoses	4 years	National Institute of Ocean Technology	Rs. 29.82 lakhs	Dr. S. Kumaraswamy
33.	Porous Medium Enhanced Energy Efficient Solar Parabolic Through Collector	3 ½ years From April 2005	MHRD	Rs. 15.00 lakhs	Dr. K. Srinivas Reddy Dr. Arunn Narasimhan
34.	Development of Mathematical Model for Melt Relocation Studies	3 years w.e.f. Sept. 2005	IGCAR-IITM Cell	Rs.16.09 lakhs	Dr. T. Sundararajan Dr. Sarit Kumar Das
35.	Unit of Nano Science Technology (UNANST-DST)	1.12.2004 to 30.11.2009	DST	Rs. 230.00 lakhs	Dr. T. Pradeep Dr. Sarit K. Das Dr. T. Sundararajan
36.	Thermal and Electrical Conduction in Nano-fluids	5.12.2004 to 4.2.2007	DST	Rs. 7.60 lakhs	Dr. Sarit K. Das Dr.T. Sundararajan T. Pradeep A. Dasgupta N. Dasgupta
37.	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	Rs. 15.58 lakhs	Dr. S.P. Venkateshan Dr. C.Balaji
38.	Experimental and Modelling Studies of Free Breathing Fuel Cells	2 years	Ministry of New & Renewable Energy	Rs.15.35 lakhs	Dr. Ajit Kumar Kolar Dr. K. Srinivas Reddy
39.	Retrieval of Atmospheric Temperature and Humidity Profiles from Satellites infrared Sounder Observations	3 years	Space Appln. Centre, ISRO, Ahamedabad	Rs.13.15 lakhs	Dr. C. Balaji Dr. S.P. Venkateshan
40.	Augmentation of Research Facilities	March 2005- Feb. 2010	DST	Rs. 38.00 lakhs	Dr. M. Govardhan Dr. N. Sitaram Dr. BVSSS Prasad

Sl. No.	Title	Period	Funding Agency	Amount (Rs. in lakhs)	Co-ordinators
41.	Development of a CFD modeling blockage coolant flow path in a fast breeder reactor fuel sub-assembly	3 years	IGCAR	Rs.12.91 lakhs	Dr. BVSSS. Prasad
42.	Turbine rotor / stator Interaction including film cooling effect	April 2003-Sept.2007	ARDB	Rs. 9.00 lakhs	Dr. N. Sitaram Dr BVSSS Prasad

Industrial Consultancy projects:

Sl. No.	Name of faculty	Title	Industry	Amount (in Rupees)
1.	Dr G.Venkatarathnam	Thermal Design of a High Tc Transformer	BHEL, Hyderabad	Rs. 10 lakhs
2.	Dr A .Mani	Design of solar spray evaporation ponds for textile effluents	Tamilnadu Cooperative Textile Processing Mills Ltd, Erode	Rs. 50,000/-
3.	Dr P. Chandramouli	Seismic Testing	Several Industries	Rs. 47.46 lakhs
4.	Dr P. Chandramouli	Verification of FEA Lifting Beams	Uniq. Industrial Handlers PVT LTD. Mumbai 046 07 – 08 Rane Steering Systems. Siga.Coil. 07 – 08 Sundaram fasteners LTD. Autolee DiVN, Gumnidipoondi	Rs. 56,180
5.	Dr K.Gopinath and Dr A.S.Sekhar	"Testing of hydrostatic bearing modules"	M/S Zetatek Industries Limited, Hyderabad (MARCH 2008)	
6.	Dr K.Gopinath and Dr M.M.Mayuram	RCF testing of case carburized gear material,	Ashok Leyland, 2007-2008.	Rs. 12 lakhs
7.	Dr S. Narayanan	Seismic Testing of 420 KV CB SS/Na	(ABB, Vadodara)	Rs. 1,06 lakhs
8.	Dr Krishna Kannan	Secured a RBIC project with MRF on Mathematical modeling of curing of a tire.	RBIC	6.00 Lakhs from MRF
9.	Dr. V Raghu Prakash	strength analysis for pipe section of a reactor	Harita –NTI	Rs. 15,000/-
10.	Dr. V Raghu Prakash	Analysis of Pipe section for strength,	Hawth-NTI	Rs. 15,000/-
11.	Dr. P. Chandramouli	Acoustic absorbtian ceaficant measurements	CGL, Mumbai	Rs. 22,472

Sl. No.	Name of faculty	Title	Industry	Amount (in Rupees)
12.	Dr. P. Chandramouli	Power steering Fluid reservoir bracket	Rane TRW,	Rs. 30,000
13.	Dr. P. Chandramouli	Endurance Design review of Lifting Beam and Cradle	Unicrane Handling Equipment,	Rs. 34,000
14.	Dr N. Ramesh Babu	Design recovery, analysis and representation of PLC logic code, Sponsoring Agency	General Motor-India Science Lab.	Rs.19.01 lakhs
15.	Dr N. Ramesh Babu	Development of Ice bonded abrasive polishing process.	Sponsoring Agency- Aeronautical Research and Development board.	Rs.16.32 lakhs
16.	Dr. A. Ramesh Dr. Krishna Vasudevan (EE)	Modelling and Simulation of Diesel Engine and Three Phase Traction alternator of a Diesel Multiple Unit (DEMU) using MATLAB & SIMULINK	BHEL, Bhopal	Rs.10.5 lakhs
17.	Dr. Kumaraswamy, S., Dr. Swaminathan, T. (Ch.E.) and Dr. Ramamurthy, K. (C.E.)	Establishment of the RO Plant Including Treatment of The RO Reject	Tamilnadu Coop. Textile Processing Mills Ltd	Rs. 3.50 lakhs
18.	Dr. Kumaraswamy, S., Dr. Swaminathan, T. and Dr. Murthy, D.V.S. (Ch.E.)	Improvement of Existing Effluent Treatment Plant	Tamilnadu Coop. Textile Processing Mills Ltd	Rs. 1.00 lakh
19.	Dr. Kumaraswamy, S.	Expert Opinion on Pump Test Rig Arrangement	Titanium Tantalum Products Ltd	Rs. 30, 000
20.	Dr. Kumaraswamy, S.	Pump Testing and Verification of Guarantees	Flowell Pump Industries	Rs. 25, 000
21	Dr. Kumaraswamy, S.	Review of DPR for Mini Hydel Scheme	Ceebros Power Generation Pvt.ltd	Rs. 50, 000
22.	Dr. Kumaraswamy, S.	Consultancy for development of pumps	Beacon weir Ltd.	Rs. 1.00 lakh
23.	Dr. Kumaraswamy, S.	Expert technical opinion on the proposed sizing of the Pump	Titanium Tantalum Products Ltd	Rs. 10, 000
24.	Dr. K.Srinivas Reddy	Thermal Conductivity Test for LRB Mattresses and Calcium Silicate	M/s Lloyd Insulations (India) Ltd., Chennai	Rs. 33, 000
25.	Dr. C. Balaji Dr. Balaji Srinivasan Dr. Harishankar Ramachandran	Distributed High Temperature Sensor for Flue Gas Monitoring – Technology Demonstration	BHEL Thiruchirappalli	Rs. 3.96 lakhs

Sl. No.	Name of faculty	Title	Industry	Amount (in Rupees)
26.	Dr. BVSSS. Prasad	Air flow test for unitle floor grille with Damper and other samples	Hitech Office Systems	Rs. 40, 000
27.	Dr. M.Govardhan	Performance Evaluation of D.E. Motors	CVRDE, Avadi	Rs. 50, 000

RBIC projects:

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	Dr. V. Babu	Detailed investigation of the effect of chemistry and turbulence chemistry interaction of the supersonic combustion of kerosene	DRDL	Rs. 20 lakhs
2.	Dr S. Srinivasa Murthy Dr. M. P. Maiya	Design and Development of Metal Hydride based Cooling System	Thermax Ltd., D-13, MIDC Indl. Area, Pune - 411019	Rs. 15 lakhs
3.	Dr P. Chandramouli	MBT Arjun Vehicle Dynamics Simulator	CVRDE, Chennai	Rs. 49.4 lakhs
4.	Dr.M.Singaperumal and Dr.T.Asokan	Development of Mathematical Model for Jet Pipe Servo valve RCI(DRDO)	RCI (DRDO), Hyderabad	Rs.9.54 lakhs
5.	Dr M.Singaperumal Dr.T.Asokan Dr.A.Mahindrakar	AUV development	NSTL, Vizag	Rs.38.30 lakhs
6.	Late Dr.Y.G.Srinivasa	Hardware-in-Loop design, Fabrication and Testing of a Real-Time Closed-Loopmicropump	ISRO, ISRO, 2004-2006	Rs.10,71,600
7.	Dr.A.Ramesh Mr.P.V.Manivannan Dr.J M Mallikarjuna Dr.V.Ganesh	Development of Hydrogen Fueled IC Engine for	TATA Motor 1 ½ years (extended for one year)	Rs. 93.6 lakhs
8.	Dr. V. Ganesan	Modeling of Steady Flow Through Intake and Exhaust Manifolds	Infosys Technologies Ltd., Bangalore	Rs. 15.00 lakhs
9.	Dr. V. Ganesan	CFD Modeling and Analysis of Intake and Exhaust System	e-Engg Solution, L & T Technology, Vadodara	Rs. 12.00 lakhs
10.	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	Rs. 9.2 lakhs
11.	Dr. A. Ramesh Dr. V. Ganesan Dr. 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	Rs. 94.00 lakhs
12.	Dr. V. Ganesan	Characterization of Urea Spray Delivery, Mixing and Hydrolysis in a SCR Device	M/s General Motors, Bangalore	Rs. 15,33,714

Sl. No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
13.	Dr. Kumaraswamy, S., Dr. Balabaskaran, V. and Dr. Dhiman Chatterjee	CFD Simulation of flow through Francis Turbine using CFX software and its validation for tested models	BHEL, Bhopal	Rs. 14 lakhs
14.	Dr. Kumaraswamy, S., Dr. Balabaskaran, V. and Dr. Dhiman Chatterjee	Development of methodology for CFD Analysis for Kaplan Turbine	BHEL, Bhopal	Rs. 18 lakhs
15.	Dr. Kumaraswamy, S.	Configuration and design of high pressure hydraulic booster turbopump	LPSC, Trivandrum	Rs. 4.75 lakhs
16.	Dr. M. Govardhan	CFD analysis of KKK fan with TLT blade profile	BHEL, Ranipet	Rs. 8.50 lakhs
17.	Dr. BVSSS. Prasad	CFD Modeling for combustion and NO _x emission in pulverized coal fired Boilers	BHEL, Trichy	Rs. 8.15 lakhs
18.	Dr. BVSSS. Prasad	CFD Modeling of cyclone separator	BHEL, Trichy	Rs. 6.00 lakhs
19.	Dr. BVSSS. Prasad Dr. PST. Sai	CFD modeling and investigation of gasifier to Optimize methodology for scaling up	BHEL, Trichy	Rs. 15.00 lakhs
20.	Dr. BVSSS. Prasad Dr. N. Sitaram	Computational Investigation and Testing of Fan Model	Cethar Vessals Trichy	Rs. 7.50 lakhs
21.	Dr. BVSSS. Prasad	Design review of pressurized fluidized bed gasifier	BHEL, Trichy	Rs.20.50 lakhs
22.	Dr. BVSSS. Prasad	Hydrodynamic Modelling of circulating fluidized bed combustor	BHEL, Trichy	Rs.9.52 lakhs
23.	Dr. BVSSS. Prasad	Analysis of pressurised heat recovery system for IGCC application	BHEL, Trichy	Rs.20.00 lakhs
24.	Dr. BVSSS. Prasad	Gas flow modeling of triple pressure reheat HRSG behind gas turbine exhaust	BHEL, Trichy	Rs.6.00 lakhs

Retainer Consultancy:

Sl.No.	Name of faculty	Title	Industry	Amount (Rs. in lakhs)
1.	P. Chandramouli	Nonlinear dynamics of engines	Boeing USA	Rs. 3.5 lakhs

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

- MoU was signed between Consortium and DST: Technology Development Project on 'Low Cost Flexible Automation' at IIT Madras on November 1, 2007.
Consortium members:
Lead Agency: IIT Madras (PI:Dr. M.Singaperumal)
R & D Partners: M/s Systemantics India Pvt.Ltd, Bangalore, IIT Bombay, M/s Magtorque Pvt.Ltd., Hosur
User Partners: TVS Motor Co., Mahindra and Mahindra, Sona Koyo, TVS Lucas, MICO Ltd. - Sponsoring Agency – TIFAC
- Kyungpook National University, Daegu South Korea

S.No	Name of the student	Programme
1	Kim Seung Yeon Kyungpook National University, Daegu South Korea	Modeling and verification cutting forces while micro machining of composites
Summer Internship		
1	U.N. Preetha, PSG College of Technology, Coimbatore.	Investigations into the influence of chatter on micro channel machining

Research Publications of the faculty members & research scholars:

Total No. of papers published in Refereed National Journals	–	06
Total No. of papers published in Refereed International Journals	–	149
Total No. of papers presented in National Conferences	–	35
Total No. of papers presented in International conferences	–	104

Details:

In Refereed National Journals:

1. Sreekumar M., Singaperumal M, Nagarajan T, Zoppi M., Molino R, (University of Genova, Italy) "Recent advances in nonlinear control technologies for shape Memory alloy actuators", Journal of Zhejiang University Science A (Springer), (2007),Vol.8, 818-829.
2. Somashekhar S. H., Singaperumal M., and Krishna Kumar R, "Mathematical modeling and simulation of a jet pipe electrohydraulic Flow control servo valve" Proc. Instn Mech. Engrs, Part I: J.Systems and Control Engineering (2007), 221(3), 365-382.
3. M. Govardhan, O. G. Krishna Kumar and N. Sitaram, "Computational Study of the Effect of Sweep on the Performance and Flow Field in an Axial Flow Compressor Rotor", Proceedings of the Institution of Engineers, Part A: Journal of Power and Energy, Vol. 221, No. 3, pp. 315-329, 2007.
4. B Ramamoorthy, Narayanaperumal and Arunachalam, "Texture Analysis for Grinding Wheel Wear Assessment using Machine Vision" Proceedings of the Intl .Jl of Institution of Mechanical Engineers, Part B, Journal of Engineering Manufacture 221,(B3) ,pp 419-430,2007.
5. Loganathan, M and Ramesh, A., "Study on manifold injection of LPG in a two Stroke SI engine",Journal of the Energy Institute, UK, Vol.80, No. 3, September 2007, pp 168-174/7.
6. An investigation on fretting wear behaviour of MOS2-bonded coating on AISI 4340 steel Ramesh R, Gnanamoorthy R Proceedings of the Institution of Mechanical Engineers Part J-Journal of Engineering Tribology VOLUME: 221 ISSUE: J1 PAGES: 41-47 FEB 2007.

In Refereed International Journals:

1. U. K. Sarkar and K. Ramamurthi, Flow Visualization of Sprays Formed by Bubbly, Slug and Annular Flows in Effervescent Atomizer, J. Flow Visualization and Image Processing, Vol. 14, pp. 397-408, 2007
2. S. Prasanth Kumar, BVSS Prasad, G. Venkatarathnam, K. Ramamurthi and S. Srinivasamurthy, Influence of Surface Evaporation on Stratification in liquid Hydrogen Tanks of Different Aspect Ratios, Int. J. Hydrogen Energy, Vol. 32, pp. 1954-1960, 2007.
3. K. Ramamurthi, S. Sunil Kumar and P. M. Abhilash, Influence of Molybdenum Sulfide Coating on Thermal Contact Conductance, J. Thermophysics and Heat Transfer, Vol. 21. No. 4, pp. 811-813, 2007.
4. N. Venkatesh, T. M. Varghese, P. M. Ajayalal, D. Subramanian and K. Ramamurthi, Frequency Response of Canalization Line Containing Two Fluids, Measurement, Vol. 40, pp. 574-584, 2007.
5. R. V. Murugan, R. Nagarajan, and K. Ramamurthi, Experimental Investigation of Ultrasonically-Enhanced Mixing of a Thermally Stratified Liquid in an Insulated Container, Int. Journal of Transport Phenomenon, Vol. 9, pp. 311-320, 2007.
6. Kanichi Saito, V. Raghavan and George Gogos, "Numerical study of transient laminar natural convection heat transfer over a sphere subjected to a constant heat flux", Heat and Mass Transfer, Vol. 53 (9), July 2007, pp. 923-933.
7. Shu Yang, V. Raghavan and George Gogos, "Numerical study of Transient laminar natural convection over an isothermal sphere", International Journal of Heat and Fluid Flow, Vol. 28 (4), August 2007, pp. 821-837.
8. V. Raghavan, Daniel N. Pope and George Gogos, "Effect of Non-Luminous Flame Radiation During Methanol Droplet Combustion", Combustion Science and Technology, Vol. 180 (3), March 2008, pp.546-564.
9. K. Srinivasan, S. Narayanan and O. P. Sharma, "Numerical Studies on Erosive Burning in Cylindrical Solid Propellant Grain", Heat and Mass Transfer, Vol. 44, No.5, March 2008, pp. 579-585.

49. Balamurugan & S. Narayanan, "Piezoelectric higher order plate element for the Analysis of multi-layer smart composite laminates" *Smart materials and Structures*, 16(6), 2026-2039, Dec. 2007.
50. L.V.V. Gopula Rao and S. Narayanan, "Preview control of random response of a half-car vehicle model traversing rough road". *Journal of sound and vibration*, vol. 310 (1-2) February 2008, 352-365.
51. P. Chandramouli, M. D. Narayanan, S. Narayanan, C. Padmanabhan, 2008, "Multi-harmonic excitation for nonlinear system identification", *Journal of Sound & Vibration*, Vol. 311, pp. 707-728.
52. V Manoj, K Manohar Shenoy and K. Gopinath, The developmental studies on Rolling contact fatigue test rig, *Wear Journal*, Vol. 264, issue 7-8, March 15,2008 , pp708-718
53. Rahul Prafulla Talegaokar and K. Gopinath, "Influence of alumina fiber content on properties of Non-Asbestos Organic Brake Friction Material" *Journal of Reinforced Plastics and Composites*, (accepted for publication)
54. J K N Murthy, S Bysakh, K Gopinath, B Venkataraman, Microstructure Dependent Erosion in Cr3C2-20(NiCr) Coating Deposited by a detonation gun, *Journal of Surface and Coating Technology*, Vol. 202 (1), November 2007, pp 1-12.
55. S. Narayanan M. Ganesh and S. Narayanan, "Simultaneous optimization of structure and control of smart tensegrity structures", *Journal of intelligent material systems and structures*.
56. K. Gopinath Development studies on rolling contact fatigue rig V. Manoj, K. Manohar Shenoy & K. Gopinath *Wear* 264 (2008) 708 – 718.
57. T. Ramesh Babu and A. S. Sekhar, "Shaft crack identification using artificial Neural Networks and Wavelet transform data of a Transient Rotor" –, (Accepted) to be published in *Journal of Advances in Vibration Engineering*. (Scheduled for Vol. 9 issue 1).
58. M. M. Mayuram & S Shankar, "Effect of strain hardening in Elastic Plastic Transition Behavior in a Hemisphere in contact with a Rigid Flat", *International journal of solids and structures*. Vol.45(10), pp.3009-3020
59. M.D. Narayanan, S. Narayanan and Chandramouli Padmanabhan, "Multiharmonic excitation for nonlinear system identification", *Journal of Sound and vibration*, 311, (3-5), 707-728, 2008.
60. Gopala Rao L V V, Narayanan S, "Preview control of random response of a half car vehicle model traversing a rough road", *Journal of Sound and Vibration*, 310(1-2), 352-365, 2008.
61. K Ramesh Kumar and S. Narayanan "Optimal location of piezoelectric actuators and sensors for vibration control of plates", *Smart Materials and Structures*,16(6),2680-2691,2007
62. M Seshagiri Rao and S. Narayanan "Active control of wave propagation in multi-span beams using distributed piezoelectric actuators and sensors", *Smart Materials and Structures*, 16(6), 2577-2594, 2007.
63. Balamurugan and S. Narayanan "A Piezoelectric higher order plate element for the analysis of multi-layer smart composite laminates", *Smart Materials and Structures*, 16, 2026-2039, 2007.
64. Ganesh Raja M and Narayanan S "Active control of tensegrity structures under random excitation", *Smart Materials and Structures*, 16, 809-817, 2007.
65. M.D. Narayanan, S. Narayanan and P. Chandramouli "Parametric Identification of a nonlinear system using chaotic excitation", *ASME Journal of computational and nonlinear dynamics*", 2, 225-231, July 2007.
66. P. Ramachandran and S. Narayanan "Evaluation of modal density, radiation efficiency and acoustic response of longitudinally stiffened cylindrical shell", *J. of Sound and Vibration*, 301, 1-2,154-174, 2007.
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68. M.D. Narayanan, S. Narayanan and P. Chandramouli "Parametric Identification of a nonlinear system using Multiple Trials", *Nonlinear Dynamics*, 48 (4), 341-360, 2007.
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71. P.Priya, B.Ramamoorthy," The Influence of Component Inclination on Surface Finish Evaluation Using Digital image Processing", International Journal of Machine Tools and Manufacture, 47,(2007), pp570-579.
72. B. Dhanasekar, B.Ramamoorthy, "Digital Speckle Interferometry for assessment of surface roughness" Intl. J. of Optics and Lasers in Engineering, 46(2008) pp272-280.
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74. M. Abdul Majeed, L. Vijayaraghavan, S.K. Malhotra and R. Krishnamurthy, Ultrasonic machining of Al₂O₃/LaPO₄ composites "International Journal of Machine Tools and Manufacture", Volume 48, Issue 1, January 2008, Pages 40-46.
75. D.S. Srinivasu and N. Ramesh Babu (2008) A neuro –genetre approach for selection of procuce parameters in AWJ Conduing variation in diameter of focurring wozzle, Applied Self Computing, 8, 809-817.
76. D. S. Srinivasu and N. Ramesh Babu, An additional catolal strategy for the AWJ cutting procer is the integratous opf vision –based maintaing and a neuro –genetre castroal strategy, International Journal Advanced Manufacturing Technology (accepted) DOI:10.1007/S00170-007-1294-3.
77. Darwin M and G.L. Samuel, Design and Implementation of Low Cost Automation in Heavy Vehicles Brake Assembly Line to increase Productivity, International Journal of Productivity and Quality Management, (scheduled for publication)
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85. Porpatham, E., Ramesh, A., Nagalingam, B., 'Effect of hydrogen addition on the performance of a biogas fuelled spark ignition engine', International Journal of Hydrogen energy, Volume 32, Issue 12, August 2007, pp 2057-2065
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92. Balaji, C. Holling, M. and Herwig, H., "A Temperature Wall Function for Turbulent Mixed Convection from Vertical, Parallel Plate Channels", *International Journal of Thermal Sciences*, 2007, (available online)
93. Rameche Candane, S., Balaji, C. and Venkateshan, S.P., "A Methodology for Coupled Aero Heating and Ablation Analysis for Sphere Cylinder Geometrics", *International Journal of Heat and Technology*, 2007 (available online)
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32. Pankaj Kumar and S. Narayanan "The Response Statistics, Jump And Bifurcation of Nonlinear Dynamical Systems Subjected To White Noise And Combined Sinusoidal And White Noise Excitation ", GT 2007 28102, Paper to be presented at the ASME Conference Turbo Expo-2007, Power for Land, Sea and Air, Montreal, Canada. 2007.
33. Muralidhara,N.J.Vasa,M.Singaperumal, "A Piezoactuated Tool Feed Mechanism for Micro EDM" , Proceedings of the 22nd Annual ASPE Meeting, USA., 14 – 18, October 2007, Dallas, Texas (USA)
34. R.M.Kuppan Chetty, M.Singaperumal, T.Nagarajan, " Modeling and Control of Behavior Based mobile Robots – A design perspective", pp. 57 – 62, International Conference on Precision, Meso, Micro and Nano-Engineering (COPEN 2007), 13-14 December 2007, College of Engineering, Trivandrum, India
35. Muralidhara, Dr.N.J.Vasa, Dr.M.Singaperumal, "Novel Application of Piezoactuated Tool Feed Mechanism to Micro EDM" , pp. 301 – 306, International Conference on Precision, Meso, Micro and Nano-Engineering (COPEN 2007), 13-14 December 2007, College of Engineering, Trivandrum, India
36. G.Satheesh Kumar, Dr.T.Nagarajan, "Characterization of Reconfigurable Stewart Platform", pp. 69 – 74, International Conference on Precision, Meso, Micro and Nano-Engineering (COPEN 2007), 13-14 December 2007, College of Engineering, Trivandrum, India.
37. T.Periasamy, T.Asokan, Dr.M.Singaperumal, "Study on Coupled Dynamics of an Underwater Vehicle-Manipulator System: A Bondgraph Approach, pp. 93 – 98", International Conference on Precision, Meso, Micro and Nano-Engineering (COPEN 2007), 13-14 December 2007, College of Engineering, Trivandrum, India
38. I.A.Palani, Dr.N.J.Vasa, Dr.M.Singaperumal, Investigation on laser annealing of silicon films by pulsed Nd:YAG laser, pp.215 – 220, 13-14 December 2007, College of Engineering, Trivandrum, India.
39. M.Sreekumar, Dr.T.Nagarajan, Dr.M.Singaperumal, "Parametric Approximation for Large Deflection of a Spatial Compliant Parallel Mechanism", International Conference on Advances in Manufacturing Technology(ICAMT 2008) for Young Engineers, Organized by Indian National Academy of Engineering (INAE) & Department of Atomic Energy (DAE), ISMQC paper, 6-8, February 2008 IIT Madras, Chennai
40. Muralidhara,Dr.N.J.Vasa, Dr.M.Singaperumal, "Investigation on Machining of micro channels on silicon after using micro EDM", C – 107, International Conference on Advances in Manufacturing Technology(ICAMT 2008) for Young Engineers, Organized by Indian National Academy of Engineering (INAE) & Department of Atomic Energy (DAE), 6-8, February 2008 IIT Madras, Chennai
41. I.A.Palani, Dr.N.J.Vasa, Dr.M.Singaperumal, Investigation on Ablation Threshold in annealing of silicon films by pulsed Nd:YAG laser", International Conference on Advances in Manufacturing Technology(ICAMT 2008) for Young Engineers, Organized by Indian National Academy of Engineering (INAE) & Department of Atomic Energy (DAE), 6-8, February 2008, IIT Madras, Chennai
42. DineshThakur, B.Ramamoorthy, Effect of PVD(TiN/TiAlN)coated insert on the Machinability of Inconel 718, IOM East Asia, 6th materials Processing, Properties and Performance (MP3) conference, Beijing China, (Proceedings on CD), 2007
43. Elansezhian, Ramamoorthy B, Kesavan nair, Effect of Surfactants on the hardness and Micro structure of Electroless Ni – P coating Corcon 2007, Intl conference on Corrosion 26-28 Sept 2007 Mumbai, India. (Proceedings on CD)
44. B. Dhanasekar and B.Ramamoorthy, "Assessment of Surface Roughness of Moving Surfaces" ISMQC 2007 21-24 Nov 2007, IIT Madras Pp 105 –109
45. Manesh KK, Ramamoorthy B, and Singaperumal M, "Assessment of Surface Roughness of Moving Surfaces" B. Dhanasekar and B.Ramamoorthy, ISMQC 2007 21-24 Nov 2007, IIT Madras PP 48-53
46. B. Ramamoorthy, R. Elansezhian and P. Kesavan Nair, Effect of Surfactants on the Surface Roughness of Electroless Ni-P Coatings, ISMQC 2007 21-24 Nov 2007, IIT Madras. PP 94 – 99
47. A S Varadarajan, LD Wins, Ramamoorthy B, ANN assisted Sensor Fusion Model for predicting tool wear online during hard turning, ISMQC 2007 21-24 Nov 2007, IIT Madras. Pp 267-270
48. B. Anand Ronald, L. Vijayaraghavan and R. Krishnamurthy, "Influence of reinforcement particle size on the grindability of Aluminium based Metal Matrix Composites", International Conference on 'Total Engineering,

Analysis & Manufacturing Technologies' (TEAMTECH 2007), 4th – 6th Oct. 2007, Indian Institute of Science (IISc), Bangalore, INDIA, pp.98. (Awarded best paper)

49. B.Anand Ronald, L.Vijayaraghavan and R.Krishnamurthy, "Evaluation of Surface quality of ground Al/SiC_p Metal Matrix Composites", 9th International Symposium on Metrology and Quality Control (ISMQC) conference, held in IIT Madras, between 21-24th November 2007, pp.110- 114.
50. Dinesh Thakur, Dr. B. Ramamoorthy, Dr. L. Vijayaraghavan , "Effect of PVD (TiN/TiAlN) coated insert on the machinability of Inconel 718", 6th International conference on Materials Processing for properties and performance (MP3 2007), Beijing, China,14th -16th September, 2007, (Proceeding in CD form).
51. K.Shekhar Reddy, Dr. Dr. L. Vijayaraghavan, "Study on influence of cutting parameters on surface roughness during the milling of metal matrix composites", International Conference on Frontiers in Design & Manufacturing Engineering, 1st – 2nd February 2008, pp. 162-165.
52. Shital Chiddarwar, and N. Ramesh Babu (2007)"coordination strategy for path planning of multiple manipulators in workcell environment", Proc.24th International Symposium on Automation and Robotics in construction, ISARC 07, Sep 19-21, PP 185-192.
53. G. Rajamohan, M.S. Shunmugam and G.L. Samuel, Sampling strategies for verification of Freeform Profiles using coordinate Measuring Machines, Proceedings of 9th ISMQC, IIT Madras, PP, 135-140
54. Preetha U.N, Srinivasa Y.Vand Samuel G.L., Investigation Into the influence of chatter and vibration on micro channel milling COPEN 2007, International Conference on Precision, Meso , Micro and Nano Engineering, 13-14, December 2007.
55. Ganesan, V., "Non-Reacting and Recting Flow Analysis in an Aeroengine Gas Turbine Combustor Using CFD", SAE World Congress, 2007, April 16-19, 2007, Detroit, USA, Paper No. 2007-01-0916
56. Raghav, H.V. and Ramesh, A., "A New Hydraulic Servo Variable Valve Actuation Concept – Simulation Studies", SAE World Congress, 2007, April 16-19, 2007, Detroit, USA, Paper No.207-01-1298.
57. James Gunasekaran, E and Ganesan, V., "Simulation of Fuel-air Interaction in a Four Stroke Four Valve Direct Injected Spark Ignition (DISI) Engine", SAE World Congress, 2007, April 16-19, 2007, Detroit, USA, SAE Paper No. 2007-01-0153.
58. Jyothishkumar, V. and Ganesan, V., "Study of Reacting Flow Analysis in an Annular Gas Turbine Combustor", 6th Asia-Pacific Conference on Combustion, Nagoya Congress Center, Nagoya, Japan, May 20-23, 2007.
59. Thiyagarajan, P. and Ganesan, V., "Effect of Vane Design on the Performance of a Uniflow Cyclone" , Third International Conference on Thermal Engineering: Theory and Applications, Amman, Jordan, May 21-23, 2007.
60. Anand Kumar, T., Mallikarjuna, J.M. and Ganesan, V., "Effect of Ignition Timing on Combustion in a Stratified Charge DISI Engine", Third International Conference on Thermal Engineering:Theory and Applications, Amman, Jordan, May 21-23, 2007.
61. Jyothishkumar, V. and Ganesan, V., "Reacting Flow Analysis Inside an Aero-Engine Annular Combustor with Conjugate Heat Transfer", Third International Conference on Thermal Engineering: Theory and Applications, Amman, Jordan, May 21-23, 2007.
62. Jayashankara, B. and Ganesan, V., "Effect of Engine Speed and Intake Pressure on Flow Structure Inside the cylinder of a DI Diesel Engine", Third International Conference on Thermal Engineering: Theory and Applications, Amman, Jordan, May 21-23, 2007.
63. Jyothishkumar, V. and Ganesan, V., "Study of Reacting Flow Analysis in an Annular Gas Turbine Combustor", Third International Conference on Thermal Engineering: Theory and Applications, Amman, Jordan, May 21-23, 2007
64. Benny Paul and Ganesan, V., "Effect of spiral manifold configuration on swirl and emissions in a DI diesel engine - A CFD study", Third International Conference on Thermal Engineering. Jordan, May 2007.
65. Benny Paul and V. Ganesan, "Effect of helical-spiral combined manifold configuration on swirl and emissions in a DI diesel engine a CFD study", International Conference on Computer Aided Engineering, IIT Madras, India, December 2007

66. Jagadeesh, S.K., Ramesh, C.S. and Mallikarjuna, J.M., "Prediction of Cooling Curves during Solidification of Al 6061-SiC_p Based Metal Matrix Composites using Finite Element Analysis", International Conference on Computer Aided Engineering 2007, Dec. 13-15, 2007, IIT Madras
67. Swami Nathan, S, J. M. Mallikarjuna and A. Ramesh, "Effect of Intake Charge and Coolant Temperature on Combustion and Emissions of a HCCI Engine – An Experimental Study", International Conference on I.C. Engines and Combustion, JNTU, Dec. 6-8, 2007. (Won best paper award in the conference)
68. Bisrat Yoseph, S. Swami Nathan and J. M. Mallikarjuna, "Electrically Initiated Chemically Heated Catalytic Converter (EICHC) – An Experimental Study". International Conference on I.C. Engines and Combustion, JNTU, Dec. 6-8, 2007.
69. Govinda Samy, V, Mallikarjuna, J. M., "Optimization of Common Rail Fuel Injection System for Four-Cylinder Engine Application – An Experimental and Theoretical Approach". International Conference on I.C. Engines and Combustion, JNTU, Dec. 6-8, 2007.
70. Rajesh Ravi and J. M. Mallikarjuna, "Reduction of Nitric Oxides Emissions Of A Hydrogen Fuelled Engine Using UREA-SCR Technology – An Experimental Study". International Conference on I.C. Engines and Combustion, JNTU, Dec. 6-8, 2007.
71. Manohar Reddy S., J. M. Mallikarjuna and V. Ganesan, 'Flow Analysis of A Ventilated Disc Brake Rotor Using PIV'. International Conference on I.C. Engines and Combustion, JNTU, Dec. 6-8, 2007.
72. Swaminathan, S., Mallikarjuna, J.M., and Ramesh, A., "HCCI Engine Operation with Acetylene the Fuel", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 218-223
73. Srinivas Padala, Akshay Bansal and Ramesh, A., "Studis on an Air Assisted Gasoline Direct Injection System for a Two Stroke Engine", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 336-343
74. Mannivannan, P.V., Ciju Paul and Ramesh, A., "Development of a System for Control of Air Fuel Ratio in a Small Two Wheeler Engine", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 375-381
75. Subramanian, K.A., Das, L.M. and Babu, M.K.G., "Control of GHG Emissions from Transport Vehicles: Issues and Challenges", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 391-396.
76. Alok Kumar, Khatri, D.S., and Babu, M.K.G., "Experimental Investigations on the Performance, Combustion and Emission Characteristics of Alcohol Blended Gasoline in a Fuel Injected Ignition Engine", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 470-475.
77. Baiju, B., Das, L.M., and Babu, M.K.G., "Experimental Investigations on a Rubber Seed Oil Methyl Ester Fueled Compression Ignition Engine", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 505-513.
78. Deshmukh, B.S., Aghav, Y.V., Gokhale, N.P., Kumar, M.N., Ramesh, A. and Babu, M.K.G., "An Innovative EGR Admission Concept for Heavy Duty Diesel Engine", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 326-335.
79. Aghav, Y.V., Lakshminarayanan, P.A., Thatte, V.M., Kumar, M.N. and Babu, M.K.G., "Predicting Ignition Delay and HC Emission for DI Diesel Engines Encompassing Oxygenated Fuels", Proc. of the SAE India 5th International Mobility Conference on Emerging Automotive Technologies Global and Indian Perspective held at India Habitat Centre, New Delhi, Jan. 9-11, 2008, pp 3510357.
80. Mallikarjuna, J.M. and Murali Krishna, B., "Intake Valve Flow Analysis in a Direct Injection Diesel Engine using Particle Image Velocimetry", Proc. of the 2nd Int. Conference on Recent Advances in Fluid Mechanics, K.L. College of Engg., Vijayawada, India, March 3-6, 2008.

81. Mallikarjuna, J.M. and Murali Krishna, B., "Optical Diagnosis of Flow through the Intake Valve in a Direct Injection Diesel Engine", Proc. of the 15th ISME International Conference on Advances in Mechanical Engineering, Rajiv Gandhi Technological University, Bhopal, MP, India, March 18-20, 2008.
82. Bhaskar, P. and Shamit Bakshi, "Simulation of Single Droplet Impact onto Flat Surface", 7th ACFD Conference, Bangalore, Nov. 26-30, 2007.
83. Manohar Reddy, S., Mallikarjuna, J.M., and Ganesan, V., "Flow and Heat Transfer Analysis of a Ventilated Disc Brake Rotor using CFD", SAE 2008 World Congress, Cobo Center, Detroit, Michigan, USA, April 14-17, 2008.
84. Kumaraswamy, S. "The importance of flow measurement in selection and operation of pumps", Flotek Global conference on Towards intelligent flow measurement and control system, FCRI, Palakkad., 26-28 Sept. 2007
85. Kumaraswamy, S., "Micro Hydro – a source for decentralized power production", Low Carbon Technologies for decentralized power production – An Indo UK workshop, IIT Madras, Asia Pacific Centre for Energy and Environment and British Council, 17-18 March 2008.
86. Suresh, M.V.J.J., Ruben Sudhakar, D., Srinivas Reddy, K., and Ajit Kumar Kolar, "Effect of HRSG Configurations on IGCC Performance", International Seminar on Coal Gasification – Challenges and Opportunities for India, IIT Bombay, Oct. 3, 2007.
87. Sendhil Kumar, N. & Reddy, K.S., "Natural Convection Heat Loss in Modified Cavity Receiver with Secondary Reflectors", Proc. of the First International (2nd National) Conference on Advances in Energy Research (ICAR 2007), IIT Bombay, Dec. 2007, pp 176-181.
88. Karthikeyan, P. and Reddy, K.S., "Effective Thermal Conductivity Model with Contact Resistance for Two-Phase Materials", Proc. of the Int. and INCCOM-6 Conference on Future Trends in Composite Materials and Processing, IIT Kanpur, Dec. 12-14, 2007, pp 107-112.
89. Jaya Krishna, D., Tanmay Basak and Sarit K. Das, "Buoyancy Induced Flows in a Heat Generating Anisotropic Non-Darcy Porous Medium- Use of ACFD Approach", 44th Annual Technical Meeting, Society of Engineering Science (SES Conference), Texas A&M University Campus, College Station, Texas, USA, 21st – 24th October, 2007.
90. Jaya Krishna, D., Tanmay Basak and Sarit K. Das, "Anisotropy Effects on Heat and Fluid Flow for Natural Convection with a Heat Source in Fluid Saturated Porous Media", 44th Annual Technical Meeting, Society of Engineering Science (SES Conference), Texas A&M University Campus, College Station, Texas, USA, 21st – 24th October, 2007 (Secured 3rd Prize in poster competition).
91. Sujit Karmakar, Suresh, M.V.J.J., and Ajit Kumar Kolar, "Thermodynamic Analysis of Coal-based Power Plants with CO₂ Capture", International Conference on "Thermal Power India-2", Dec. 11-12, 2007, India Habitat Centre, New Delhi.
92. Kulasekharan N. and Prasad B.V.S.S.S., "Computational Investigations in the Trailing Edge Region of cooled Turbine Vane- Comparison of Different Channel Shapes" Proceedings of ASME Turbo Expo 2007, 14-17 May 2007, Montreal, Canada
93. M. Mahendran and N. Sitaram, "Computational Study of Mach Number Effects on Secondary Flows in a Linear Cascade", Proceedings of the 8th International Symposium on Experimental and Computational Aerothermodynamics of Internal Flows, paper no. ISAI8-0084, Lyons, France, July 2-5, 2007.
94. Anish and N Sitaram, "Impeller-diffuser interaction in a centrifugal compressor at various radial gaps", CD-ROM Proceedings of International Conference on Modeling and Simulation, August 11-13, 2007, Coimbatore, India.
95. Gaurav Mogra, Yogesh Kumar M, Prasad B.V.S.S.S and Leckner B "Optimal Feed Injection Velocity in a Fluidized Bed Reactor - a CFD study" Seventh Asian Computational Fluid Dynamics Conference, November 26–30, 2007, Bangalore, India.
96. S. Anish and N Sitaram, "Computational Analysis of Impeller/Diffuser Interaction in a Centrifugal Compressor with Vaned Diffusers", CD-ROM Proceedings of the 7th Asian Computational Fluid Dynamics Conference (ACFD7), pp. 524-536, Nov. 26-30, 2007, Bangalore, India.

97. U. Muneeswara Babu, N. Sitaram and BVSSS Prasad, "Computational Investigation of Effect of Axial Spacing on Blade Row Interaction in a 1½ Stage Axial Flow Turbine", CD-ROM Proceedings of the 7th Asian Computational Fluid Dynamics Conference (ACFD7), p. 143, Nov. 26-30, 2007, Bangalore, India.
98. U. Muneeswara Babu, N. Sitaram and BVSSS Prasad, "Computational Investigation of Effect of Axial Spacing on Blade Row Interaction in a 1½ Stage Axial Flow Turbine: Steady State Computations", Proceedings of International Conference on Computer Aided Engineering (CAE2007), pp. 412-420, Dec. 13-15, 2007, Chennai, India.
99. K. Goutham Kumar and N. Sitaram, "Computational Investigation of Effect of Relative Wall Motion on Flow and Losses in an Annular Turbine Rotor Impulse Cascade", Proceedings of International Conference on Computer Aided Engineering (CAE2007), pp. 498-506, Dec. 13-15, 2007, Chennai, India.
100. S. Anish and N Sitaram, "Computational Analysis of Impeller/Diffuser Interaction in a Centrifugal Compressor with Partial Vane Diffusers", Proceedings of International Conference on Computer Aided Engineering (CAE2007), pp. 429-436, Dec. 13-15, 2007, Chennai, India.
101. N. Sitaram and S. Uday Kumar, "Design, Fabrication, Calibration and Validation of Four-Hole Probe for Three-Dimensional Thin Shear Layer Measurements", CD-ROM Proceedings of International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM2007), Dec. 27-29, 2007, Kharagpur, India.
102. N. Sitaram, Varun Singh and S. Anish, "Design, Fabrication, Calibration and Validation of Single-Hole Probe for Three-Dimensional Turbomachinery Flow Measurements", CD-ROM Proceedings of International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM2007), Dec. 27-29, 2007, Kharagpur, India.
103. N. Sitaram, J. M. Issac and M. Govardhan, "Flow Field Measurements in the Passages of Different Types of Diffusers of a Centrifugal Compressor at Off Design Conditions", CD-ROM Proceedings of International Conference on Theoretical, Applied, Computational and Experimental Mechanics (ICTACEM2007), Dec. 27-29, 2007, Kharagpur, India.
104. B.V.S.S.S. Prasad and M. Ashok Kumar, "Computational heat transfer from a concave surface with impinging jets and film holes, at 19th National & 8th ISHMT-ASME Heat and Mass Transfer Conference, January 3-5, 2008.

Distinguished Visitors to the Department:

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
1.	Review Committee	April 10, 2007	To review current academic and research activities of the laboratory
2.	Mrs. Greet Provoost (Assistant Dean, International Affairs/Admissions), Drs. Jay Raja, Kingshuk Bose, and Asis Nasipuri from the University of North Carolina at Charlotte	Oct. 3, 2007	To explore the possibilities in collaborative research activity
3.	Dr. Padmanabhan Ex-faculty, IIT Madras (was a faculty member of PEIL during 1960s.)	Jan. 24, 2008	Delivered a lecture on "Technical challenges faced by him as a researcher while working at IBM"
4.	Stephen A. Ciatti, Scientist, Argonne National Laboratory 9700 South Cass Avenue, Argonne	Dec. 2007	To explore the possibilities in collaborative research activity
5.	Prof. Heinz Muller	Feb. 23, 2007	A talk on "Demand from the Market on modern Machine Tools"
6.	Dr. Ramesh S. Minisandram	July 20, 2007	A talk on "Manufacture of Alloys for Critical Components in Aircraft Engines"
7.	Prof. V. Radhakrishnan	Aug. 3, 2007	A talk on "Conceptual changes in Manufacturing"
8.	Dr. Sriram Krishnan	Aug. 08, 2007	A talk on "On the Manufacture of very Thin Elastomeric Films by Spin-Coating"

Sl.No.	Name of the visitor and Designation	Date of visit	Purpose of visit
9.	Dr. Balkrishna Rao	Nov. 2, 2007	A Seminar talk on "Manufacturing Process Modeling and Production of Nano-Crystalline Materials"
10.	Prof. Takshi Kuboki and Prof. Kunio Hayakawa	Nov. 12, 2007	A seminar talk
11.	Dr. Ramesh Singh	Feb. 4, 2008	A Seminar talk on "Laser-Assisted Mechanical Micromachining (LMM) of Difficult-to Machine Materials"
12.	Dr.-Ing.Leo Jayaprakash	Feb. 22, 2008	A talk on "Review of properties of cutting tools."
13.	Mr. Stephen Ciatti Argone National Laboratory, USA	July 12, 2007	For discussion on possible collaboration in the area of HCCI Engine Control
14.	Prof. Kshirsagar, J.T., Vice President, Corporate R & D Division, Kirloskar Brothers Ltd.	Jan. 2008	R & D activities and placement
15.	Dr. Bhaoyal, B.C., Associate Vice President, Research & technology Centre India, Mather and Platt Pumps Ltd.	Mar.11, 2008	Possible collaborative activities
16.	Prof. Joachim Werther, Head, Solids Processing and Particle Technology Institute, Tech. Univ. of Hamburg, Harburg, Germany	Nov. 22-23, 2007	For discussion with Prof. Kolar regarding Fluidization Research. He also delivered a lecture on "Particle Size Distribution in Industrial Fluidized Bed Combustors"
17.	N. Hariharan, Head, Projects Development, Auromira Energy, Chennai	Nov. 2007	For Discussion with HTPP faculty on Biomass Combustion based Boilers.
18.	Dr. Tapas Kumar Mallik Lecturer and Director of Studies Renewable Energy Engg. Dept. of Mech. Engg. Heriot Watt University, Edinburgh, UK	Mar. 31- Apr.1, 2008	For discussion with Dr. K.S. Reddy for Collaborative Research project

Other Activities of the Department/Centre:

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

Ph.D : The complex interaction among the jet core on wall bounded up-wash and entrained flows are systematically investigated for multiple jets impinging on a concave surface by B.V.N. Ramakumar / BVSSS. Prasad.

M.S. : The influence of axial spacing on the unsteady flow structure due to the interacting steam wise vortices and mixing of passage vortices in the downstream blade row is determined for a 1 1/2 stage low pressure turbine by U.Muneeswara Babu / N.Sitaram and BVSSS. Prasad.

Inter disciplinary group achievements of the Departments

Experts from M/s AV L, Austria delivered lectures on the topic on "Optical Combustion Analysis" on 10.12.2007 in the I.C. Engines Lab

Socially relevant activities carried out by the Department

1. Design and development of ventilation system for the soap manufacturing unit, Gandhigram, Gandhigram Trust, Dindigul
2. Design and Development of ventilation system for the Siddha medicine unit, Gandhigram, Gandhigram Trust, Dindigul

4.14 DEPARTMENT OF METALLURGICAL AND MATERIALS ENGINEERING

4.14.1 Introduction

The Department of Metallurgical & Materials Engineering is one of the original departments of IIT Madras, started at the time of the inauguration of the Institute. The Department will be celebrating its Golden Jubilee along with IIT Madras. In the last five decades, the Department has made a mark in areas of industrial metallurgy. In the last decade or so, the activities of the Department have diversified into other areas, including materials science & engineering. The Department continues to strive for excellence and realising its vision of becoming 'a pioneering Department in the country for teaching, research, and consultancy in emerging areas of materials science and engineering, while consolidating the Department's strength in traditional areas of metallurgical engineering.' The activities for the year 2007-08 bear testimony to a vibrant department's progress in keeping with its vision.

4.14.2 Academic programmes

Students on rolls:

Programme	I year	II year	III year	IV year	V & other years	Total
B.Tech.	23	28	22	27	01	101
Dual Degree	09	09	08	13	05	44
M.Tech.	17	16	0	0	0	33
M.S.	02	05	08	04	03	22
Ph.D.	02	10	13	12	25	62
Total	53	68	51	56	34	262

4.14.3 Faculty members and their activities

Head: Prof. P. Kesavan Nair

S. No.	Name & qualification	Major areas of specialisation
Professors		
1.	Achar, D.R.G. Ph.D. (IIT Madras)	Metallurgical engineering and welding technology: materials behaviour subjected to welding; dissimilar materials welding; failure analysis of weldments; modelling, simulation and other computer applications in welding; structure-property correlations
2.	Guha, B.* Ph.D. (IIT Madras)	Fatigue fracture mechanics of welded joints, FEM/CAD application to weld joint design and fatigue life prediction, computer simulation in welding technology, testing and design of weldments' strength and stability
3.	Kesavan Nair, P. Ph.D. (IIT Madras)	X-ray diffraction, residual stress analysis, electroless coatings, synthesis and characterization of carbon nanotubes
4.	Murty, B.S. Ph.D. (IISc Bangalore)	Thermodynamics and kinetics of phase transformations, mechanical alloying and rapid solidification processing, nanocrystallization of bulk metallic glasses, nanocrystalline metals, alloys and intermetallic compounds, nanocomposites, grain refinement of Al alloys, in-situ composites, transmission electron microscopy
5.	Paramanand Singh Ph.D. (IIT Bombay)	Study of advanced ceramics (both functional and structural ceramics). Nanostructured materials, shape memory alloys and electronic materials. Ceramic matrix composites. Metal matrix composites. Mechanical alloying. Metallic foam and warm compaction. Powder metallurgy. Powder characterization.
6.	Pathak, S.D. Ph.D. (IIT Madras)	Mechanical metallurgy, fatigue and fracture mechanics, short crack initiation and propagation, fracture toughness of HSLA steels, stress rupture behaviour and life assessment of high temperature materials
7.	Prasad Rao, K. Ph.D. (IIT Madras)	Welding, Surface Engineering (corrosion)
S.	Name & qualification	Major areas of specialisation

- No. 8. **Prasanna Kumar, T.S.**
Ph.D. (IIT Madras) Process Modeling, CAD/CAM, Finite Element Analysis, Higher level Automation, Establishment of Mathematical Modeling Techniques related to Steel Plant Technology
9. **Raghavan, S.**
Ph.D. (IISc Bangalore) Thermodynamics of metal oxide systems using solid electrolyte galvanic cells, Solid State Chemical Sensors in Industry, Hot Corrosion and Creep of Superalloys, Computer simulation of phase diagrams and theoretical models
10. **Seshadri, S.K^{*}**
Ph.D. (Imperial College London) Electroless deposition of Nickel and its composites. Evaluation of Wear and Corrosion Characteristics of electro and electroless composite coatings. High Temperature Oxidation studies of Composite coatings. Stress corrosion behaviour of Maraging steel Weldments
11. **Venugopal, P.^{*}**
Ph.D. (IIT Madras) Metal Forming Processes, Component Development, Press Tool Design (inclusive of applied maths), Metal Forming Machine Tools Dynamics, Design & Applications (inclusive of applied maths), Cold Extrusion of Materials, Solid State Joining of Dissimilar Powder Metallurgical Preforms, Ironing of friction prone materials, Deep Drawing and Bending of Sheet Materials - Powder Metallurgical Characterization, Viscous Extrusion of Ceramics (ybcO, nano-materials etc). Energy related aspects relevant to Metal deformation the main focus is towards ensuring cost effectiveness in Metal Forming with conservation of energy in terms of machines, tools and processes

Associate Professors

12. **Balasubramanian, M.**
Ph.D. (IIT Madras) Sol-gel processing of Ceramics and Composites, Development of Polymer Composites
13. **Bhattacharya, S.S.**
Ph.D. (IIT Madras) Superplasticity of Materials (Analytical and Experimental) Superplastic Forming, High Temperature Deformation Behaviour of Materials, Metal Forming, Advanced Materials Testing
14. **Ganesh Sundara Raman, S.**
Ph.D. (IIT Madras) Fatigue, Fracture Mechanics, Fretting Fatigue, Short Cracks, Mechanical Behaviour of Materials
15. **Hari Kumar, K.C.**
Ph.D. (IIT Delhi) Computational Thermodynamics, CALPHAD: Computer coupling of phase diagrams and thermochemistry, Thermodynamic database for technology important materials, Process Metallurgy, Physical Metallurgy, Ab Initio Methods, Microstructure Simulation
16. **Kamaraj, M.**
Ph.D. (IIT Madras) Creep deformation and fracture mechanisms of Titanium aluminides, superalloys and welded joints, Development of Wearsurfacing materials; Tribological tests on weld deposits (Plasma Transferred Arc, Plasma Spray, HVOF processes etc.), Studies of the relationships between processing, microstructure, deformation and fracture processes in advanced materials, Fretting fatigue of structural materials, Development of Marine propeller materials
17. **Sampath, V.**
Ph.D. (IISc Bangalore) Shape Memory Alloys and Smart Materials, Composite Materials, Powder Metallurgy, Sol-Gel Processing, Physical Metallurgy, Structure-Property Correlations
18. **Sampath Kumar, T.S.**
Ph.D. (IISc Bangalore) Biomaterials, Microwave processing, Surface science, Intermetallics, High Tc superconductors, Analytical Instrumentation
19. **Uday Chakkingal**
Ph.D. (Rensselaer Polytechnic Institute) Metal forming and materials processing, Severe plastic deformation processes, Aluminium Alloys, Fatigue

Assistant Professors

20. **Bauri, R^{*}**
Ph.D. (IISc Bangalore) Metal Matrix Composites, Aluminium Alloys, Solid Oxide Fuel Cells
21. **Gandhi, A.S.**
Ph.D. (IISc Bangalore) Physical Ceramics; Ceramic Nanomaterials; High Temperature Protective Coatings (environmental and thermal barrier coatings); Materials for Energy Systems (solid oxide fuel cells, SOFC's); Phase Stability and Transformations; Metastable Effects; Thermally Driven Interactions in Layered Systems; Surface Engineering; Zirconia

- | | | |
|-----|---|--|
| | | Ceramics; Non-equilibrium Phenomena in Oxides |
| 22. | Phanikumar, G.
Ph.D. (IISc Bangalore) | Experimental and Computational studies on laser welding, laser surface alloying, solidification using electromagnetic levitation and bridgmann techniques. Transport phenomena in manufacturing processes. Microstructural evolution |
| 23. | Prathap Haridoss
Ph.D. (U. Wisconsin – Madison) | Production and characterization of Carbon nanotubes, Synthesis of CdS nanocrystals, CO tolerant PEM fuel cell catalysts |
| 24. | Ravi Kumar, N.V.*
Ph.D. (MPI-Stuttgart) | Polymer Derived Ceramics, Silicon Carbide/Silicon Nitride Ceramics, Nanostructured Materials, High Temperature Mechanical Properties, Object Oriented Finite Element Programming-for prediction of macroscopic properties |
| 25. | Ravi Sankar, K*.
Ph.D. (IISc Bangalore) | High Temperature Deformation, Superplasticity, Nanocrystalline Materials, Size Effects in Plastic Deformation |
| 26. | Sankaran, S.*
Ph.D. (IIT Kanpur) | Mechanical Behaviour of Materials, Electron Microscopy, Structure Property Correlations |
| 27. | Subramanya Sarma, V.
Ph.D. (IIT Madras) | Materials processing, development, characterization and microstructure-mechanical properties correlations in engineering materials |
| | AICTE-INAE Distinguished Visiting Professors | |
| 28. | Rodriguez, P.
Ph.D. (IISc Bangalore) | Mechanical Metallurgy, Welding Metallurgy, Nuclear Materials and Fast Breeder Reactor Technology |
| 29. | Baldev Raj
Ph.D. (IISc Bangalore) | Non-destructive Testing, Materials Development and Performance Assessment, Technology Management |

* Faculty members who joined the Department in 2007-08

Re-appointed.

Technical events organisation

- 1) ADVANCES IN SURFACE TECHNOLOGY 2007 (SURFTEC7)
The Indian Welding Society (southern zone & Chennai centre) in association with Department of Metallurgical and Materials Engineering [MME], IIT Madras and Welding Research Institute, Tiruchy is organizing a three-day International workshop on ADVANCES IN SURFACE TECHNOLOGY 2007 (SURFTEC7)
Dates: June 29, 30 & July 1, 2007.
Chairman: Prof. D R G Achar
Organizing Secretary: Dr.M.Kamaraj
Treasurer: Dr. G. Phanikumar.
- 2) Two-Day Course on Metallography, Testing and Failure Analysis
Prof. B.S. Murty organised Two-Day Course on Metallography, Testing and Failure Analysis, under the auspices of ASM International, Chennai Chapter (15/09/2007 and 16/09/2007).
- 3) IITM-BHEL One Year Certification Course in Welding Engineering
This program was started last year under the IITM-BHEL Trichy MOU, after very successful completion of the first batch has been started for the current academic year. The program is open to fresh engineering graduates in Metallurgical, Mechanical, Production and allied areas. The program consists of 180 hours of lectures, Laboratory practices at BHEL in the first semester, and Project works of relevance to BHEL for the second year at BHEL, Trichy. Six faculty members from Metallurgical and Materials Engg. Dept and Welding Research Institute, BHEL, Trichy are involved.
The program is coordinated by Prof.D.R.G.Achar for the second year in succession.
- 4) Brahm Prakash Memorial Quiz 2007
Organized by IIM Chennai Chapter and Dept. of Metallurgical & Materials Engineering, IIT Madras On 22-09-2007 at 13:00 Hrs, MSB 104. A total of 52 students from 14 different schools registered for the Quiz. 37 students took part in the quiz. The winning teams are nominated by the chapter to represent Chennai at the main quiz to be held on 13-October-2007 in Kalpakkam.
- 5) One-day workshop on electron microscopy
The one-day workshop was held in collaboration with Federation of Science Clubs of Tamilnadu. 250 highschool students, 60 teachers and volunteers participated. Prof. Idy Chandy inaugurated the workshop. Prof. B.S. Murty, Dr. V. Subramanya Sarma and other experts delivered lectures on electron microscopy. Demonstrations of microscopy techniques were held. Material Advantage Chapter of IITM partly sponsored the event.
Conveners: Prof. B.S. Murty and Dr. V. Subramanya Sarma.

- 6) Continuing Education: A 10-days Special Course on "Welding and Inspection" was conducted for the ONGC Academy, Dehradun, for its engineers from 20 to 30 Nov. 2007 under the aegis of the Dept. of Metallurgical and Materials Engg, IIT Madras and the Indian Institute of Metals, Chennai Chapter.
Co-ordinator Prof.D.R.G.Achar
- 7) Indo-US Workshop on CERAMICS FOR MEDICAL APPLICATIONS 2007 [ICMA 2007]
Sponsored by INDO-US SCIENCE & TECHNOLOGY FORUM, New Delhi Indian
Inauguration: Mr. M. M. Murugappan, Chairman, Carborundum Universal Ltd, Chennai
Special Address: Emeritus Professor Larry Hench, Univ. of Florida & Imperial College London
Participants: 42 registered + 25 local from academic institutions, research institutes & industries
Coordinator: Dr.T.S.Sampath Kumar, MME., IIT Madras
USA Coordinator: Prof. Subrata Saha, SUNY Downstate Medical Center, New York
- 8) NATIONAL CONFERENCE ON MEDICAL MATERIALS 2007 (NCMM 2007)
13 & 14th Dec., 2007, IIT Madras
Jointly Organised with Society for Biomaterials & Artificial Organs India, Chennai Chapter
Inauguration:Dr.K. Jagadeesan, Director, K.J. Research Foundation & K.J. Hospital, and President, International Medical Sciences Academy
Chandra P Sharma Award Lecture: Larry L Hench Univ. of Florida, USA
Around 125 participants attended the NCMM 2007. 44 papers were presented (Oral). MAHE Award for Faculty/Scientist and Bajbai & Saha Awards (2) for Students were given for best paper presentation and technical content
Coordinator: Dr.T.S.Sampath Kumar, MME., IIT Madras.
- 9) International Conference & Exhibition, 34th Annual Technical Meeting Cost Effective Technologies for Net Shape Production, 21/2/2008, Chennai Trade Centre, organised by Powder Metallurgy Association of India
Co-Convener: Prof. B.S. Murty, MME., IIT Madras.

Participation in technical events

S. No.	Name	Dates	Details
1	Prof. D.R.G. Achar	29/06/2007 to 01/07/2007	Chaired the Inaugural Session at the International Workshop on Surface Technology, Chennai Trade Centre
2	Dr. Ashutosh S. Gandhi	29/06/2007 to 01/07/2007	Chaired two sessions at the International Workshop on Surface Technology, Chennai Trade Centre
3	Prof. D.R.G. Achar	04/07/2007	Chaired a technical session at the International Conference on Advances in Materials Engineering, Diamond Jubilee of the Department of Materials Engineering, IISc, Bangalore
4	Dr. M. Kamaraj	01/09/2007	Attended the meeting of the Board of studies in Metallurgical and Materials Engg., at PSG college of Technology, Coimbatore
5	Dr. S.S. Bhattacharya	14-16 Nov 2007	National Metallurgists' Day and Annual Technical Meeting of Indian Institute of Metals, Nehru Centre, Mumbai
6	Dr. Placid Rodriguez	30/11/2007	National conference of Engineering Council of India, Scope Convention Centre, New Delhi
7	Dr. Placid Rodriguez	14-16 Nov 2007	National Metallurgists' Day and Annual Technical Meeting of Indian Institute of Metals, Nehru Centre, Mumbai
8	Dr. Placid Rodriguez	27-29 Nov 2007	Annual Conference the Electron Microscope Society of India, Delhi University, New Delhi
9	Dr. Uday Chakkingal	14-16 Nov 2007	National Metallurgists' Day and Annual Technical Meeting of Indian Institute of Metals, Nehru Centre, Mumbai
10	Prof. D.R.G. Achar	8/1/2008, Chennai Trade Centre	International Institute of Welding International Congress 2008, 8-10 January 2008 and WELD India 2008-Int.WeldingTech.Exhibition
11	Dr. Placid Rodriguez	9/1/2008, NIAS, Bangalore	One-day discussion meeting on cold fusion
12	Prof. P. Kesavan Nair	2/2/2008, Karunya University, Coimbatore	International Conference on Frontiers in Design & Manufacturing

S. No.	Name	Dates	Details
13	Prof. D.R.G. Achar	13/2/2008, Pragati Maidan, New Delhi	International Welding Symposium (IWS 2k8) on Advances in Materials and Joining - Challenges & Opportunities
14	Prof. P. Venugopal	21/2/2008, Chennai Trade Centre, Chennai	International Conference & Exhibition, 34th Annual Technical Meeting Cost Effective Technologies for Net Shape Production, organised by Powder Metallurgy Association of India
15	Prof. B.S. Murty	21/2/2008, Chennai Trade Centre, Chennai	Chaired a Session and delivered an invited talk at International Conference & Exhibition, 34 th Annual Technical Meeting Cost Effective Technologies for Net Shape Production, organised by Powder Metallurgy Association of India
16	Prof. B.S. Murty	8-10/2/2008, WFC, Chennai Trade Centre, Chennai	Delivered an invited talk at World Foundry Congress
17	Prof. B.S. Murty	6-8/2/2008, ICAMT 2008, IIT Madras, Chennai	Delivered an invited talk at INAE-DAE International Conference on Advances in Manufacturing Technology (ICAMT 2008),
18	Prof. B.S. Murty	27-29/3/2008 PMASM-2008, Convention Centre, Kalpakkam	Delivered an invited talk at BRNS Sponsored workshop on Physics & Mechanics of Advanced Structural Materials
19	Prof. B.S. Murty	7-8/1/2008, ADMAT-2008, Amrita Viswa Vidyapeetham, Coimbatore	Delivered in invited talk at National conference on Advanced Materials for aerospace and defence Applications

Special lectures delivered by faculty members

S. No.	Name	Topic	Date	Details
1	Dr. Placid Rodriguez	A road map for minerals and materials research	13/04/2007	RRL Bhubaneswar
2	Dr. Placid Rodriguez	The nuclear resurgence and the human resources problem	04/08/2007	National Awareness Group, Chennai
3	Dr. Placid Rodriguez	Nucleation and growth of cracks under creep -fatigue interaction conditions	11/08/2007	IIT Chennai
4	Dr. Placid Rodriguez	The India - US Nuclear Deal	20/08/2007	Centre for Policy Research ,New Delhi
5	Dr. Placid Rodriguez	Nuclear India at 60: From Three Decades of Isolation to Global Leadership in Three Decades	25/08/2007	Observer Research Foundation, Chennai
6	Prof. P. Venugopal	Applications of Siebel's Equation on Metal Forming Process, Press Tools and Machines	21/08/2007	CVRDE, Avadai, Chennai
7	Dr. S.S. Bhattacharya	Bulk Nanocrystalline Materials: Synthesis, Consolidation, Sintering and Applications of Nanoceramics	29/08/2007	Sona College of Technology, Salem
8	Dr. S.S. Bhattacharya	Bulk Nanocrystalline Materials: Synthesis, Consolidation & Sintering of Nanoceramics	10/05/2007	IC&SR, IIT Madras

S. No.	Name	Topic	Date	Details
9	Prof. D.R.G. Achar	Welding Science and Technology - Current Trends and Future Needs and Indian Industrial Scenario	15/06/2007	Invited talk delivered at the AGM of the IIM Tiruchirapalli Chapter
10	Dr. Placid Rodriguez	Evaluation of resistance to ductile fracture of weldments from the simple tensile test: fifteen years of the RBR parameters	04/07/2007 to 06/07/2007	Invited lecture, Symposium on Advanced Materials, Diamond Jubilee Celebrations, of the Department of Materials Engineering, IISc, Bangalore
11	Dr. Placid Rodriguez	The interplay between experiments and theory in the sciences and engineering	03/09/2007	Bengal engineering and science University, Sibpur
12	Dr. Placid Rodriguez	The 123 agreement : an upfront assessment	11/08/2007	IIT Madras Extramural Lecture
13	Dr. Placid Rodriguez	Panel Discussion: Indo-US nuclear deal, technical and political aspects Lecture: Uranium Crunch Today, Human Resources Crunch Tomorrow	11/09/2007	Madras Institute of Development Studies
14	Dr. Uday Chakkingal	Severe plastic deformation techniques for the production of ultra fine grained microstructures in aluminium alloys	10/09/2007	Aditya Birla Science and Technology Company, Navi Mumbai
15	Prof. P. Venugopal	An Exposure to Special Features of Metal Forming	17/09/2007	KCG College of Technology, Thoraipakkam, Chennai
16	Dr. M. Kamaraj	Materials for Refineries and Petrochemical plants	25/09/2007	Chennai Petroleum Corporation (CPCL) Chennai
17	Dr. N.V. Ravi Kumar	Polymer derived nanoceramics	28/09/2007	Anna University, Chennai
18	Dr. Ashutosh S. Gandhi	Sintering in thermal barrier coatings	5/12/2007	Presented at the 'Focused Workshop on Contemporary Topics in Sintering', organised by the Indian Academy of Sciences, Dec 2-6, 2007 in Coorg, Karnataka.
19	Dr. N.V. Ravi Kumar	Polymer Derived Nanostructured Ceramics - From Science to Technology	12/1/2008	Delivered at Ceramic Technology Institute, Bharat Heavy Electricals Ltd. Bangalore
20	Prof. D.R.G. Achar	Current Trends in Welding Technology-Indian Industrial Scenario	08/03/2008	Karpagam Engineering College, Othakkal Mandapam, Coimbatore
21	Dr. Uday Chakkingal	Severe plastic deformation processes for the production of ultra fine grained microstructures in alloys	22/03/2008	NIT, Trichy

S. No.	Name	Topic	Date	Details
22	Dr. Placid Rodriguez	Interplay between Experiments and Theory in the Sciences and Engineering	26/03/2008	Structural Engineering Research Centre Taramani, Chennai.
23	Dr. Placid Rodriguez	India, the United States and the Nuclear Renaissance highlight	National Institute of Advanced Studies Bangalore	26/03/2008
24	M. Kamaraj	Microstructure and sliding wear characteristics of Nickel-based hard-facing alloys deposited by PTA	IGCAR	27/03/2008

Other Professional Activities

S. No.	Name	Details of the Activity	Date
1	Dr. N.V. Ravi Kumar	Visited the Ceramic Technological Institute, Bharat Heavy Electricals Limited, Bangalore. Host: Dr. Sukumar Roy. Visit included ceramic membrane processing facilities and examples of membranes. Possible areas of research collaboration were discussed	12/10/2007
2	Prof. D.R.G. Achar	Served as expert member in the selection committee of the Assessment and Recruitment Board of DRDO, Govt. of India, at DMRL Hyderabad.	14th to 17th November, 2007
3	Dr. N.V. Ravi Kumar & Dr. K. Ravi Sankar	As a part of the HRD initiatives at IITM, the 'Department of Management Studies' arranged a 2-day Faculty Development Programme, "Improving Interpersonal Effectiveness" for the recently joined faculty members of IIT Madras.	23rd to 24th November, 2007
4	Dr. A.S. Gandhi	Discussion on collaborative project proposal, with IISc. & NAL	5/3/2008, IISc. Bangalore
5	Prof. K. Prasad Rao	Project review as expert and Keynote talk for a workshop at DMRL, Hyderabad	10/3/2008, DMRL, Hyderabad
6	Prof. P. Kesavan Niar	Accreditation of NIT Surathkal	20.03.2008 to 24.03.2008, Surathkal
7	Dr. M. Kamaraj	Doctoral Committee Meeting at VIT, Vellore	11/03/2008
8	Prof. K. Prasad Rao	Ph.D. Viva, IIT Delhi	14/03/2008

Visits abroad

S. No.	Faculty	Country of visit	Dates	Purpose of visit
1	V. Subramanya Sarma	Germany	14/06/2007	DAAD funded research visits to Otto von Guericke University, Magdeburg, and Leibniz Institute for Solid State and Materials Research, Dresden Germany

S. No.	Faculty	Country of visit	Dates	Purpose of visit
2	Dr. S.S. Bhattacharya	Germany	29/06/2007 to 30/07/2007	AvH Fellowship Resumption One month research stay at the Joint Research Laboratory for Nanomaterials, Institute for Materials Science, Darmstadt University of Technology, Darmstadt, Germany as resumption of the Alexander von Humboldt Fellowship with Prof. Dr.-Ing. Horst Hahn.
3	Prof. K. Prasad Rao	USA	09/04/2008	A one-year sabbatical leave for working as a visiting scientist at Utah State University, with Prof. Brent E. Stucker.

Honours and awards

S. No.	Name of recipient	Award	Awarded by	Awarded for	Date
1	Dr. T.S. Sampath Kumar	Fellow of the International Medical Sciences Academy	International Medical Sciences Academy	Fellowship scroll awarded at the Annual Conference of IMSA at Manipal, on 2-4 Nov., 2007.	07/08/2007
2	Prof. B.S. Murty	Selected as a member of PAC on Materials, Minerals and Mining from 2007 to 2010	Department of Science and Technology, Government	-	May 2007
3	Prof. D.R.G. Achar	Served as an Expert Committee Member (for selection of scientific officers' positions),	ISRO Review Board	-	23/06/2007
4	Dr. Ashutosh S. Gandhi	Appointed Member, Materials Panel of Naval Research Board	Naval Research Board, DRDO	-	July 2007
5	Prof. B.S. Murty	Shanti Swarup Bhatnagar Award	CSIR	Research in engineering	September 2007
6	Prof. B.S. Murty	Fellow of INAE	Indian National Academy of Engineering	Research in engineering	September 2007
7	Dr. Placid Rodriguez	Lifetime Achievement Award	Electron Microscopy Society of India	Contribution to electron microscopy on metals & alloys in India	Nov 2007
8	Prof. P. Venugopal	Invited to serve as a Member of Governing Council, M/S RMK and RMD Engineering Colleges	Management of M/S RMK and RMD Engineering Colleges (Group of Institutes)	-	Dec 2007

S. No.	Name of recipient	Award	Awarded by	Awarded for	Date
9	Prof. D.R.G. Achar	Honorary Fellowship of Indian Welding Society	Indian Welding Society	Contribution to research in welding technology in India	Jan 2008
10	Dr. T.S. Sampath Kumar	Nominated to the Senate of Visvesvaraya National Institute of Technology, Nagpur	Visvesvaraya National Institute of Technology, Nagpur	-	Mar 2008
11	Dr. Placid Rodriguez	Inauguration of the conference on Recent Advances in Crystal Growth and Nanomaterials	Department of Physics, Loyola College, Chennai	-	26/03/2008

Books/monographs authored/co-authored/edited

- [1] Editor: T.S. Prasanna Kumar
Book Title: Trends in Biomaterials and Artificial Organs, V20, No1, July 2006
Publisher: Society for Biomaterials and Artificial Organs-India.
Details: Proc. of the Nat. Conf. on Ceramics for Medical Applications, Sept., 16-17, 2005
- [2] Authors: T. Venugopal and B.S. Murty
Chapter Title: Nanostructured materials by high energy ball milling
Book Title: Encyclopedia on Nanoscience and Nanotechnology (in press)

Patent granted

Prof. B.S. Murty, Dr. N. Bobcsan, Dr. G.S. Vinod Kumar and Prof. J. Banhart, "Metallic foams stabilized by grain refiners", German Patent No. 10.2006.031.213 (2006).

Students and their activities

M.S./Ph.D. admissions

The Department of Metallurgical & Materials Engineering admitted 7 M.S. students and 6 Ph.D. students in the year 2007-08. These include 6 regular, 4 external, 2 QIP and 1 project-supported students.

Participation in technical events

S. No.	Name	Dates	Details
1	Mr. Mubarak Ali	14-16 Nov 2007	National Metallurgists' Day and Annual Technical Meeting of Indian Institute of Metals, Nehru Centre, Mumbai
2	Mr. P. Navaneethakrishnan	Jul 2007	Diamond Jubilee Symposium on 'Advances in Materials Engineering', IISc, Bangalore
3	Mr. S. Kumar	September 16-20, 2007	International Conference on Material Science and Technology 2007 organized by ASM, TMS, ACerS and AIST, Detroit, Michigan, USA.
4	Mr. K.V. Srinivasa Rao	9th to 13th March	2008 TMS Annual Meeting and Exhibition, New Orleans, Louisiana, USA

Student awards and recognition

S. No.	Name of recipient	Award	Awarded by	Awarded for	Date
1	Mr. Prithu Sharma & Mr. Anurag Gupta	FIRST PRIZE, poster session, Student Symposium, 61st ATM	Indian Institute of Metals	Paper 'Studies on Synthesis and Characterization of Single Layer Graphene-Polymer Nanocomposites'	15-16 Nov 2007
2	R. C. Shivamurthy	First prize with cash prize of Rs. 5000/- for best poster presentation	METALLO 2007, IIT Kanpur on	Poster titled "Effect of scanning speed and nozzle stand-off distance on laser surface alloyed martensitic steel".	7th to 10th of December, 2007

Professional activities by students

The Department has two professional organisations closely associated with it:

- ❖ Metallurgical Students' Association (METSA), and
- ❖ Material Advantage Chapter of IIT Madras (Affiliated to ASM Chennai Chapter).

The student members of these societies organise professional activities, often working together for their success. The main activities are described below.

METSA-led activities

Secretary: Samyukta Sethuraman; Faculty Advisor: Dr. N.V. Ravi Kumar

Department Freshers' Night: Department Fresher's Night is an important event for the incoming batch of students of the department. During this event the faculty members and seniors get the opportunity to get to know their branch juniors, their strengths and interests. Department Freshers' Night was well attended by faculty members and students of all semesters.

Amalgam08: Amalgam is the annual technical festival of the Department. It was held from the 7th-10th of March 2008. Prof. K. Chattopadhyay of IISc Bangalore inaugurated the festival. The number and variety of events were increased and quality of participation was very good. There was enthusiastic participation from both outstation and IITM students (both from within the Department and outside). The paper and poster presentation contests saw students presenting their work in the area of their interest. Quizzing events had a standard which matched the high standards of the participants. The Metabot (Robotics event) needs special mention for the fact that in spite of the tough problem statement all bots worked well. Non-technical events such as the fun quiz organized by Prof. Seshadri and Treasure Hunt had highly charged up participants each vying for the top. Amalgam was a very enlightening experience for both the organizing team and the participants. Amalgam T-shirt was brought out and was a huge success. Amalgam dinner was hosted by the HOD on the 8th of March for all the participants and organizers of Amalgam and for the faculty members of the department.

Department Picnic: The Department Picnic was held on 21st March 08 in Blue Lagoon Beach Resort. It was well attended by the faculty and students of the department. The picnic was also a farewell for the students passing out in the year 2008. Everyone thoroughly enjoyed the games at the beach in the afternoon. Later in the evening various games and activities were organized. Each passing out student was mentioned separately and his/her exploits in the four or five years in IITM were brought out. Dinner was organized at the resort itself. It was a thoroughly enjoyable experience for everyone who attended the picnic.

Material Advantage Activities

Chairman: K. Balachandar; Vice-Chairman: Nagaraj Vinayagam;
Secretary: Samyukta Sethuraman; Treasurer: P. Gerald Tennyson;
Faculty Advisor: Dr. Ashutosh S. Gandhi

The IIT Madras Chapter of Material Advantage Chapter was founded as the IIT Madras Student Chapter of ASM International in November 2002. It is being managed entirely by students with enthusiastic office bearers and guidance from the Faculty Advisor. It has been very active in arranging lectures by eminent personalities, organizing industrial visits, conducting conferences and motivating the students to take career in the field of materials science and engineering. The chapter started with strength of 22 members and has now grown to strength of 71. Within a short span of time, the chapter has acquired a great reputation.

School Outreach Program 24 Nov.2007: 60 students accompanied and four school teachers from three different schools, Kendriya Vidyalaya, IIT Campus, Vanavani Matriculation Higher Secondary School, IIT Campus and P.S. Higher Secondary School, Mylapore were exposed to various material joining processes and different characterization techniques such as scanning and transmission electron microscopy.

One day workshop on electron microscope: One day workshop on Electron Microscopy (ODWEN) was jointly organized by Federation of Science Clubs of Tamilnadu, Chennai on 30 October, 2007. 280 students accompanied by 20 school teachers from 10 different schools participated in this event. All participants were involved in the learning process of electron microscopic techniques.

Workshop on innovation and creativity: This event was organized as a part of the career development programme on 08 April, 2008. The motivational speaker, soft skills trainer and HRD Consultant, Mr. S.Swaminathan conducted this programme. The creativity sessions were game based for individuals and groups. Active participation of all the student members in the lecture session and activity session brought out their creativity and innovation to lime light.

Industrial visit: Material Advantage Chapter organized one day plant visit to Tube Products of India. The student members were busy visiting different sections of the plant and the plant employees provided lots of information about the processes involved in tube manufacturing.

Lectures by visitors: Apart from our regular seminar series of lectures by our student members, invited talks by eminent professors motivate the younger minds towards the goal.

MATERIAL ADVANTAGE Trophy Cricket Match: As a part of the social activity of Material Advantage, faculty-student cricket matches were organized. Three teams registered for the competition.

Summers fellowship

The following Summer Fellows are hosted by the Department for summer of 2007:

- [1] Abhijit Shukla, NIT Raipur
Guide: Dr. A.S. Gandhi
Topic: Synthesis of nanocrystalline alumina by precipitation method and characterisation
- [2] Arvind Vivek R., Govt. College of Tech. Coimbatore
Guide: Dr. Prathap Haridoss
Topic: Design and development of indigenous fuel cell powered toy
- [3] Ranjana Kushwaha, NIT Warangal
Guide: Dr. V. Subramanya Sarma
Topic: Synthesis and characterisation of brass, 304 stainless steel and copper nanopowders
- [4] V. Vinod, NIT Tiruchirapalli
Guide: Prof. B.S. Murty
Topic: Synthesis and characterisation of in-situ Ni-Al₂O₃ and NiAl-Al₂O₃ nano-composites by reactive milling

4.14.4 Research and consultancy

Sponsored research projects

New projects

The following sponsored research projects were sanctioned in the year 2007-08:

S. No.	Coordinator(s)	Sponsoring Agency	Title of the Project	Value (Rs.)
1	B.S. MURTY Co-investigators: K. Balasubramanian (NFTDC, Hyderabad) and A.B.S. Sastry (SRIVT, Guntur)	Department of Science & Technology	Investigations on some copper alloys: preparation as described in the Vedic texts and their characterization (Phase - I)	8,76,000

S. No.	Coordinator(s)	Sponsoring Agency	Title of the Project	Value (Rs.)
2	B.S. MURTY Co- investigator: M. Heilmaier (Otto-von-Guericke University Magdeburg, Germany)	Department of Science & Technology	Studies on microstructure and creep properties of Fe-based nanostructured oxide dispersion strengthened (ODS) alloys	3,79,000
3	T.S. SAMPATH KUMAR Co- investigators:	Council of Scientific and Industrial Research	Electrospinning of ceramic nanofibers for biomedical applications	8,46,000
4	HARIKUMAR K.C. Co- investigator: A.S. Gandhi (MME, IITM) and Raju (IGCAR, Kalpakkam)	Indira Gandhi Centre for Atomic Research	Integrated modelling of high temperature phase and microstructural stability, and phase transformation kinetics of advanced high chromium ferritic steels with special emphasis on 9Cr-1Mo based derivatives	25,60,000
5	RAVI KUMAR N.V.	Naval Research Board	Understanding the adhesion mechanisms, quantification of adhesion strength and characterization of the adhesive of barnacles	28,80,000
6	KAMARAJ M. Co- investigator: R. Gnanamoorthy (ME, IITM)	Indira Gandhi Centre for Atomic Research	Evaluation of high cycle fatigue behaviour of repair welds of AISI 410 stainless steels made using (a)ER 316L and (b) ER 410 filler wires and its comparison with the AISI 410 base metal	18,96,000
TOTAL				94,37,000/-

Projects under progress/completed in 2007-08

The Department has many sponsored research projects under progress, and others were successfully completed during the year 2007-08. The details are produced below:

S. No	Coordinators	Title	Agency	Value Rs.
1	Prasad Rao K	Protection of H-15 and H-20 Aluminium alloys from corrosion	Defence Research and Development Laboratory	10,00,000/-*
2	Prof. K. Prasad Rao Dr. Prathap Haridoss	Microscopy & Microanalysis of Modern Materials	Department of Science & Technology	1,50,00,000/-
3	Prof. K. Prasad Rao	Effect of Planishing on Mechanical Properties of AA2219 Welds	Defence Research and Development Laboratory	10,00,000/-*
4	Prof. K. Prasad Rao	Improvement of Mechanical Properties of H20 (AA6061) Welds	Defence Research and Development Laboratory	10,00,000/-*
5	Dr. M. Kamaraj Prof. K. Prasad Rao	Life Enhancement of Hydroturbine Components by Surface Coatings	Department of Science & Technology	13,83,000/-*
6	Dr. M. Kamaraj	Surface Modification on 316 LN Austenitic Stainless Steel and Wear Characterisation of Hardfacing Alloys	Boards of Research in Nuclear Sciences	23,45,000/-*

S. No	Coordinators	Title	Agency	Value Rs.
7	Prof. T.S. Prasanna Kumar	Parameter Estimation and Inverse Solution of Non-Linear Heat Conducting Problems	Indian Space Research Organisation	11,08,000/-*
8	Prof. S.D. Pathak	Performance Evaluation of Diamond-like Carbon Coated Ti-6Al-4V for Biomedical Applications	Ministry of Human Resource and Development	10,00,000/-*
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	10,00,000/-*
10	Dr. S.S. Bhattacharya	Nanocrystalline Titania: Superplastic Deformation and Diffusion Bonding Studies	Ministry of Human Resource and Development	11,00,000/-*
11	Dr. M. Kamaraj	High Performance Evaluation of Advanced High Temperature Materials for Aerospace Engineering	Ministry of Human Resource and Development	11,00,000/-*
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	6,36,000/-
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	9,90,000/-
14	Dr. T.S. Sampath Kumar	Porous Injectable Ceramic Bone Cements	Department of Science & Technology	23,95,000/-
15	Dr. V. Subramanya Sarma Prof. B.S. Murty	Development of High Strength Ultra Fine Grained Alloys through Cryorolling	Department of Science & Technology	22,32,000/-
16	Prof. B.S. Murty Dr. M. Nageswara Rao(Nitw)	Improvement of Notch Creep-Rupture Life of 718 Superalloy	Aeronautics Research & Development Board	15,50,000/-
17	Dr. Prathap Haridoss	Improving Reactant Distribution in a PEMFC	Indian Space Research Organisation	15,00,000/-*
18	Dr. V. Sampath	Development and Characterization of Super-Elastic Ni-Ti Shape Memory Alloys for Biomedical and Dental Applications	Department of Science & Technology	27,12,000/-
19	Dr. V. Subramanya Sarma Prof. B.S. Murty	Development of Ultrafine Grained High Strength A1 Alloys	Naval Research Board	23,88,000/-
20	Prof. B.S. Murty	Wear Behaviour of A1-TiB ₂ and A1-TiC in-situ Reinforced Composites	Naval Research Board	23,89,000/-
21	Dr. Prathap Haridoss Prof. P. Kesava Nair	Production of Carbon Nanotube Based Composites	Naval Research Board	24,84,000/-

S. No	Coordinators	Title	Agency	Value Rs.
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	71,98,000/-
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	2,30,000/-
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	10,20,000/-
25	Prof. B.S. Murty	Synthesis of biocompatible ferro fluids and investigation of their stability in Biological media	Department of Science & Technology	19,26,000/-
26	Dr. G. Phanikumar	National Electromagnetic Levitation Facility at IIT (M), Chennai	Indian Space Research Organisation(Respond)	46,81,000/-
27	Prof. K. Prasad Rao Dr. G. Phanikumar	Studies on friction surfaced coatings for wear and corrosion resistance	Naval Research Board	37,51,000/-
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	12,24,000/-
29	Dr. M. Balasubramanian Dr. P. Alagusundaramoorthy	Sol-gel processing of advanced ceramic fibres	Ministry of Human Resource and Development	8,00,000/-*
30	Dr. M. Balasubramanian	Development of sol-gel protective coating on metals.	University Grants Commission	3,31,000/-
TOTAL				6,74,73,000/-

* Completed in the year 2007-08.

Industrial consultancy

S. No.	Faculty	Consolidated Amount of Consultancy (Rs.)
1	Prof. D.R.G. Achar	1,24,000
2	Prof. B. Guha	44,944
3	Prof. P. Kesavan Nair	8,40,577
4	Prof. B.S. Murty	22,472
5	Prof. K. Prasad Rao	60,638
6	Prof. T.S. Prasanna Kumar	2,00,000
7	Dr. M. Kamaraj	7,34,434
8	Dr. T.S. Sampath Kumar	25,000
9	Dr. V. Subramanya Sarma	2,38,765
	Total	22,90,830

Retainer Consultancy

S. No.	Coordinator(s)	Sponsoring Agency	Title of the Project	Value (Rs.)
1	K.C. Hari Kumar	Tata Steel, Jamshedpur	Surface segregation in ULC steels	1,75,000
2	K.C. Hari Kumar	GE India Technology Center, Bangalore	Thermodynamic assessment of a ternary metallic system – technical training on using Thermo-Calc software	60,500
Total				2,35,500

Research based industrial consultancy

S. No.	Coordinator(S)	Sponsoring Agency	Title of the Project	Value (Rs.)
1	B.S. Murty Co-PI: S. Sankaran (MME, IITM)	Tata Steel	Support for the TEM facility	1,00,00,000
2	G. Phanikumar	General Motors India Pvt. Ltd.	Solidification In Aluminium Alloys And The Effect Of Grain Refiners, Modifiers, And Other Alloy Addition	19,18,000
3	M. Balasubramanian	CVRDE, Chennai	Development and Characterisation of Aluminium matrix Composites for Tracked Vehicle Application	4,50,000
4	T.S. Prasanna Kumar Co-PI's: Uday Chakkingal & Shankar Narasimhan (CHE)	RDCIS, SAIL, Ranchi	Development of Intelligent Mill Set-up Model for Adaptive and Dynamic Control of Plate Mill, Bhilai Steel Plant	17,50,000
Total				1,41,18,000

New facilities/infrastructure

S. No.	Name of equipment	Details	Value	Date
1.	Single dip coater	The dip coating unit is computer controlled to facilitate substrate dipping and extraction at speeds from 1 to 80 mm/min. The programme is capable of unlimited dipping cycles with prescribed hold intervals between cycles. Vendor: Apex Instruments, Kolkata	Rs. 1,90,000/-	Aug 2007

Research publications

Total No. of papers published in Refereed National Journals	:	06
Total No. of papers published in Refereed International Journals	:	44
Total No. of papers presented in National Conference	:	09
Total No. of papers presented in International Conferences	:	40

International refereed journals

1. S.S. Nayak S.K. Pabi and B.S. Murty, "Synthesis of high strength nanocrystalline $L1_2-Al_3(Ti,Zr)$ intermetallics by mechanical alloying", Intermetallics, 15 (2007) 26-33.
2. A. Mandal, M. Chakraborty and B.S. Murty, "Effect of TiB_2 particles on sliding wear behavior of Al-4Cu alloy", Wear, 262 (2007) 160-166.
3. Jatin Bhatt, S.K. Pabi and B.S. Murty "Nanoindentation studies on amorphous, nanoquasicrystalline and nanocrystalline $Zr_{80}Pt_{20}$ alloy", J. Nanosci. Nanotech., 7 (2007) 658-662.

4. J. Joardar, S.K. Pabi and B.S. Murty, "Milling maps for the synthesis and disordering of nanocrystalline NiAl by mechanical alloying", *J. Alloys Comp.* 429 (2007) 204-210.
5. B. Srinivasa Rao, Jatin Bhatt and B.S. Murty, "Identification of compositions with highest glass forming ability in multicomponent systems by thermodynamic and topological approaches", *Mater. Sci. Eng. A*, 449-451 (2007) 211-214.
6. K. Mondal, U.K. Chatterjee and B.S. Murty, "Oxidation behavior of multicomponent Zr based amorphous alloys", *J. Alloys Comp.* 433 (2007) 162-170.
7. K. Mondal and B.S. Murty, "On the Prediction of Solid-Liquid Interfacial Energy of Glass Forming Liquids from Homogeneous Nucleation Theory", *Mater. Sci. Eng. A*, 454-455 (2007) 654-661.
8. Sahil Sahni, S. Bhaskar Reddy and B.S. Murty, "Influence of process parameters on the synthesis of nano titania by sol-gel route", *Mater. Sci. Eng. A*, 452-453 (2007) 758-762.
9. S.K.S. Parashar, P. Padhi, R.N.P. Choudhary, A.K. Thakur and B.S. Murty, "Finite element model in nanoindentation to study nonlinear behaviour of nanoceramic PGZT", *Mater. Manu. Process.*, 22 (2007) 337-340.
10. Jatin Bhatt, S. Kumar, C. Dong and B.S. Murty, "Tribological behaviour of $\text{Cu}_{60}\text{Zr}_{30}\text{Ti}_{10}$ bulk metallic glass", *Mater. Sci. Eng. A*, 458 (2007) 290-294.
11. Jatin Bhatt, W. Jiang, X. Junhai, W. Qing and C. Dong and B.S. Murty "Optimization of Bulk Metallic glass forming composition by Thermodynamic modeling" *Intermetallics*, 15 (2007) 716-721.
12. T. Venugopal, K. Prasad Rao and B. S. Murty, "Synthesis of Cu-W nanocomposite by high-energy ball milling", *J. Nanosci. Nanotech.*, 7 (2007) 2376-2381.
13. R. Malewar, K.S. Kumar, B.S. Murty, B. Sarma and S.K. Pabi, "On sinterability of nanostructured W produced by high energy ball milling", *J. Mater. Res.*, 22 (2007) 1200-1206.
14. A. Takeguchi, B.S. Murty, M. Hasegawa, S. Ranganathan, and A. Inoue, "Analysis of bulk metallic glass formation using a tetrahedron composition diagram that consists of constituent classes based on blocks of elements in the periodic table", *Mater. Trans.*, 48 (2007) 1304-1312.
15. T. Venugopal, K. Prasad Rao and B. S. Murty, "Mechanical and electrical properties of Cu-Ta nanocomposites prepared by high energy ball milling", *Acta Mater.* 55 (2007) 4439-4445.
16. S. Kumar, V. Subramanya Sarma and B.S. Murty, "Influence of in-situ formed TiB_2 particles on the abrasive wear behaviour of Al-4Cu alloy", *Mater. Sci. Eng. A*, 465 (2007) 160-164.
17. Selvi Dev, A.A. Stuart, R.C. Ravi Dev Kumar, B.S. Murty and K. Prasad Rao, "Effect of Scandium additions on the microstructure and mechanical properties of medium strength Al-Zn-Mg alloy welds", *Mater. Sci. Eng. A*, 467 (2007) 132-138.
18. M. Venkata Ramana, G Sreenivasulu, N Ramamanohar Reddy, K V Siva Kumar, B S Murty and V R K Murthy, "Internal friction loss and longitudinal modulus behaviour of multiferroic $\text{PbZr}_{0.52}\text{Ti}_{0.48}\text{O}_3 + \text{Ni}_{0.93}\text{Co}_{0.02}\text{Mn}_{0.05}\text{Fe}_{1.95}\text{O}_{4-8}$ particulate composites", *J. Phys. D.* 40 (2007) 7565-7571.
19. T. Prakash, K. Padma Prasad, S. Ramasamy and B.S. Murty, "Dielectric Relaxation studies of nanocrystalline CuAlO_2 using modulus formalism", *J. Appl. Phys.*, 102 (2007) 104104(1-5).
20. G.S. Vinod Kumar, F. Garcia-Moreno, N. Babcsan, A.H. Brothers, B.S. Murty and J. Banhart, "Study on aluminium-based single films", *Phys. Chem. Chem. Phys.* 9 (2007) 6415-6425.
21. C.R. Das, A.K. Bhaduri, S.K. Albert and B.S. Murty, "Effect of prior heat treatment of base metal on the deformation behavior of heat affected zones", *Welding World*, 51 (2007) 171-176.
22. A.K. Prasada Rao, K. Das, B.S. Murty and M. Chakraborty, "Microstructural Features of as-cast A356 alloy inoculated with Sr, Sb modifiers and Al-Ti-C grain refiner simultaneously", *Mater. Lett.*, 62 (2008) 273-275.
23. A.K. Prasada Rao, K. Das, B.S. Murty and M. Chakraborty, "Microstructure and the wear mechanism of grain refined Aluminum during dry-sliding against steel disc", *Wear*, 264 (2008) 638-647.
24. S. Kumar, V. Subramanya Sarma and B.S. Murty, "A statistical analysis on erosion wear behaviour of A356 alloy reinforced with in-situ formed TiB_2 particles" *Mater. Sci. Eng. A* 476 (2008) 333-340.
25. A.K. Prasada Rao, K. Das, B.S. Murty and M. Chakraborty, "On the modification and segregation behavior of Sb in Al-Si alloy during solidification", *Mater. Lett.*, 62 (2008) 2013-2016.
26. C.R. Das, S.K. Albert, A.K. Bhaduri, G. Srinivasan and B.S. Murty, "Effect of prior austenite grain size on the microstructure and mechanical properties of modified 9Cr-1Mo steel weld joints" *Mater. Sci. Eng. A*, 477 (2008) 185-192.
27. S. Kumar, M. Chakraborty, V. Subramanya Sarma and B.S. Murty, "Tensile and wear behaviour of in-situ Al-7Si- TiB_2 particulate composites", *Wear*, 265 (2008) 134-142.
28. Sunita Prem Victor and T. S. Sampath Kumar, "BCP ceramic microspheres as drug delivery carriers — synthesis, characterisation and doxycycline release", *J. Mater. Sci.: Mater. in Medicine*, 19 (2008) 283-290.

29. D. Siva Rama Krishna, A. Siddharthan, S.K.Seshadri and T.S.Sampath Kumar, "A novel route for synthesis of nanocrystalline hydroxyapatite from eggshell waste", *J. Mater. Sci.: Mater. in Medicine*, 18 (2007) 1735-1743.
30. J Venugopal, P Vadgama, T S Sampath Kumar and S Ramakrishna, "Biocomposite nanofibres and osteoblasts for bone tissue engineering", *Nanotech.* 18 (2007) 055101, 8pp.
31. N. Rameshbabu, T.S. Sampath Kumar, T.G. Prabhakar, V.S. Sastry, K.V.G.K. Murty, K. Prasad Rao, "Antibacterial nanosized silver substituted hydroxyapatite: synthesis and characterization" *J. Biomed. Mater. Res.* , 80A (2007) 581–591.
32. A. Siddharthan, T.S. Sampath Kumar and S.K. Seshadri, "Bioceramics coating on Ti-6Al-4V alloy by microwave processing", *Surf. Engg.*, 23 (2007) 401-405.
33. A. Siddharthan, S. K. Seshadri and T. S. Sampath Kumar, "Influence of microwave power on nanosized hydroxyapatite particles", *Scripta Mater.*, 55 (2006) 175-178 (2007)
34. C. Girish Shastry, P. Parameswaran, M.D. Mathew, K. Bhanu Sankara Rao, S.D. Pathak, "Effect of Loading History on the Threshold Stress in Creep Deformation of an Austenitic Stainless Steel", *Mater. Sci. Eng. A*, 473 (2008) 133-138.
35. F. Baldwin, Ravi Kumar, K. Das, A. Bandyopadhyay, and Y. M. Gupta, "Effect of hafnium incorporation on the crystallization and mechanical behavior of a Zr-based bulk amorphous alloy", *Mater. Sci. Eng. A*, 477 (2008) 233-242.
36. C. Girish Shastry, M. D. Mathew, K. Bhanu Sankara Rao and S. D. Pathak, "Tensile Deformation behaviour of AISI 316L(N) SS" *Mater. Sci. Tech.*, 23 (2007) 1215-1222.
37. S Arun Kumar, K V Sreenivas Rao, T S Prasanna Kumar, "Spatial Variation of Heat Flux at the Metal-Mold Interface due to Mold Filling Effects in Gravity Die Casting", *Int. J. Heat Mass Tr.* 51 (2008) 2676-2685.
38. Sunita Prem Victor and T.S. Sampath Kumar, "Processing and properties of injectable porous cements", *J. Ceram. Soc. Japan*, 1 (116)105-107 (2008)
39. Sunita Prem Victor and T.S. Sampath Kumar, "Tailoring calcium-deficient hydroxyapatite nanocarriers for enhanced release of antibiotics", *J. Biomed. Nanotech.*, 4 (2008) 203-209.
40. A. Sivaraman, Uday Chakkingal, Investigations on workability of commercial purity aluminum processed by equal channel angular pressing, *Journal of Materials Processing Technology*, 202 (2008) 543- 548.
41. A. Sivaraman, Uday Chakkingal, Flow properties of commercial purity aluminum processed by equal channel angular pressing, *Materials Science and Engineering A*, 487 (2008) 264-270.
42. P. Chakravarthy, Uday Chakkingal and P. Venugopal "Influence of Temperature on the Forming Limit Diagrams of Sintered P/M Preforms of Steel" *Materials Science and Engineering A*, 485 (2008) 395-402.
43. M.J. Stiger, N.M. Yanar, R.W. Jackson, S.J. Laney, F.S Pettit, G.H. Meier, A.S. Gandhi, and C.G. Levi, Development of Intermixed Zones of Alumina/Zirconia In Thermal Barrier Coating Systems, *Metall. Mater. Trans.*, 38A (2007) 848-857.
44. B.G. Ravi, A.S. Gandhi, X.Z. Guo, J. Margolies, and S. Sampath, "Liquid Precursor Plasma Spraying of Functional Materials: A Case Study for Yttrium Aluminum Garnet (YAG)", *J. Thermal Spray Tech.*, 17 (2008) 82-90.

National refereed journals

1. Jatin Bhatt, P.K. Ray and B.S. Murty, "Understanding bulk metallic glass formation in Zr based alloys", *Trans. Ind. Inst. Metals*, 60 (2007) 323-330.
2. A. Mandal, B.S. Murty and M. Chakraborty, "Wear behaviour of Al-Si alloys reinforced with in-situ TiB₂ particles", *Trans. Ind. Inst. Metals*, 60 (2007) 113-117.
3. S. Kumar, V. Subramanya Sarma, M. Chakraborty and B.S. Murty, "A comparative study of mechanical properties and wear behaviour of Al-4Cu-TiB₂ and Al-4Cu-TiC in-situ composites", *Trans. Ind. Inst. Metals*, 60 (2007) 201-205.
4. N. Babcsán, G.S. Vinod Kumar, B.S. Murty, J. Banhart, "Grain refiners as liquid metal foam stabilizers", *Trans. Ind. Inst. Metals*, 60 (2007) 127-132.
5. A.K. Prasada Rao, K. Das, B.S. Murty and M. Chakraborty, "Role of combined addition of Sr and Sb on the microstructure and mechanical properties of cast A356 alloy", *Trans. Ind. Inst. Metals*, 60 (2007) 257-261.
6. N Rameshbabu, T S Sampath Kumar and K Prasad Rao, "Synthesis of nanocrystalline fluorinated hydroxyapatite by microwave processing and its in vitro dissolution study", *Bull. Mater. Sci.*, 29, (2006) 611–615. (2007)

International conference proceedings

1. B.S. Murty, "Nanocrystalline materials by mechanical alloying and rapid solidification processing", *Frontiers in Design of Materials*, Ed. Baldev Raj, S. Ranganathan, S.L. Mannan, K. Bhanusankara Rao, M.D. Mathew, P. Shankar, Universities Press, Bangalore, 2007, p. 299-311.
2. K. Mondal, U.K. Chatterjee and B.S. Murty, "Corrosion and oxidation behavior of melt spun $Zr_{55}Ti_{25}Ni_{20}$ alloy", *Proc. Int. Conf. on Advanced Materials Design and Development (ICAMDD-2006)*, Ed. M. Chakraborty, D.L. McDowell, S. Ghosh, F. Mistree and D. Bhattacharya, Elsevier, 2007, p. 355-362.
3. M. Chakraborty, D.S. Shekhawat, A. Mandal, R. Maiti, U.K. Chatterjee and B.S. Murty, "Synthesis and characterization of in-situ Al-TiB₂ metal matrix composites", *Proc. Int. Conf. on Advanced Materials Design and Development (ICAMDD-2006)*, Ed. M. Chakraborty, D.L. McDowell, S. Ghosh, F. Mistree and D. Bhattacharya, Elsevier, 2005, p. 264-276.
4. S. Kumar, V. Subramanya Sarma and B.S. Murty, "Influence of in-situ TiB₂ Particles on the Microstructural, Mechanical and Abrasive Wear Behavior of A356 Alloy" *Proc. of Int. Conf. on Material Science and Technology (MS&T-2007)*, pp. 483-489.
5. G.S. Vinod Kumar, N. Babcsan, F. Garcia Moreno, J. Banhart and B.S. Murty, "Al Based Metallic Films" *Proc. of 5th Int. Conf. on Porous Metals and metallic Foams (MetFoam 2007)*, Paper No. A. 168.
6. N. Babcsan, G.S. Vinod Kumar, F. Garcia Moreno, J. Banhart and B.S. Murty, "New Foam Stabilising additive for Aluminium" *Proc. of 5th Int. Conf. on Porous Metals and metallic Foams (MetFoam 2007)*, Paper No. A. 195.
7. S. Kumar, V. Subramanya Sarma and B.S. Murty, "Influence of *in-situ* TiB₂ Particles on the Microstructural, Mechanical and Abrasive Wear Behavior of A356 Alloy", *Proc. Int. Conf. on Material Science and Technology, ASM-TMS, 2007*, 483-489.
8. B.S. Murty and S. Kumar, "Aluminium based in-situ composites", *Proc. of the 68th World Foundry Congress, 2008*, 55-62.
9. Ravi Kumar, André Zimmermann and Fritz Aldinger, "High Temperature Mechanical Properties of Amorphous and Nanocrystalline Si-B-C-N Ceramics", *International Conference: Metals and Alloys: Past, Present and Future (Metallo2007)*, Dec 7 - 10, 2007.
10. A. Krishnaiah, Uday Chakkingal and Hyounng Seop Kim, "Mechanical properties of commercially pure aluminium subjected to repetitive bending and straightening process", *International Conference on Metals and Alloys: Past, Present and Future (METALLO 2007)*, IIT Kanpur, Dec 7 - 10, 2007.
11. Basavaraj Patil, Uday Chakkingal and T.S. Prasanna Kumar, "Study of inner corner influence in equal channel angular pressing using 3-D finite element simulations", *International Conference on Metals and Alloys: Past, Present and Future (METALLO 2007)*, IIT Kanpur, Dec. 7-10, 2007.
12. Basavaraj Patil, Uday Chakkingal and T.S. Prasanna Kumar, "Study of Outer Corner Influence on Strain Inhomogeneity in equal channel angular pressing using 3-D Finite Element Simulation", *International Conference on Computer Aided Engineering (CAE 2007)*, IIT Madras, Chennai, 2007, 140-147 (2007)
13. Kumar and B.S. Murty, "Al-4Cu based in-situ composites: synthesis and properties" *Proc. of International Conference on Technology Trends in Aluminium Cast Components and Processes (ALUCAST)*, 2007, PP. 75-81.
14. D.R.G. Achar, "Welding 'Education in India - Yesterday, Today and Tomorrow", *International Institute of Welding International Congress, Indian Institute of Welding, Chennai (2008)* 250-259 (Invited Paper).
15. T.S. Prasanna Kumar, P.V.D. Ramesh, D.R.G. Achar, "Estimation of Heat Flux in GTAW Process Using Inverse Heat Conduction Method", *International Institute of Welding International Congress, Indian Institute of Welding, Chennai (2008)*, 425-430.
16. B.C.S. Ganesh, M. Kamaraj, D.R.G. Achar, "Influence of Boron Carbide Particles on the Wear Properties of Cobalt Based Hardfacing Alloy", *International Institute of Welding International Congress, Indian Institute of Welding, Chennai (2008)*, 841-846.
17. Asish Goel, D.R.G. Achar, Joseph Amalraj, "Computational Application for Weld Quality Control", *International Institute of Welding International Congress, Indian Institute of Welding, Chennai (2008)* 650-656.
18. Enhancement of bioactivity of commercial pure titanium by chemical modifications A.Thirugnanam, T.S.Sampath Kumar and Uday Chakkingal *Int. Conf. on Adv. Mater. & Comp., NIIST, Trivandrum, 511 - 515 (2008)*

International conference presentations

1. T. Shanmugasundaram, B.S. Murty, V. Subramanya Sarma, "Development of ultrafine grained Al-Cu alloys by cryorolling," *International Conference on Advanced Materials & Composites (ICAMC2007)*, Trivandrum, 24th - 26th October, (2007)

2. N.V. Ravi Kumar, Y. Cai, A. Zimmermann, and F. Aldinger, "Influence of N₂ Pressure on the Cryst. & HT Deformation Behavior of Precursor Derived Nano-crystalline SiBCN Ceramics," International Conference on Advanced Materials & Composites (ICAMC2007), Trivandrum, 24th - 26th October, (2007)
3. R. Suresh Kumar, D. Sivakumar, and A.S. Gandhi, "Processing and properties of electro-conductive silicon carbide matrix composites," International Conference on Advanced Materials & Composites (ICAMC2007), Trivandrum, 24th - 26th October, (2007)
4. V. Udhayabanu, Navneet Singh, V. Vinod and B.S. Murty, Synthesis of Ni and NiAl based Nanocomposites by Reactive Milling and Subsequent Heat Treatment, International Conference on Advanced Materials & Composites (ICAMC2007), Trivandrum, 24th - 26th October, (2007)
5. K V Sreenivas Rao, S Arun Kumar, G Phani Kumar, T S prasanna Kumar, "Quantification of Transient Boundary Heat Flux during Casting" Diamond Jubilee Symposium on Advances in Materials Eng., IISc, Bangalore, July 2007, (2007)
6. S Arun Kumar, K V Sreenivas Rao, T.S.Prasanna Kumar, "Effect of Mold Filling on the Formation of Air Gap along the Vertical Mold Wall during Solidification of Al-Cu Alloys", ASME Int. Mechanical Eng. Congress and Exposition, Seattle, USA, (2007).
7. K V Sreenivas Rao, S Aruan Kumar, G Phani Kumar, T S Prasanna Kumar, "Effect of Boundary Heat Flux Transients on the Solidification Behavior and Microstructure of Al-Cu Alloys", TMS Annual Meeting, US, New Orleans (2008).
8. K V Sreenivas Rao, S Arun Kumar, G Phani Kumar, T S prasanna Kumar, "Quantification of Transient Boundary Heat Flux during Casting", Diamond Jubilee Symposium on Advances in Materials Eng., IISc, Bangalore (2007)
9. Patil Basavaraj V, Uday Chakkingal, T S Prasanna Kumar, "Study of Inner Corner Influence on Strain Inhomogeneity in ECAP Using 3D Finite Element Simulation", International Conference on Metals and Alloys, Dec 7-10, 2007, IIT Kanpur, (2007)
10. Patil Basavaraj V, Uday Chakkingal, T S Prasanna Kumar, "Study of Outer Corner Influence on Strain Inhomogeneity in ECAP Using 3D Finite Element Simulation", International Conference on Computer Aided Eng., IIT Madras, Chennai, Dec 13-15, 2007.
11. Ravi Kumar, André Zimmermann and Fritz Aldinger, "High Temperature Mechanical Properties of Amorphous and Nanocrystalline Si-B-C-N Ceramics", International Conference: Metals and Alloys: Past, Present and Future (METALLO 2007), IIT Kanpur, Dec 7 - 10, 2007.
12. A. Krishnaiah, Uday Chakkingal and Hyoung Seop Kim, "Mechanical properties of commercially pure aluminium subjected to repetitive bending and straightening process", International Conference on Metals and Alloys: Past, Present and Future (METALLO 2007), IIT Kanpur (2007).
13. D.R.G. Achar, "A Review on welding Technology in Energy Industries", International Welding Symposium on "Advances in Materials and Joining - Challenges & Opportunities", (2008)
14. P. Kesavan Nair, "Enhancing Efficiency of EN Coating - A New Approach", International Conference on Frontiers in Design & Manufacturing, Karunya University, Coimbatore, 2008 (Invited Talk).
15. Navaneethakrishnan, P., Ganesh Sundara Raman, S., Pathak, S. D., Gnanamoorthy, R. and Ravi, N., Fretting Wear Behaviour of Diamond-like Carbon Coated Titanium Alloy Ti-6Al-4V, Diamond Jubilee Symposium on Advances in Materials Engineering, IISc, Bangalore, July, 2007.
16. Priya Ranganathan, et al., "Effect of post weld heat treatments on the mechanical properties of dissimilar friction stir welded Aluminum Alloys (AA 6061 and AA 2219)", International welding symposium, IWS-2k8 held during 13-15 Feb 2008, New Delhi.
17. Priya Ranganathan, et al., "Friction stir welding of AA 6061-T6 to AA 2219-T6", International Institute of Welding, International Congress 2008 held during 8-10 January, 2008, Chennai Trade Centre, Chennai.
18. B.S. Murty and S. Kumar, Aluminium based in-situ composites, 68th World Foundry Conference, February 7-10, 2008, Chennai.
19. P. Chakravarthy, Uday Chakkingal and P. Venugopal, Influence of Temperature on Extruding Sintered P/M Preforms of Steel, International Conference and Exhibition, Powder Metallurgy Association of India, Chennai, Feb 20,21 2008.
20. A Sivaraman , Uday Chakkingal , Flow properties of an aluminum alloy processed by equal channel angular pressing, TMS 2008 Annual Meeting & Exhibition, New Orleans, Louisiana, USA, March 9-13 , 2008.
21. R. C. Shivamurthy, M. Kamaraj, R. Nagarajan, S. M. Shariff and G. Padmanabham, "Effect of scanning speed and nozzle stand-off distance on laser surface alloyed martensitic steel", METALLO 2007, IIT Kanpur, 7th to 10th December, 2007.
22. R. C. Shivamurthy, M. Kamaraj, R. Nagarajan, S. M. Shariff and G. Padmanabham, "Effect of impingement angle on slurry erosion rates of laser surface alloyed steels" IIW-IC 2008, Chennai, 08th to 10th January, 2008.

National conference presentations

1. K V Sreenivas Rao, S Arun Kumar, G Phani Kumar, T S Prasanna Kumar, "Effect of Mold Material on Heat Flux and Cooling Rate of Al-Cu Alloys Solidified in Rectangular Cavity", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
2. V. Uchayabanu, K.G. Pradeep and B.S. Murty, "Synthesis of FeAl based Nanocomposites by Reactive Milling of Fe₂O₃ with Al", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
3. M. Mubarak Ali, S. Ganesh Sundara Raman, S.D. Pathak, "Effect of Nitriding Atmosphere on Plain and Fretting Fatigue Behaviour of Plasma Nitrided Ti-6Al-4V", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
4. Priya Ranganathan, et al., "Effect of prior thermal history on dissimilar friction stir welding of AA 6061 to AA 2219", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
5. A Sivaraman, Uday Chakkingal, "Workability of Al alloy processed by equal channel angular pressing", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
6. P. Chakravarthy, Uday Chakkingal and P. Venugopal "Warm extrusion of Sintered Preforms of Steel", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
7. Ganesh Niranjana et al., "Effect of groove pressing on drawing quality (r-value) for commercial purity aluminium", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
8. R. C. Shivamurthy, M. Kamaraj, R. Nagarajan, B. S. Mann, S. M. Shariff and S. V. Joshi, "Slurry erosion studies on surface modified martensitic stainless steel", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.
9. R. C. Shivamurthy, M. Kamaraj, R. Nagarajan, S. M. Shariff and G. Padmanabham, "Microstructure and hardness studies of the laser surface alloyed martensitic stainless steel", 61st Annual Technical Meeting, Indian Institute of Metals, Nov. 2007 Mumbai.

Distinguished visitors to the Department

Lectures by visitors

S. No.	Name	Topic	Date	Details
1	Dr. Srinivas T.R. Rao	Nanotechnology Opportunity - a Technologist's Perspective	13/04/2007	Distinguished alumnus of IIT Madras (2007) visited the Department
2	Dr. U. Ramamurty	Mechanical behaviour of amorphous alloys	24/08/2007	The speaker is Associate Professor at Department of materials Engineering, Indian Institute of Science, Bangalore
3	Dr. Shriram Ramanathan	Structure Property Relationships in Thin Film Metal-Oxides	25/07/2007	School of Engineering and Applied Science, Harvard University, USA
4	Prof. Hiroshi Tsuda	Precipitation of Ti in TiC Particles of Ti Matrix Composites from Ti-C-N Powder Mixtures using Reactive Arc-melting	10/09/2007	Professor at Graduate School of Engineering, Osaka Prefecture University, Osaka, Japan
5	Dr. T.A. Venkatesh	Smart Piezoelectric Materials: Structural Modifications and Functional Optimization	28/09/2007	Assistant Professor, Department of Materials Science and Engineering, Stony Brook University, New York
6	Dr. Subrata Mondal	Micro-structure and Water Molecule Transport in Dense Shape Memory Polyurethane Membranes	17/10/2007	Post-doctoral fellow at the Department of Chemical Engineering, Colorado State University, USA.

S. No.	Name	Topic	Date	Details
7	Dr. Helfried Näfe	Thermodynamics of the $\text{Na}_2\text{ZrO}_3/\text{ZrO}_2$ Phase Equilibrium: Errors, Confusion and News	20/11/2007	The speaker is with the Max Planck Institute for Solid State Research and later the Max Planck Institute for Metals Research in Stuttgart, Germany.
8	Prof. Karl-Heinz E. Schwalbe	Mechanical Behaviour of Mis-Matched Welded Joints	26/11/2007	The speaker is with the Technical University of Hamburg-Harburg and Ruhr University of Bochum.
9	Vijayavel Bagavat Singh	Direct Metal Deposition: Advanced Manufacturing and Near Net Shape Maker	3/12/2007	System Development Manager, The POM Group Inc, USA
10	Prof. Srinivasan Raghavan	Processing of Boron Modified Titanium Alloys	4/12/2007	Mechanical and Materials Engineering Department, Wright State University, Dayton, OH 45432 USA
11	Dr. Seiji Kuroda	Thermal Spray Coatings for Surface Protection in Severe Environments	19/12/2007	Composites and Coatings Center, NIMS, Tsukuba, Japan
12	Dr. Christian Abromeit	MD Simulation of Martensitic-Austenite Phase Transformations in NiAl	2/1/2008	The speaker is Senior Scientist, Hahn-Meitner-Institut, Berlin (Germany)
13	Prof. Raj K. Bordia	Polymer Derived Nanostructured Composite Ceramics	7/1/2008	The speaker is Professor, Materials Science and Engineering, University of Washington, Seattle, WA, USA. The lecture was co-organised by Material Advantage and METSA
14	Prof. Raj K. Bordia	Energy and Environment: Challenges and Opportunities	8/1/2008	-do-
15	Prof. Raj K. Bordia	Continuum Formulation of Constrained and Stress Assisted Sintering	9/1/2008	Co-organised by IIM Chennai Chapter
16	Dr. Anandh Subramaniam	Edgy Dislocations	11/1/2008	The speaker is Assistant Professor, Dept. Applied Mechanics, IIT Delhi. The lecture was co-organised by IIM Chennai Chapter
17	Dr. N. Subba Reddy	Modeling of a-b titanium alloys by artificial neural networks and genetic algorithms	19/2/2008	The speaker is a Postdoctoral Research Scientist Department of Material Science and Engineering Pohang University of Science and Technology

S. No.	Name	Topic	Date	Details
18	Prof. N.K. Mukhopadhyay	Mechanical characterization of high temperature complex metallic alloys and composites by micro- and nanoindentation techniques	8/2/2008	The speaker is Professor in Department of Metallurgical Engineering, Centre of Advanced Study, Institute of Technology, Banaras Hindu University, Varanasi 221 005, India.
19	Prof. W. Skrotzki	Severe plastic deformation of TiAl-based alloys	18/2/2008	The speaker is from Institut für Strukturphysik, Technische Universität Dresden, Germany

Other visits to the Department

- ❖ Personnel from M/s Mahendra and Renault Automotives Company visited our Department on 24.04.2007 in connection with the R&D set up. An interaction meeting with all faculty members was held at 10.00 a.m.
- ❖ Mr. Robert Strehle of Zwick Gmbh Germany visited on 21/05/07 to acquaint faculty members of Zwick's initiative in university-specific products. An interaction meeting with all faculty members was held at 3.00 p.m.
- ❖ Dr. Francois Christin, Programme Engineer CMC'S Manager, at Snecma Propulsion Solide, and Ms. Sandie Favier, Attachée for Science and Technology, French Embassy in India visited the Department of Metallurgical & Materials Engineering as a part of the "French Science Today" programme organised by the French Embassy in India. An interaction meeting with the faculty members was held. Dr. Christin elaborated on his research in the area of high temperature ceramic matrix composites (CMC's) for aerospace applications. Ms. Sandie Favier informed the faculty members about opportunities for post-doctoral research and higher studies in France (10/09/2007).

Summary

The Department of Metallurgical & Materials Engineering has been active in all spheres of its activities. As it approaches the Golden Jubilee Year, the Department has made contributions to the vibrancy of IIT Madras through research, education and consultancy, as well as professional activities. The activities represent a healthy and evolving environment of the Department, conducive to its emergence as the leading metallurgical & materials department in the country.

The salient features of the Department's activities for the year 2007-08 are:

- ❖ Degrees awarded to 67 students, including 18 research degrees
- ❖ Recruitment of four faculty members as Assistant Professors
- ❖ Organisation of 8 conferences and workshops
- ❖ Participation in many conference, workshops and invited lectures
- ❖ Serving the academic community at large as reviewers, experts and external examiners
- ❖ Bringing laurels to IIT Madras in the form of numerous prestigious awards
- ❖ Bringing in sponsored research funding to the tune of Rs.94,37,000/-
- ❖ Research based consultancy amounting to Rs.1,41,18,000/-
- ❖ Industrial and retainer consultancy valued at Rs.25,26,330/-
- ❖ Publications in refereed journals: 50
- ❖ Conference papers: 49
- ❖ Numerous professional activities, such as lectures by visitors and student activities.

4.15 DEPARTMENT OF OCEAN ENGINEERING

4.15.1 Introduction:

The Department of Ocean Engineering (DOE) was established in 1977. It offers B.Tech. (Naval Architecture), Dual Degree (Naval Architecture and Ocean Engineering), M.Tech – OE1. (Ocean Engineering), M.Tech – OE2 (Ocean Technology and Management), 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 697	Computer Aided Analysis of Offshore Structures and Ships
2.	OE 696	Wave Simulation, measurement and Analysis
3.	OE 319	Design of Ocean Structures

Students on Roll:

Programme	I Year	II Year	III Year	IV Year	V Year	Total
B.Tech	20	19	15	21	01	76
Dual Degree	09	06	04	06	03	28
M.Tech	15	08	0	0	0	23
M.S.	02	05	05	02	05	19
Ph.D	01	04	03	07	15	30
Total	47	42	27	36	24	176

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

Sl. No	Name of the Student	Programme	Name of the Conference/Seminar/Symposia	Date & venue
(i) Conference:				
1.	Mr. L. Noarayanan	Ph.D.	Short term Course on CFD-	IIT Madras
2.	Mr. Manas Ranjan Behera	Ph.D.	Turbulent Flows and Modelling	June 4-8, 2007
3.	Mr. Manas Ranjan Behera	Ph.D.	Presented the paper in 26 th International Conference on Offshore Mechanics and Arctic Engineering	June 10-15, 2007 San Diego, California, USA during
4.	T. Sankar Babu	Ph.D	4 th Indian National Conf. on Harbour and Ocean Engineering	National Inst. of Technology Surathkal December 11-15, 2007
5.	T. Nasar	Ph.D		
6.	K.V. Anand	M.S		
7.	V. Sriram	Ph.D		
8.	Samuvel Devados	Ph.D		
9.	C. Rajasekaran	Ph.D		
10.	C. Krishnakumar	Ph.D		
11.	Jineesh George	M.Tech		
12.	K. Sankar Babu	Ph.D	7th International Conf. on Coastal and Port Engineering, PIANC-COPEDECE -2008	Dubai UAE February 23-28, 2008
13.	C. Krishna Kumar	Ph.D		
14.	V. Sriram	Ph.D		
15.	M.R. Behera	Ph.D		

Sl. No	Name of the Student	Programme	Name of the Conference/ Seminar/Symposia	Date & venue
Workshop				
1.	Mr. T. Nasar	Ph.D	Indo Jan Workshop on "Costal Problems and Mitigation Measures"	July 16-17, 2007 IIT Madras
2.	Mr. K. Sankar Babu	Ph.D		
3.	Mr. C. Rajasekaran	Ph.D		
4.	Mr. C. Krishnakumar	Ph.D		
(ii) Seminar				
1.	Mr.A.VenkataSubbaiah	Ph.D.	One day seminar on "Oil & Gas Industry – Academic Interface" at Chennai	5 th April, 2007 Anna University,
2.	Ms. D. Swetha	M.S.		
3.	Mr. R. Samuel Devadoss	Ph.D	3 days training program on the new version of Lab view 8.20 course conducted by MDS/MEMH,	19.06.07 to 21.06.07 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	Prize awarded by
1.	Soumitra Singh	NA03B015	American Bureau of Shipping Prize	M/s American Bureau of Shipping
2.	Dharmendra Singh Raghuvanshi	NA02B024	Institute Merit Prize	Institute
3.	P Sunny Kumar	OE05M006	American Bureau of Shipping Prize	American Bureau of Shipping

4.15.3 Faculty and their activities:

Faculty:

Name and Qualifications

Professors:

V. Anantha Subramanian, Ph.D.,
(IIT, Madras)
S.K. Bhattacharyya, Ph.D.
(IIT, Madras)
K. Ganesh Babu, Ph.D. (IIT, Madras)

V.G. Idichandy, Ph.D.(IIT, Madras)

J.S. Mani, Ph.D.(IIT, Madras)
R. Natarajan, Ph.D. (IIT, Madras)

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

SP.Subramanian, Ph.D.
Madras University
R. Sundaravadevelu, Ph.D.
Head - (IIT, Madras)
C.P. Vendhan, Ph.D., (IIT, Kanpur)

Associate Professors:

P. Krishnankutty, Ph.D (IIT Madras)

K. Murali (IIT Madras)

S. Nallayarasu, Ph.D

S.A. Sannasiraj, Ph.D (IIT Madras)

Major Area of Specialization

Computer aided ship design, Ship hydrodynamics and CFD applications

Computer aided structural analysis, Analysis of motion characteristics of floating bodies, Model studies
Analysis and design of ocean structures, Behaviour of materials in Ocean Environment

Experimental techniques, Instrumentation, Analysis and testing of structural models and prototypes

Coastal Engineering and Wave Hydrodynamics
Ship Hydrodynamics, Design of small crafts, Model testing of launchers, tugs, trawlers etc., Mooring analysis of floating structures

Wave Structure Interaction, Coastal Protection,
Port & Harbour structures, Fluid Flow Problems
Geological oceanography, Engineering geology

Computer aided analysis, Design and experimental studies of coastal and offshore structures, Port and Harbour Structure.
Structural dynamics, Offshore structures, Finite element methods

Numerical Marine Hydrodynamics, Ship Motions, Wave Wash and Passenger Comfort

Numerical Modelling of Coastal Hydrodynamics; Sediment Transport & Pollutant Transport. CFD Modelling for Pollutant Transport. CFD application to Ship and Underwater Hydrodynamics.

Analysis and Design of Offshore Structures, Wave-Structure interaction, Reliability in Offshore Structural Design

Wind-wave generation, data assimilation, breaking wave simulation and its dynamics, wave-structure interaction, dynamics of floating bodies.

S. Surendran, Ph.D. (Yokohama National Univ., Japan)

Naval Architecture, Ship motion control and Ship Structures

Assistant Professor

R. Panneer Selvam

System Identification, Simulation, Nonlinear dynamics

Short-term courses/Workshops/ Seminars/ Symposia/ Conferences Organized by the Faculty Members

Sl. No.	Name of Faculty	Title	Period
Workshop / Short term Course			
1.	Prof. V. Sundar Dr. S.A. Sannasiraj	Indo-Japan Workshop on "Coastal Problems and Mitigation Measures – including the effects of Tsunami"	July 16-17, 2007
2.	Prof. S.R. Gandhi Prof. R Sundaravivelu Prof. V. Sundar	Training Program on Design and Construction of Piling at M/s Adani Port, Ahmedabad	September 14-15, 2007
3.	Dr. S. Nallayarasu	Offshore Structures Analysis and Design (Using SACS)	Saipem India Project Services Limited Chennai
4.	Prof. R Sundaravivelu Prof. SP Subramanian	Second Meeting of the Port City University League at IIT Madras	IIT Madras December 3-5, 2007
5.	Dr. S. Nallayarasu	Technical Training on Offshore Structures	Engineers India Limited, New Delhi Dec. 10-20, 2007
6.	Dr. S. Surendran Dr. R. Panneer Selvam	Safety of ships and Offshore structures	IIT Madras Dec. 10-22, 2007
7.	Prof. V. Sundar	Indo German Workshop on Research Activities of Students	IIT Madras January 10, 2008
8.	Dr. S. Nallayarasu Dr. K. Murali	Workshop on Developments in Deep water technology	IIT Madras January 23-25, 2008
9.	Prof. R Sundaravivelu Prof. V. Sundar Prof. SP Subramanian	Workshop on Rehabilitation Measures for the Tsunami affected Coasts of Tamilnadu, Kerala and Puducherry	IIT Madras February 4-5, 2008

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

Sl. No.	Name of Faculty	Title	Institution	Period
(i) Workshop				
1.	Prof. V. Sundar	Media workshop in Tamil on "Integrated Coastal Zone Management"	The Hindu Media Resource Centre", M.S.S.R.F.	3rd May 2007.
2.	Prof. V. Sundar Prof. R. Sundaravivelu Prof. J.S. Mani Dr. S.A. Sannasiraj Dr. K. Murali	Indo-Japan Workshop on "Coastal Problems and Mitigation Measures – including the effects of Tsunami"	IIT Madras	July 16-17, 2007
3.	Dr. S. Nallayarasu	Renewable Energy Sources Wind 2008	Kalasalingam University, Krishnan Koil	Feb. 15, 2008
4.	Prof. R Sundaravivelu Prof. V. Sundar Prof. SP Subramanian Prof. K. Ganesh Babu Prof. V Anantha Subramanian Dr. K. Murali Dr. S.A. Sannasiraj Dr. Panneer Selvam	Workshop on Rehabilitation Measures for the Tsunami affected Coasts of Tamilnadu, Kerala and Puducherry	IIT Madras	Feb. 4-5, 2008
5.	Dr. S. Nallayarasu	Non-conventional Energy Technologies : Development & Issues	IC&SR Building, IIT Madras	March 5, 2008

Sl. No.	Name of Faculty	Title	Institution	Period
(ii) Seminar				
1.	Prof. V. Sundar	Training Program on Design and Construction of Piling	M/s Adani Port Ahmedabad	September 14-15, 2007
(iii) Symposia				
1.	Dr. P. Krishnankutty	World Shipping Forum 2008	Organised by Institution of Marine Engineers at Hotel Park Sheraton, Chennai	31 Jan to 2 Feb 2008
(iii) Conference				
1.	Prof. R. Sundaravadivelu	26 th International Conference on Offshore Mechanics and Arctic Engineering (OMAE) 2007 Technical meeting and discussion	San Diego, CA, USA Florida Atlantic University	10.06.2007 to 15.06.2007 16.06.2007 to 18.06.2007
2.	Prof. V. Anantha Subramanian Dr. K. Murali	Seventh Asian Computational Fluid Dynamics Conference	IISc., Bangalore	November 26-30, 2007
3.	Prof. C.P. Vendhan	National Symp. on Acoustics (NSA 2007)	KSR College of Technology Tiruchengode	December 4-8, 2007
4.	Prof. V. Anantha Subramanian	Setting Fuel Economy Standards and Labeling of Transport Vehicles	Petroleum Conservation Research Association Chennai	December 6-7, 2007
5.	Prof. V. Sundar Prof. J.S. Mani Dr. S.A. Sannasiraj Dr. K Murali Dr. P. Krishnankutty	4 th Indian National Conf. on Harbour and Ocean Engineering	National Inst. of Technology Surathkal	December 11-15, 2007
6.	Prof. R Sundaravadivelu Prof. V. Sundar Prof. SP Subramanian Prof. K. Ganesh Babu Prof. V Anantha Subramanian Dr. K. Murali Dr. S.A. Sannasiraj Dr. S. Surendran Dr. S. Nallayarasu Dr. Panneer Selvam	Second Meeting of the Port City University League at IIT Madras	IIT Madras December 3-5, 2007	December 3-5, 2007
Meetings				
1.	Prof. V. Sundar	Member of ICMAM Expert Committee meeting	NIOT Campus, Chennai	2 nd May 2007
2.	Prof. V. Anantha Subramanian	Interview Board External Expert	DRDO at Bangalore	17 th May 2007.
3.	Prof. C.P. Vendhan Prof. S.K. Bhattacharyya Prof. V. Anantha Subramanian Dr. P. Krishnankutty Dr. K.Murali Dr. R. Panneer Selvam	Naval Research Board meeting & presentation	NIOT Campus	18 th May 2007.
4.	Dr. K. Murali	External Expert, Interview Board	DRDO at Bangalore	2 nd June 2007.

Sl. No.	Name of Faculty	Title	Institution	Period
5.	Prof. V. G. Idichandy	As a Chief Guest, Graduation Ceremony	Nehru College of Engineering & Research Centre, Pampady, Thrissur District, Kerala	13 th June 2007.
6.	Dr. R. Panneer Selvam	A training program on the new version of Labview 8.20 course conducted by MDS/MEMH	IIT Madras	19 th June 2007.
7.	Prof. C.P. Vendhan	Critical Design Review meeting	DRDL, Hyderabad	22 nd June 2007
8.	Prof. R. Sundaravadivelu	Expert Committee Meeting on Saline Embankments	National Inst. of Disaster Management Ministry of Home Affairs, New Delhi	August 17, 2007
9.	Prof. R Sundaravadivelu	FPSO for Bombay High and Godhavari basin	ONGC New Delhi	August 17, 2007
10.	Prof. S.K. Bhattacharyya	AICTE nominee and expert, interview board	Cochin Univ., of Science and Technology, Cochin	August 17, 2007
11.	Prof. K. Ganesh Babu	Attended the presentation on the design aspects and the financial demands with the construction of the new Indian Station at Larsemann Hills, Antarctica.	NCAOR Goa	September 3, 2007
12.	Prof. R Sundaravadivelu	Attended the Selection Committee meeting	UPSC New Delhi	September 6-7, 2007
13.	Prof. V. Sundar	Attended Expert Committee Meeting to review the projects sponsored under Shore Management Plans	ICMAM NIOT Campus Chennai	September 11, 2007
14.	Dr. S.A. Sannasiraj	External Expert, Interview Board	ICMAM NIOT Campus Chennai	September 11, 2007
15.	Prof. V. Sundar	Attended the Viva Voce Board Meeting	MIT, Chennai	September 21, 2007
16.	Prof. V.G. Idichandy	Setting up of a Seakeeping and Manoeuvring Basin (SMB) at NSTL	NSTL Visakhapatnam	November 1-2, 2007
17.	Dr. K. Murali	Meeting of the Evaluation Committee to evaluate the Central Inst. of Coastal Engineering for Fishery, Bangalore	CICEF Bangalore	November 13, 2007
18.	Prof. V. Sundar	8 th Meeting of the Executive Committee of IOM, Anna University	Anna University	January 25, 2008
19.	Prof. V. Sundar	8 th Meeting of the Research Council	Centre for Earth Science Studies Thiruvananthapuram	January 10-11, 2008
20.	Prof. V Sundar	Construction of seawalls	Ministry of Environment and Forests New Delhi	January 16, 2008
22.	Prof. V. Anantha Subramanian	BIS workshop on Inland vessels and Fishing board	Cochin	February 2008
21.	Prof. V. Anantha Subramanian	Asian CED Conference	IISc., Bangalore	February 2008
22.	Prof. V. Sundar	Expert Committee meeting	NBA visit to NITK, Surathkal	March 24, 2008
23.	Prof. V. Sundar	Expert Committee meeting	Ministry of Environmental and Forests, New Delhi	March 18, 2008

Sl. No.	Name of Faculty	Title	Institution	Period
24.	Prof. V. Sundar	Expert Committee meeting	Ministry of Environmental and Forests, New Delhi	March 18, 2008
25.	Prof. V. Sundar	Expert Committee meeting	NBA visit to NITK, Surathkal	March 24, 2008

Special Lectures Delivered by the Faculty in other Institutions:

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Prof. S.K. Bhattacharyya	Acoustic waves in fluids	NPOL, Cochin 9th to 13 th April, 2007
2.	Dr.S.A. Sannasiraj	Coastal Engineering Problems along Indian coasts	Griffith School of Engineering seminar, Griffith University, Gold Coast, Australia. 2 nd May, 2007.
3.	Dr.S.A. Sannasiraj	Laboratory studies on breaking waves	Oceanography seminars, Faculty of Engineering and Industrial sciences, Swinburne University of Technology, Melbourne, Australia. 8 th May, 2007
4.	Prof C.P. Vendhan	Acoustics of fluid structure interaction	NPOL, Cochin May 7-11, 2007
5.	Prof. S.K. Bhattacharyya	Ship safety in Accident Scenarios: Inspection, Prevention and control	NIPM, Chennai May 15, 2007
6.	Prof. S.K. Bhattacharyya	Materials in ship building and ship repair	NIPM, Chennai July 12, 2007
7.	Prof. V.G. Idichandy	Instrumentation and Control for AUV	NSTL, Vishakapatnam August 17, 2008
8.	Prof. V. Sundar	Guest Lecture on "Coastal Offshore Port and Harbour structure	B.S. Abdur Rahman Crescent Engg., College, Chennai Sept., 7, 2007
9.	Prof. V. Sundar	Sea Erosion and the various effects in near future	Meenakshi Sundararajan Engg., College, Chennai Sept., 8, 2007
10.	Prof. J.S. Mani	Coastal Zone Management – a Review	Peters Engineering College Chennai Sept., 27, 2007
11.	Dr. K. Murali	Earthquake generating Tsunami	St. Peters Engineering College, Chennai October 9, 2007
12.	Dr. K. Murali	Tsunami modeling for nuclear power plants	NGRI, Hyderabad October 12, 2007
13.	Prof. V.G. Idichandy	Wave Makers and Wave Generation techniques	NSTL, Vishakapatnam November 2, 2008
14.	Prof. V.G. Idichandy	Hydrodynamic test Facilities	NSTL, Vishakapatnam December 10, 2008
15.	Prof. C.P. Vendhan	(a) Dynamics of Offshore structures (b) Advanced analysis of Offshore structures	Engineers India Limited, New Delhi December 11-13, 2007
16.	Prof. S.K. Bhattacharyya	Dynamics of Floating bodies	Engineers India Limited, New Delhi December 14, 2007
17.	Dr. S. Nallayarasu	(a) Materials for Offshore structures (b) Design of Offshore structures (c) Foundations for Offshore structures (d) Advanced analysis of Offshore Structures Examples Problems using SACS software	Engineers India Limited, New Delhi December 9, 11, 14, 18, 19 and 20, 2007
18.	Prof. S.K. Bhattacharyya	Training in finite element method	ARP Technologies, Chennai December 2007

Sl. No.	Name of Faculty	Topic of Lecture	Venue and Date
19.	Dr. S.A. Sannasiraj	Loads on Offshore Structures	Engineers India Limited, New Delhi December 10-11, 2007
20.	Prof. V. Sundar	Coastal protection structures.	National Institute of Technology, Suratkal during 12-14 Dec., 2007
21.	Prof. J.S. Mani	Coastal zone management.	"
22.	Prof. V. Sundar	Coastal Disaster, Mitigation and Management Measures	Satish Dhawan Space Centre, SHAR, Sriharikota February 4, 2008
23.	Prof. V. Sundar	(a) Basic wave dynamics (b) Wave loads on Coastal and Ocean Structures (c) Design of Groins, Jetties and caisson breakwaters (d) Tsunami mitigation measures (e) Special material for coastal engineering applications	STTP on "Design of coastal and ocean structures" at Andhra Univ. of College of Engineering, Visakhapatnam Feb., 6-7, 2008
24.	Prof. C.P. Vendhan	(a) Structural response under blast loading (b) Four lectures on non-linear finite element modeling and dynamic response due to underwater explosion	University of Glasgow and Strathclyde, UK
25.	Prof. J.S. Mani	(a) Tsunami Risk Mitigation Measures (b) Design of Coastal protective structure for waves and tsunami affected sea front.	STTP on "Design of coastal and ocean structures" at Andhra Univ. of College of Engineering, Visakhapatnam Feb., 6-7, 2008
26.	Dr. S.A. Sannasiraj	(a) Ocean energy – an Indian scenario (b) Waves, tides and current (c) Coastal protection along Karaikal coast	STTP on "Design of coastal and ocean structures" at Andhra Univ. of College of Engineering, Visakhapatnam Feb., 6-7, 2008
27.	Dr. S. Nallayarasu	Energy from the Oceans	Workshop on Renewable Energy Sources – WID 2008 at Kalasalingam University, Virudhunagar, Feb., 15, 2008
28.	Dr. S. Surendran	Features of small crafts including trawlers	Bureau of Indian Standard, Kochi Feb., 20, 2008
29.	Dr. S. Nallayarasu	Non-conventional Energy Technologies: Development & Issues	Course on "Technology and Sustainable Development", IIT Madras, March 5, 2008

Visits abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
1.	Prof. R. Sundaravadivelu	Indonesia	6 th to 9 th April, 2007	Port Development at Ketahun, Sumatra
2.	Prof. V. Sundar	Australia Germany	16-20 th April, 2007 21 st April, 2007	Presented the paper at the International Coastal Symposium 2007. Meeting on "DFG-Round Table Discussion – Near and Onshore Tsunami Effects"
3.	Dr. S.A. Sannasiraj	Australia Denmark	9 th April to 8 th June, 2007	Endeavour India Executive Award at Griffith University. Workshop as a part of European Commission Project. International Coastal Symposium 2007.

Sl. No	Name of Faculty	Country visited	Date	Purpose of visit
4.	Prof. V. Sundar	Germany Canada France Italy	7 th May 2007 to 8 th July 2007	Visiting Research Fellow at the University of Wuppertal. Visit to University of Ottawa, Canada for a discussion joint research project proposal. To deliver an Invited lecture in Europe – India T2B Conference, Paris To participate in the IAHR Council meeting at Venice, Italy
5.	Dr. S. Nallayarasu	UAE	24 th May 2007 to 29 th May 2007	For a site visit to Dubai in connection with Project work.
6.	Dr. S. Nallayarasu	Indonesia	25 th June 2007 to 29 th June 2007	Visit to Jakarta, Indonesia in connection with Project work.
7.	Dr. S.A. Sannasiraj	Thailand	30 th July to 4 th August 2007	Attended the Intl. Conf. AOGS, 2007 and Oran presentation of paper of paper "Classification of Ocean Waves from the Data Buoy Measurements" held at Bangkok.
8.	Dr. S. Nallayarasu	Indonesia	August 9-12, 2007	Project work at Kanchana Petroleum and Engineers of PT SEMPEC
9.	Dr. K. Murali	Germany	Sept., 3-6, 2007	DAAD – Erasmus Mundas Meeting of the German co-ordinators and visited University of Wuppertal, Germany
10.	Dr. S. Nallayarasu	Singapore	Sept., 26-28, 2007	Attended the International Conference on "Maritime – Port Technology"
11.	Prof. V. Anantha Subramanian	USA	October 1-12, 2007	Attended the 10 th International Symposium on Practical Design and Ships and other Floating structures
12.	Prof. V. Sundar	Canada	October 16- 31, 2007	Collaborative research project discussion in University of Ottawa, Canada and visited Queen's University, Kingston
13.	Dr. S. Nallayarasu	Malaysia	October 25-26, 2007	Project work at PT SEMPAC, Lumut
14.	Prof. SP Subramanian	Malta	October 31- Nov., 8, 2007	(a) Attended the 4 th Meeting of the Directors of International Ocean Institute (b) Attended the PIM XXXII – Biannual International Conference of International Ocean Institute
15.	Prof. V. Anantha Subramanian	Sudan	Nov., 8-11, 2007	Visited for new project consultation
16.	Prof. J.S. Mani	Egypt	Nov., 13-17, 2007	Attended and presented paper at the 8 th International Conference on "The Mediterranean Coastal Environment"
17.	Dr. S. Nallayarasu	Malaysia	Dec., 20- 24, 2007	Project discussion organized by M/s PT Sempec, Indoensia
18.	Prof. C.P. Vendhan	Scotland UK	January 28- Feb 15, 2008	Collaborative research work at Universities of Glasgow & Strathclyde, Scotland
19.	Dr. S. Nallayarasu	Indonesia	Feb., 1-3, 2008	Project work at PT SEMPAC
20.	Prof. V. Sundar	Dubai	Feb., 21- 28, 2007	Attended the 7 th Intl. Conf. on Coastal and Port Engineering in Developing countries and project work at M/s Sogreah Consultants
21.	Prof. J.S. Mani Dr. S. Nallayarasu Dr. S.A. Sannasiraj	Dubai	Feb., 24- 28, 2008	Attended the 7 th Intl. Conf. on Coastal and Port Engineering in Developing countries (COPEDEC VII – 2008)
22.	Dr. S. Nallayarasu	Malaysia	20.3.2008	Project Meeting at Fabrication Yard, Lumut
23.	Prof. R Sundaravadivelu	Singapore	26.3.2008 to 27.3.2008	Attended and presented paper in the Workshop on "FPSO ASIA-PACIFIC"

Honours and Awards obtained:

Sl. No	Name of Faculty	Name of Award	Awarded by	Awarded for	Date
1.	Dr.S.A. Sannasiraj	Endeavour India Executive Award	Department of Education, Science and Training, Australian Government	Professional exchange programme	9 Apr 07 to 8 Jun 07
2.	Dr. S.A. Sannasiraj Prof. V. Sundar	Best paper in CFD award	IIT Madras	For the research work on 'Simulation of nonlinear free surface waves'	May 2007

Books, Monographs authored / co-authored

Sl. No.	Name of faculty	Title	Publisher	Author/ Co-author
1	Murali, K	Numerical Methods for solving non-linear FSI Problems involving incompressible fluid flow	Advances in Numerical Simulation of Nonlinear Water Waves	Sudharsan, N.M
2.	Dr. S.A. Sannasiraj Prof. V. Sundar	Velocity calculation methods in Finite Elements based MEL formulation	Advances in Numerical Simulation of Nonlinear Water Waves	Sriram V.,

Fellowships of Academics and Members in Professional Societies

Sl. No.	Name of the Faculty	Name of the Academy	Level	Year of Admission
1.	Prof. V. Sundar	Expert Committee of Cochin University of Science and Technology, Cochin	Member	2007
2.	Murali. K	IAHR & IWA	Member, Management Committee	IAHR / IWA Committee on Marine Outfall Systems

Journal Editorial Boards / Members of Committee

Sl. No.	Name of faculty	Position (Editor / Member)	Journal Name
1.	Prof. V. Sundar	Member	International Steering Committee of Asian and Pacific Coasts (APAC) Japan
2.	Dr. S. Surendran	Board Member	(a) The Open Ocean Engineering Journal (b) International Journal of Ships and Offshore structures I Far East Journal of Ocean Research
3.	Prof. V. Sundar	Member	Editorial board of the Indian Journal of Marine Sciences
4.	Prof. V. Sundar	Associate Editor	Journal of Hydro-Environment Research by the Asia Pacific division
5.	Prof. V. Sundar	Editor	International Association of Hydraulic Research journal
6.	Prof. V. Sundar	Associate Editor	Ocean Engineering journal (International) by Elsevier Publishing Co.
7.	Prof. V. Sundar	Member	Editorial Board for the special issue of International Journal of Ecology and Development on Coastal and Estuarine Environment,
8.	Prof. V. Sundar	Member	Technical Advisory Committee of Chilika development authority, Govt. of India
9.	Prof. V. Sundar	Member	Executive committee of Institute for Ocean Management, Anna University, Chennai
10.	Prof. V. Sundar	Member	Research council of Centre for earth science studies(CESS), Kerala State Council for Science, Technology & Environment

Sl. No.	Name of faculty	Position (Editor / Member)	Journal Name
11	Prof. V. Sundar	Expert Member	Committee for Master plan on Coastal protection works, Public works department, Govt. of Tamilnadu
12	Prof. V. Sundar	Member	Panel of experts for National Institute of Science Communication and Information resources, Council for Scientific & Industrial research, Govt. of India
13	Prof. V. Sundar	Member	ICMAM Expert Committee meeting at NIOT Campus
14	Prof. V. Sundar	Member	International Steering Committee of Asian and Pacific Coasts (APAC) Japan
15	Prof. S.K. Bhattacharyya	Editorial Board Member	Open Acoustics Journal
16	Prof. S.K. Bhattacharyya	Editorial Board Member	Journal of Ship Technology
17	Prof. C.P. Vendhan	Editorial Board Member	Journal of the Engineering for the Marine Environment, I Mech E, Partm, UK
18	Dr. S.A. Sannasiraj	Scientific Committee member	International Coastal Symposium Griffith University, Australia
19	Dr. S.A. Sannasiraj	Member	Board of Academic Courses, Thiagarajar College of Engineering, Madurai

4.15.4 Research and Consultancy:

Sponsored Research Projects:

Sl. No.	Title	Period	Industry	Amount (in lakhs)	Co-ordinators
1.	Augmentation of research facilities	2003-07	Dept. of Science and Technology	117.00	Head, OED
2.	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
3.	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
4.	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
5.	System Identification for Non-linear Maneuvering and Sea-keeping of Ships	March '05 March '08	Naval Research Board	28.40	Dr. S.K. Bhattacharyya Dr. R Panneer Selvam
6.	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 Prof. V. Sundar
7.	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
8.	Co-ordinated action on Ocean Energy	Feb'07 Dec'07	European Commission	5.06	Dr. S.A. Sannasiraj

Sl. No.	Title	Period	Industry	Amount (in lakhs)	Co-ordinators
9.	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
10.	National Programme in Marine Hydrodynamics	Oct' 07 Oct, 12	Naval Research Board	450.00	Prof. V.G. Idichandy Prof. R Sundaravadivelu Prof. SK Bhattacharyya
11.	Study on the Non-Linear effects of free surface waves on fixed and floating marine structures / vehicles	Nov' 07 to Nov'10	Naval Research Board	18.16	Dr. P. Krishnankutty Prof. C.P. Vendhan
12.	Study on Automatic Control of Ships	16.11.07 15.11.09	Naval Research Board	13.38	Dr. R. Panneer Selvam
13.	Interaction of ships with basins, entrance and approach channels	Feb' 2008 Feb' 2011	Ministry of Shipping, New Delhi	32.77	Dr. S. Surendran Dr. R Sundaravadivelu

Industrial Consultancy:

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
1.	Prof. V. Sundar Dr. K. Murali	Construction of Ro-Ro Berth at the Southern end at the end of the container Terminal model studies to verify Tranquility	Chennai Port Trust Chennai	3.36
2.	Prof. R. Sundaravadivelu Dr. S. Nallayarasu Prof. S.R. Gandhi	Deepening of berth WQ-I and WQ-II in Visakapatnam	Visakapatnam Port Trust, Visakapatnam	10.10
3.	Prof. R. Sundaravadivelu	Design of Marine Hard at Hut Bay in Little Andaman	Andaman Harbour Works, Little Andaman	8.97
4.	Prof. R. Sundaravadivelu	Dredging the Tengaithittu Lagoon	Public Works Dept. Pondicherry	10.00
5.	Dr. S. Nallayarasu	Consultancy for Jacket/Deck installation for UAQ Platform	Atlantis (UAQ) Ltd., Dubai	US\$ 8000
6.	Prof. R. Sundaravadivelu Prof. S. R. Gandhi	Proof checking the design of bridges in NH 45	Navayuga Engineering Co. Ltd. Chennai	11.22
7.	Prof. R. Sundaravadivelu	Design of Cargo Shed for Minor Ports	Tamil Nadu Maritime Board, Chennai	1.40
8.	Prof. R. Sundaravadivelu Dr. S. Surendran	Design of oil jetty at Jaginder Nagar	M/s. Good Earth Maritime Ltd., Chennai	4.00
9.	Prof. R. Sundaravadivelu Dr. S. Surendran	Establishment of Ship yard at Caddalore	M/s. Good Earth Ship Building Pvt. Ltd., Chennai	5.00
10.	Prof. V. Anantha Subramanian	Hydrodynamics tests on hull 301 oil tanker vessel	M/s. Modest Infrastructure Pvt. Ltd., Mumbai	3.00
11.	Prof. V. Anantha Subramanian	Hydrodynamics tests on hull 304 geo-technical survey vessel	M/s. Modest Infrastructure Pvt. Ltd., Mumbai	3.00
12.	Prof. V. Anantha Subramanian	Design, advice and quality control of pleasure boats for TTDC	Tamil Nadu Tourism Development Corporation, Chennai	2.00
13.	Prof. V. Sundar Dr. K. Murali	Preliminary, Coastal protection works at Tarayilkadavu	Garware-Wall Ropes Ltd., Chennai	1.40

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
14.	Prof. V. Anantha Subramanian	Cradle design for slipway at Chennai Port	Chennai Port Trust, Chennai	4.48
15.	Prof. R. Sundaravadivelu Prof. S.R. Gandhi	Design of north cargo berth at Tuticorin Port	Tuticorin Port Trust, Tuticorin	16.83
16.	Prof. R. Sundaravadivelu	Stability of 6 ^m to 8 ^m Cargo berth at Kandla Port	Kandla Port Trust, Gujarat	21.04
17.	Prof. R. Sundaravadivelu	Optional solution for the evacuation of Cement and Coat Cargo	I-Maritime Consultancy Pvt. Ltd., Mumbai	3.92
18.	Prof. R. Sundaravadivelu	Checking and certifying the condition of Madhusudan jetty and shed at Chennai Port Trust	Chennai Port Trust, Chennai	7.85
19.	Prof. R. Sundaravadivelu	Construction of viewing platform along the alignment of SSCP	Sethusamudram Corporation Ltd., Chennai	10.10
20.	Prof. R Sundaravadivelu	Preparation of technical bid report for Madhaws Port	Gammon Infrastructure Project Ltd., Mumbai	1.12
21.	Prof. R Sundaravadivelu Dr. S.A. Sannasiraj	Preparation of revised feasibility report for open sea coal handling system at Cuddalore	Cuddalore Power Company Ltd.,	1.12
22.	Dr. S. Nallayarasu	Review of Installation Engineering for ONGC Heera Project for SEMPEC Jakarta	PT SEMPEC Indonesia	US\$ 30000
23.	Dr. S. Nallayarasu	Design Review of MCR-A Gravity Base structure	ABSQ Consulting Singapore	US\$ 4000
24.	Prof. R Sundaravadivelu	Consultancy for Jetty and Platform for IMS Vikrant project	Naval Project (MB) Naval Dockyard Mumbai – 23	11.23
25.	Prof. R Sundaravadivelu Dr. S. Surendran	Modernisation of Garden Reach Ship builders and Engineers Ltd., Kolkata	Garden Reach Ship builders Kolkata 700 024	8.64
26.	Prof. V. Sundar Dr. S.A. Sannasiraj	Coastal Protection from Sea Hawk Golai at Digha to Jaida in the district at Purba Medinipur	Irrigation and Waterways Dept., Govt. of West Bengal	17.95
27.	Prof. R Sundaravadivelu	Design of passenger Hall at Haddo Wharf	Ministry of Shipping Port Blair	11.23
28.	Prof. R. Sundaravadivelu Dr. K. Murali Dr. S.A. Sannasiraj	Detailed project Report for jetty facility to import coal for proposed power project of 2x800mm at Dhopawe	MAGAGENCO Mumbai – 19	37.71
29.	Prof. J.S. Mani	Tsunami studies – modeling and estimation of run-up for FRFCF site	IGCAR Kalpakkam	13.00
30.	Dr. S. Nallayarasu	Review of Jackup SPUD can interaction with Jacket piles for ONGC Heera Redevelopment project	PT SEMPEC Indonesia Jakarta	US\$ 6000
31.	Prof. R Sundaravadivelu	Preparation of detailed project report for Thirukkualai Project	Triden Port and Power Company Private Ltd., Bangalore	44.94
32.	Prof. V. Sundar Dr S.A. Sannasiraj	Harbour Engineering Dept. – Extension of break waters at Azheekal Port, Kannur District – Model study	Harbour Engineering Department Thiruvananthapuram	2.97
33.	Dr. K. Murali	Review of numerical model studies for PD-II Project	TPSC (India) Pvt. Ltd., Hyderabad	0.30

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
34.	Prof. V. Sundar Dr. S.A. Sannasiraj Dr. K. Murali	Design of Marine outfall system for SIMA Textile processing Center Ltd.,	IL&FS Cluster Development Initiative Ltd., Chennai	5.61
35.	Dr. S. Surendran	Vibration measurement analysis on Tug at Tuticorin Port	Tebma Shipyard Ltd., Chennai	0.28
36.	Prof. V. Sundar Dr. S.A. Sannasiraj	Study of Protective measures along the sea shore by preventing the sea erosion at shore Tank facilities (STF) at Kochi	Bharat Petroleum Corp. Ltd., Ernakulam Dist.,	2.90
37.	Prof. V. Anantha Subramanian	60M Anchor handling Tug supply for DBSE J8912	Henderson Intl. LLC, Dubai	2.40
38.	Prof. R. Sundaravadivelu	Modernisation of ID Berths for providing minimum draft of C-112m CD	Chennai Port Trust Chennai	2.24
39.	Prof. R. Sundaravadivelu Prof. V. Sundar Dr. S.A. Sannasiraj Prof. S.R. Gandhi	Development of Mega Terminal at outer Harbour at Chennai Airport	Chennai Port Trust Chennai	35.95
40.	Prof. R. Sundaravadivelu	Checking and certifying the condition of oil Dock structure and pipeline trestle for BD1 and BDII	Chennai Port Trust Chennai	20.22
41.	Prof. R. Sundaravadivelu	Providing foundation for installation of 6 th marine loading arm at Oil Dock (BD-III) in Chennai Port	Chennai Port Trust Chennai	6.74
42.	Dr. S. Nallayarasu	Solutions to Engineering problems in Offshore Structures (approx. 400 problems)	Centre for Marine Structures and Geotechniques Florida	US\$ 2000
43.	Prof. V. Anantha Subramanian	Hydrodynamic tests on 500t fuel barge	The Shalimar Works Limited Kolkata	3.20
44.	Prof. R. Sundaravadivelu	Checking of Temporary load out jetty's Cuddalore MTF	Chemplast Sanmar Limited, Chennai	1.12
45.	Prof. R Sundaravadivelu	Feasibility Report of development of one multi purpose harbour	Sethusamuthram Corp. Ltd., Chennai	1.12
46.	Prof. R Sundaravadivelu Dr. S. Surendran	Modernisation of Goa Shipyard Limited	Goa Shipyard Limited Goa	3.70
47.	Dr. S. Surendran	Engaging Independent Engineers to survey 3 Nos – 20 Ton Granty Cranes	Chennai Port Trust Chennai	0.28
48.	Prof. V. Anantha Subramanian	Hydrodynamic of Hull 308 Product Tanker	Modern Infrastructure Pvt Ltd., Mumbai – 1	2.50
49.	Prof. R. Sundaravadivelu	Preparation of preliminary project report for development of Port along Orissa	Arcelormittal India Ltd., New Delhi	2.00
50.	Prof. C.P. Vendhan Prof. S.K. Bhattacharyya	Launch Transient analysis software	D.R.D.L. Hyderabad	4.80
51.	Prof. R Sundaravadivelu	Comprehensive feasibility Report on Re-engineering of Indira Dock	Mumbai Port Trust Mumbai	0.28
52.	Prof. R Sundaravadivelu	Shore based facilities at Chandrabhaga and Sana arzipalli, FLC, Orissa	UNDP UN House Bhubaneshwar	10.11
53.	Prof. R Sundaravadivelu	Integrity Test on piles at Mus jetty in Andaman and Nicobar	Andaman Harbour Works Andaman	3.37

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs.in lakhs)
54.	Prof. R Sundaravadivelu	Consultancy for solution of Port sites in Tamilnadu and Orissa	I-maritime Consultancy Pvt Ltd., Navi, Mumbai	1.00
55.	Prof. R Sundaravadivelu	Preparation of DPR for proposed Port at Koteswar, Gujarat	Good Earth Maritime Ltd., Chennai	5.00
56.	Prof. R Sundaravadivelu	Preparation of preliminary project for development of port facility at Barunei Muhar	Adhunik Metaling Ltd., Bhubaneswhar	2.24
57.	Prof. V Sundar Dr. S.A. Sannasiraj	Establishing Stability number for Kolos using Hudson's formula – reg.	Krishnapatnam Port Hyderabad	4.71
58.	Prof. V Sundar Dr. K. Murali	Conducting physical model studies for typical sea wall cross section	Disaster Management Dept., Govt. of Kerala	17.07
59.	Dr. S. Nallayarasu	Consulting services for structural requirement of MHN project using SACS software	Oil and Natural Gas Commission Mumbai	11.23
60.	Prof. R Sundaravadivelu	Consultancy for development of Port of Palur and Inchuri	S.S.L. Energy Ltd., Indore	0.56
61.	Prof. R Sundaravadivelu Prof. S.R. Gandhi	Establishment of Offshore light house Lushington shoal	Directorate of Light House and Light Ships Jam Nagar	1.34
62.	Prof. R Sundaravadivelu	Preparation of feasibility report for the development of Port nearby Palur, North of Gopalpur Port	President Shipping Bangalore – 1	2.00
63.	Prof. V Sundar Dr. S.A. Sannasiraj	Anti sea Erosion and beach safety project reconstruction at River Training wall groyne at Kaduvayar and Kallar in Nagapatinam	P.W.D Thiruvananthapuram	0.56
64.	Dr. S. Nallayarasu	Design for BOQ, Design basic note brief design calculations and drawings	Afcons Infrastructure Ltd., Mumbai	2.80
65.	Prof. R Sundaravadivelu Dr. K. Murali	Intake system for coal based thermal power plant at Udangudi	Tamilnadu Electricity Board Chennai – 2	4.50
66.	Prof. V Anantha Subramanian Dr. P. Krishnankutty	Sea keeping and manoverability tests on Hull 304	Modest Infrastructurte Pvt Ltd., Mumbai	7.85
67.	Prof. V Anantha Subramanian	50m Multi support vessel hydrodynamic tests	Henderson Intl. LLC Dubai, UAE	2.20
68.	Prof. R Sundaravadivelu	Checking of design adequacy to install 20T crane of Berth No. 2&3 in New Mangalore Port	New Mangalore Port Panambur	1.12
69.	Prof. S.K. Bhattacharyya	CFD of axisymmetric bodies	DRDL	2.00
70.	Prof. V. Sundar Dr. S.A. Sannasiraj	River bank protection work for terminal at Jogighopa, Assam on NW-2 (river Brahmaputra)	Inland Waterways Authority of India Noida	0.56

RBIC Projects

Sl. No	Name of the Investigator	Title	Industry	Amount (Rs. in lakhs)
1.	Prof. V.G. Idichandy	Design and Development of Pressure Measurement system	D.R.D.L. Hyderabad	9.90
2.	Prof. V.G. Idichandy	Design and Development of an underwater propeller dynamometer	N.S.T.L. Vishakapatnam	9.91

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

Memorandum of Understanding was signed between the Department of Ocean Engineering, IIT Madras and Dredging Corporation of India (DCI), Vishakapatnam on March 24, 2008 in entering into collaborative R & D program called "DCI-IIT R&D Program" in the areas of projects.

Research Publications:

No. of papers published in Refereed National Journals	:	1
No. of papers published in Refereed International Journals	:	23
No. of papers presented in National Conferences	:	19
No. of papers presented in International Conferences	:	22

In Refereed National Journals:

1. Sriram, V., Balaji, R., Sannasiraj, S.A. and Sundar, V. 2007. Experimental and numerical studies on the tsunami wave characteristics. *ISH Journal of Hydraulic Engineering*, 12(1), 123-134.

In Refereed International Journals

1. K. Muthukumar, R. Sundaravadivelu, Numerical Modeling of dredging effect on berthing structure, *Asia Geotechniques* (2007), 2:249-259.
2. K. Muthukumar, R. Sundaravadivelu, Effect of Dredging and Axial load on a berthing structure, *Intl. Journal of Geo-engineering case Histories* (2007), Vol.1, Issue 2, p.73.
3. K. Muthukumar, R. Sundaravadivelu, Effect of Slope on P-Y curves due to surcharge load", *Soils and Foundations*, The Japanese Geotechnical Society, 2007
4. Darga Kumar, N., Narasimha Rao, S, and Sundar, V., "Performance of caisson in soft clay under Cyclic lateral loading", *Journal of the South East Asian Geotechnical Society*, Vol.38, No.1, April 2007, pp 16-23.
5. Lajju. K., Sundar, V. and Sundaravadivelu, R. "Studies on Pile Supported Double Skirt Brea breakwater models" *The Journal of Ocean Technology*, vol II, No.1, winter 2007, pp 33-53
6. J.S.Mani, Beach Accretion and Erosion With S-Type Rubble Mound Sea Wall Vol 23, No.4, page 921-929, *Journal of coastal Research*, July 2007
7. Subramanian V.A., Subramanyam P.V.V., (2007) Pressure and drag influences due to tunnel in high speed planing craft, *International Shipbuilding Progress*, Vol.54, No.1, 25-44.
8. Subramanian V.A., Asokmumar G., Jagadeesh Kumar V., (2007) Active fin control for Yacht using virtual instrumentation, *International Journal of Ocean Engineering*, Vol.34, 390-402.
9. Subramanian V.A., Manoj Kumar, (2007) A numerical and experimental study on tank wall influences in drag estimation, *International Journal of Ocean Engineering*, Vol.34, 192-205.
10. Behera, M. R., and Murali, K. (2007) "Semi-empirical model for initial displacement of salt water wedge in a bar-blocked estuary", *ASCE, Journal of Waterway, Port, Coastal, & Ocean Engineering*, 133(4), pp 264-267.
11. Behera, M. R., and Murali, K. (2007) "Investigations into salt wedge dynamics at a bar blocked estuary using front tracking approach", *Journal of Hydro-Environment Res.*, 1(1), pp 1-8.
12. Vijayalakshmi, K., N Neelamani, S., Sundaravadivelu, R. and Murali, K. (2007). An experimental study on regular wave loads on a perforated circular caisson and suction pipe configuration, *The JI. of Ocean Tech.*, 2(2), pp -

13. Sundar,V, S.A.Sannasiraj, K.Murali and R.Sundaravadivelu. (2007). Runup and Inundation Along the Indian Peninsula, Including Andaman Islands, due to Great Indian Ocean Tsunami, *Journal of Waterway, Port, Coastal and Ocean Engineering*, 133(6), pp 401-413.
14. Sriram, V., Sannasiraj, S.A. and Sundar, V. 2007. 2D nonlinear wave body interaction using semi-ALE. *Journal of Coastal Research*, SI 50. Proceedings of the 9th International Coastal Symposium, Gold Coast, Australia, ISSN 0749.02.08, 21-24, 394-399.
15. Lekshmi, R. and Sannasiraj, S.A. 2007. Correlation of breaking wave characteristics with energy dissipation. *Journal of Coastal Research*, SI 50. Proceedings of the 9th International Coastal Symposium, Gold Coast, Australia, ISSN 0749.02.08, 21-24, 307-311.
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20. 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.4/5 Woodhead Publishers, 2007
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23. Muni Reddy, M.G., Sannasiraj, S.A. and Natarajan, R. 2008. Waterline Elevations on Vertical Seawall Fronted By an Offshore Rubble Mound Breakwater. *International Journal of Ecology and Development, Special Issue on Coastal Environment: Coastal Processes*, 11 (F08), 71-89.

In Proceedings of National Conferences

1. P.V. Suresh, C.P. Vendhan and S.K. Bhattacharyya, Finite Element Analysis of Harmonic Acoustic Radiation and Scattering Problems Using Elliptical Dampers, *Natl. Symp. On ACOUSTICS*, December 5-7, 2007, pp.347-355
2. Sundar V., Sannasiraj, S.A., Murali, K. and Sundaravadivelu, R., "Run-up and Inundation along the Indian Peninsula including Andaman Islands due to Great Indian Ocean Tsunami", *Conference on Infrastructure Development in the Port and Shipping Sector and its Management, 18 – 20 Jan' 2007*.
3. Sundar,V., Sannasiraj, S.A., Anand, K.V., Chandramohan,P.V. and Ansari,M.A.R. "Tranquility condition inside the proposed port at krishnapatnam", *Proc.4th Natl.Conf. on harbour & ocean Engg..(INCHOE'07)*,12-14 December, 2007, Suratkal, India , Vol.1, pp 210-217
4. Sundar,V., Murali,K., Nasar,T., Chandramohan,P.V. and Ansari,M.A.R. "Stability of kolos (modified dolos) armoured rubble mound breakwater" *Proc.4th Natl.Conf. on harbour & ocean Engg..(INCHOE'07)*,12-14 December, 2007, Suratkal, India, Vol.2, pp 579-586
5. Sriram, V., Sannasiraj, S.A. and Sundar, V. " Wave- structure interaction using unstructured FEM", *Proc.4th Natl.Conf. on harbour & ocean Engg..(INCHOE'07)*,12-14 December, 2007, Suratkal, India, Vol.1, pp 99-106
6. Krishnakumar,C., Sannasiraj,S.A. and Sundar,V. "Hydrodynamic behaviour of permeable wave screen with and without vertical wall" *Proc.4th Natl.Conf. on harbour & ocean Engg..(INCHOE'07)*,12-14 December, 2007, Suratkal, India, Vol. 2, pp 630-638
7. Sriram, V., Sannasiraj, S.A. and Sundar, V. 2007. *Indian National Conference on Harbour and Ocean Engineering*, INCHOE 2007, NIT, Suratkal, 12-14 Dec.
8. Sankarbabu, K., Sannasiraj, S.A. and Sundar, V. 2007. Wave run-up around a large vertical cylinder in multi-directional waves. *Indian National Conference on Harbour and Ocean Engineering*, INCHOE 2007, NIT, Suratkal, 12-14 Dec.

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11. Sundar, V., Sannasiraj, S.A., Anand, K.V., Ansari, and Chandramohan. 2007. Tranquility condition inside the proposed port at Krishnapatnam. *Indian National Conference on Harbour and Ocean Engineering*, INCHOE 2007, NIT, Suratkal, 12-14 Dec.
12. Nanda Kishore, Y., Narasimha Rao, S. & Mani, J.S. Scour Effect on Lateral Capacity of Piles in Submarine Clays, Proc.4th Natl.Conf. on harbour & ocean Engg..(INCHOE'07), 12-14 December, 2007, Suratkal, India
13. J.S.Mani, Performance of Zigzag Porous Screen Breakwater, Proc.4th Natl.Conf. on harbour & ocean Engg..(INCHOE'07), 12-14 December, 2007, Suratkal, India
14. J.S. Mani, B.R. Subramanian, Ramanamurthy, Near-shore circulation – Ennore – Satellite Port – Field measurements, Proc.4th Natl.Conf. on harbour & ocean Engg..(INCHOE'07), 12-14 December, 2007, Suratkal, India
15. J.S. Mani, Tsunami Mitigation measures along the coast of Kalpakkam, Indo-Japan Workshop on "Coastal Problems and Mitigation Measures – including the effects of Tsunami", IIT Madras July 16-17, 2007
16. Samuel Devados, Sannasiraj, S.A. and Murali, K. 2007. Wave induced dispersion of oil in water. *Indian National Conference on Harbour and Ocean Engineering*, INCHOE 2007, NIT, Suratkal, 12-14 Dec.
17. Sheeja Janardhanan and Krishnankutty, P. "Motion Analysis of a Discus Buoy in Free-Floating and Moored Conditions" Fourth Indian National Conference on Harbour and Ocean Engineering (INCHOE) held in NIT Suratkal, 12-14 Dec 2007
18. Ananthasubramanian, V and Krishnankutty, P. "Academia, Research And Industry Interaction For Design Improvements In Shipbuilding" World Shipping Forum 2008, Institution of Marine Engineers, Chennai, 31 Jan to 2 Feb 2008.
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Proceeding of International Conferences

1. J.S. Mani, Design of coastal protective structure for Tsunami affected sea front near Chennai, India, 8th International Conference on "The Mediterranean Coastal Environment, Egypt, Page 1105-1112, Vol.2
2. Balaji, R., Sannasiraj, S.A. and Sundar, V. "Motion Behaviour of a Discus Buoy in Wave Groups" presented in Launching symposium of Journal of Hydro Environment research, Hongkong, 18-19 Jan 2007
3. Sriram, V., Sannasiraj, S.A. and Sundar, V. "Simulation of nonlinear free surface dispersive shallow water waves" presented in Launching symposium of Journal of Hydro Environment research, Hongkong, 18-19 Jan 2007
4. Manasa Ranjan Behera, Murali, K., and Sundar, V., "Unstructured modeling of Long waves in the Bay of Bengal" Recent Advances in Computational Mechanics and Simulations, Volume-II, Proc. of the 2nd Intl. Conf. on Computational Mechanics and Simulation, IIT Guwahati, India, 8-10 December 2006, pp. 1490-1496.
5. Sundar, V. and Sundaravadivelu, R. "Role of Groin Field for Coastal Protection Considering Socio Economic Aspects" Proc. 32nd Intl. Assoc. Hydraulic Engg. Research, Venice, Jul 1-7, 2007.
6. Behera, M.R., Murali, K and Sundar V. "Modeling of the Indian Ocean Tsunami" Proc. 26th Offshore Mechanics and Arctic Engg, Sandiego, 10-15 June 2007. paper NO: OMAE2007-29692
7. Balaji, R. Sannasiraj, S.A. and Sundar, V. "Identifying the types of waves: A value adding study on the ocean observing data buoy system". AOGS 2007, Bangkok, 30 Jul. – 4 Aug
8. Balaji, R., Sannasiraj, S.A. and Sundar, V. "Qualitative discriminating of shallow and deep water waves from data buoy measurements" abstract submitted 7th PIANC-COPEDEC, 24-28 Feb 2008, Dubai, U.A.E
9. Krishnakumar, C., Sannasiraj, S.A. and Sundar, V. "Hydrodynamic performance of horizontal slotted vertical wave screen breakwater", 7th PIANC-COPEDEC, 24-28 Feb 2008, Dubai, U.A.E
10. Sankarbabu, K., Sannasiraj, S.A. and Sundar, V. "Optimisation of wave forces on a dual cylindrical structure", 7th PIANC-COPEDEC, 24-28 Feb 2008, Dubai, U.A.E
11. Sriram, V., Sannasiraj, S.A. and Sundar, V. "Semi-ALE: Simulation of nonlinear free surface waves", 7th PIANC-COPEDEC, 24-28 Feb 2008, Dubai, U.A.E

12. Behera, M.R., Murali, K. and Sundar.V. "Explicit Unstructured Modeling of the Indian Ocean Tsunami", 7th PIANC-COPEDEC, 24-28 Feb 2008, Dubai, U.A.E
13. Behera, M.R., Murali, K. and Sundar.V "Modeling of the Indian Ocean tsunami" communicated to **The 26th International Conference on Offshore Mechanics and Arctic Engineering (OMAE 2007)** in San Diego, California, 10-15 June 2007, paper no: 29691.
14. Laboratory investigations on Multiple Pontoon floating Breakwater – Shaffiuddin Amer Syed and J.S.Mani, 7th International Conference on Coastal and Port Engineering in Developing Countries (COPEDEC), Dubai, 26-29 Feb.
15. Numerical model study for optimisation of long shoals for coastal protection and application to field condition - *M.V. Ramana Murthy, J.S.Mani and B.R.Subramanian*, 7th International Conference on Coastal and Port Engineering in Developing Countries (COPEDEC), Dubai, 26-29 Feb.
16. Subramanian, V.A., Asokumar, G., Jagdeesh Kumar, V., "Numerical modelling of roll dynamics and virtual instrumentation based active fin control for ships", 10th International Symposium on Practical Design of Ships and other Floating Structures (PRADS 2007), Houston, USA. 1-5 October.
17. Dr Nallayarasu S.^a; Pradeep Kumar D, Static Strength of Internal Ring Stiffened Tubular 'T' Joints, proceedings of International Maritime – Port Technology and Development Conference MTECH 2007
18. Dr Nallayarasu S.^a; Radha Krishnan T, Numerical and Experimental Investigations on Double plate breakwater of COPEDEC-VII 2008
19. Manasa Ranjan Behera, Murali, K. and Sundar, V., (2007), "Modeling of the Indian Ocean Tsunami", OMAE-2007, San Diego, California, USA, 10-15 June, paper no. 29691.
20. Manasa Ranjan Behera, Murali, K. and Sundar, V., (2008), "*Explicit Unstructured Modeling of the Indian Ocean Tsunami*", 7th International Conference on Coastal and Port Engineering in Developing Countries, Dubai, UAE, 24-28 February.
21. Shaffiuddin Amer Syed and J.S.Mani , (2008) Laboratory investigations on Multiple Pontoon floating Breakwater, 7th International Conference on Coastal and Port Engineering in Developing Countries, Dubai, UAE, 24-28 February.
22. M.V. Ramana Murthy, J.S.Mani and B.R.Subramanian, (2008) Numerical model study for optimisation of long shoals for coastal protection and application to field condition, 7th International Conference on Coastal and Port Engineering in Developing Countries, Dubai, UAE, 24-28 February.

Visitors to the Department:

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
1.	Visitors from Indonesia	April 24th, 2007	Department visit
2.	15 Students from Nehru Children's Cultural Association, Chennai	April 27th, 2007	Department visit
3.	Mr. Keshav Desi Raju, IAS., Joint Secretary, MHRD., New Delhi	May 9th, 2007	Department visit
4.	Dr. A.E. Muthunayagam, Chairman, BOG. IIT Madras	May 23rd, 2007	Department visit
5.	15 Marine Engineers from National Institute of Port Management, Chennai	May 23rd, 2007	Department visit
6.	Delegates from SENER, Spain	June 4th, 2007	Demonstration of FORAN software
7.	Mr. Chris Ward Global Business Director of Son Tek/YSI Inc., USA	June 28th, 2007	For Technical discussion and presentation
8.	Prof. Subrata Chakrabarti	July 11, 2007	Delivered lecture on "Design challenges in floater and riser dynamics with a comment on Forensic Engineering"
9.	Dr. S. Neelamani Research Scientist Kuwait Inst. for Scientific Research, Kuwait	July 12, 2007	Delivered lecture on "Effect of threshold value on the predicted extreme waves – A case study for the Arabian Gulf"
10.	15 Marine Engineers from NIPM, Chennai	July 19, 2007	Department visit

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
11.	Members from National Disaster Management Authority, New Delhi	July 24, 2007	Department visit
12.	Mr. C.S. Rao Senior Consultant Atlantics Holding, Dubai	Sept., 4, 2007	Delivered a seminar talks on (a) Challenges in Oil and Gas field Development (b) Challenges in Submarine pipe line installation
13.	Mr. Avinash Tiwari ICL International Ltd., Chennai	Sept., 11, 2007	Delivered a lecture on "Offshore design vessel experience of Elliot Bay Design Group USA"
14.	Marine Engineers from National Inst. of Port Management, Chennai	Sept., 26, 2007	Department Visit
15.	Dr. Chris A. Bell, Ph.D., P.E Associate Dean Oregon State University Corvallis, Oregon	Sept., 28, 2007	Department Visit
16.	National Talent Search Examination students from Nehru Children's Cultural Association Chennai	October 1, 2007	Department visit
17.	Arun K. Narasani Brain League IP Services USA	October 5, 2007	Department visit
18.	Dr. Etienne Mansard Honorary President of IAHR and Executive Director Canada	October 9, 2007	Delivered a seminar talk on "Research in Coastal Hydraulics at the Canadian Hydraulics Centre for the National Research Council of Canada"
19.	Delegates from St. Peters Civil Engineering College Chennai	October 9, 2007	Department visit
20.	Robert A. Giuffra Satyajit Rochaudhury ABS InfoLink, USA R.C. Bhavnani American Bureau of Shipping, Mumbai	October 15, 2007	Department visit
21.	Mr. Soumya Sundar Pathi Sr. Staff Engineer MMI Engineering Texas 77042	October 24, 2007	Delivered a seminar talk on "Demo on Orcaflex Software"
22.	Dr. Suzanne Lacasse Managing Director Norwegian Geotechnical Institute Norway	October 29, 2007	Department visit
23.	Prof. Bill Wakeham Vice Chancellor Southampton University UK	November 5, 2007	Department visit
24.	Dr. Suzanne Lacasse Norwegian Geotechnical Institute Norway	November 7, 2007	Department visit
25.	Prof. A.D. Pierce Boston University USA	December 4, 2007	Delivered a seminar talk on "Attenuation and dispersion of sound"
26.	Dr. Stanley Ehrlich Former President Acoustical Society of America	December 4, 2007	Department visit
27.	Prof. P.K. Das Dept. of NA & ME University of Glassgow Glassgow, U.K.	December 2007	Department visit

Sl. No.	Name of the Visitor and Designation	Date of visit	Purpose of visit
28.	Mr. Goutam Pipeline Engineer J Ray MoDermott, Dubai	January 4, 2008	Shared his experience at J Ray MoDermott, Dubai
29.	Prof. Dr. Ing. Erich Barke Ms. Dr. Birgit Barden Leibniz Universitaet Hannover	February 7, 2008	Department visit
30.	Priya Pillai National Law School of India Universtiy,	February 13, 2008	Delivered a talk on "Law of the Sea"
31.	Mr. Florian Hanig GEO, Germany	February 25, 2008	Department visit
32.	Prof. (Mrs) J. Berninghausen and Delegates from Hochschule Bremen University	March 5, 2008	Department visit
33.	Jake Morgan International Technology Park Bangalore	March 10, 2008	Delivered a seminar talk on "Application of 6 DOF CFD codes to see keeping analysis"

Socially relevant activities carried out by the Department.

WAVEZ 2007 was conducted on 14th and 15th April, 2007. The aim of the WAVEZ is to bring the challenges and awe inspiring facts related to the fields to the fore.

International collaboration achievements by the Department

1. Indo-Japan Workshop on Coastal Engineering Problems and Mitigation measures including the effects of Tsunami was conducted on July 16-17, 2008.
2. Initiated a collaboration programme with two Universities in Japan.
 - (a) Kazuhiko Hasegawa, Dept. of Naval Arch. And Ocean Engineering.
 - (b) Department of System Design for Ocean Space, Faculty of Engineering, Yokohama National University, Japan.

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.

Students on roll:

Programme	I year	II year	III year	IV year	V Year & others	Total
B.Tech.	14	11	10	07	01	43
M.Sc.	23	26	0	0	0	49
M.Tech.	06	06	0	0	0	12
Ph.D.	03	27	20	13	45	108
Total	46	70	30	20	46	212

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

Sl.No.	Name of the Student/Scholar	Program	Name of the Conference/Seminar/Symposia/Workshop	Date & Venue
01.	K.Muthu Karuppasamy	Ph.D.	International conference of Metallurgical coating & thin films	23/ 04 – 27/ 04 San Diego, California, USA.
02.	A.Karuppasamy		-do-	-do-
03.	V.Krishna		50 th Annual Society of vacuum coaters Technical Conference	28/04 – 03 /05 Louisville, Kentucky, USA.
04.	D.Rajasekhar		Eu-India Grid workshop on Material, Earth & Atmospheric Sciences	24/ 09 – 28/ 09 Pune
05.	S.R.Sarath Kumar		18 th International Conference on Ion Beam analysis	23/ 09 – 28 / 09 Univ. of Hyderabad
06.	N.Ravichandra Raju		DAE-BRNS 4 th National Symposium	03 /10 – 05 / 10 Resort Chouki Dhani Rajkot, Gujarat
			A Short course on Advanced Technologies for Material Characterization (ATMC 07)	29 /10 – 02 / 11 Central Glass & Ceramic Research Institute, Kolkata
07.	K. Neethu Jha		A Short course on Advanced Technologies for Material Characterization (ATMC 07)	29 /10 – 02 / 11 Central Glass & Ceramic Research Institute Kolkata
08.	K.Jagadeesh Kumar		A Short course on Advanced Technologies for Material Characterization (ATMC 07)	29 /10 – 02 / 11 Central Glass & Ceramic Research Institute Kolkata
09.	B.Ramachandran	Ph.D.	International Conference on Condensed Matter Physics (ICMMM 2007)	25 /11 – 28 / 11 Jaipur
10.	Brajesh Tiwari	Ph.D.	-do-	-do-
11.	K.Mohan Kant	Ph.D.	-do-	-do-
12.	R.Venkatesh	Ph.D.	-do-	-do-

Sl.No.	Name of the Student/Scholar	Program	Name of the Conference/Seminar/Symposia/Workshop	Date & Venue
13.	Amrtha Bhide	Ph.D.	7 th National Conference on Solid State Ionics	01/ 11 – 03/ 11 APS university, Rewa, MP
14.	Benson K.Money	Ph.D.	-do-	-do-
15	Laxminarayana Patro	Ph.D.	-do-	-do-
16	Rabindranath Mahato	Ph.D.	52 nd DAE Solid State Physics Symposium	27/ 12 – 31 / 12 University of Mysore, Mysore
17	Neetu Jha	Ph.D.	-do-	-do-
18	K.Kamala Bharathi	Ph.D.	-do-	-do-
19	Ranjit Laha	Ph.D.	-do-	-do-
20	S.Savitha Pillai	Ph.D.	-do-	-do-
21	K.Balamurugan	Ph.D.	-do-	-do-
22	B.Ramachandran	Ph.D.	International Conference on Magnetic Materials	11 /12 – 16 / 12 Saha Institute of Nuclear Physics, Kolkatta
23	Ashok Kumar Baral	Ph.D.	International & INCCOM-6 Conference on future trends in composite materials and processing	12 /12 – 14 / 12 IIT Kanpur
24	Manas Ranjan Parida	Ph.D.	Topical conferences on Atomic & Molecular Physics 2008	02 /01 – 05 / 01 Sardar Patel University, Ahamadabad
25	S.Sunil Kumar	Ph.D.	-do-	-do-
26	Gagan Bihar Pradan	Ph.D.	-do-	-do-
27	Nirmal Thyagu	Ph.D.	National Conference on Nonlinear; Systems & Dynamics- NCNSD 2008	03 /01 – 05 / 01 PRL, Ahamadabad
28	Basanth S.Kalanoor	Ph.D.	Workshop on Radiation & Photo chemistry	01/ 01 – 07 / 01 BARC, Mumbai
29	D.Venkata Ramaniah	Ph.D.	-do-	-do-
30	S.Jayasree	Ph.D.	The Interface of Life "An International school of Biomembrane Physics	07/ 01 – 18 / 01 IIT Madras
31	N.Ramakrishnan	Ph.D.	-do-	-do-
32	Snighda Thakur	Ph.D.	-do-	-do-
33	Begam Ilavarasi	Ph.D.	14 th National Magnetic Resonance Society meeting (NMRS 2008)	16/ 01 – 19 / 01 New Delhi
34	Snigdha Thakur	Ph.D.	SERC School / CEP Course and Symposium on Rheology of Complex Fluids	18/ 02 – 22 / 02 IIT Bombay.
35	V.Jagadeesh Babu	Ph.D.	International Conference on Nanoscience & Technology	27/ 02 – 28 / 02 Chennai Trade Centre
36	K.P.Biju	Ph.D.	-do-	-do-
37	K.P.Rajesh	Ph.D.	-do-	-do-
38	Neethu Jha	Ph.D.	-do-	-do-
39	E.Senthil Kumar	Ph.D.	-do-	-do-
40	Maneesh Chandran	Ph.D.	-do-	-do-
41.	M. Ummal Momeen	Ph.D.	India_Singapore Joint Seminar	IIT Madras, Feb. 28- March 1 , 2008
42.	G. Suganthi	Ph.D.	-do-	-do-
43.	R. B. Rakhi	Ph.D.	-do-	-do-
44.	Neetu Jha	Ph.D.	-do-	-do-
45.	R. Imran Jafri	Ph.D.	-do-	-do-
46.	T. Arockiados	Ph.D.	-do-	-do-
47.	S. Sathish Kumar	Ph.D.	-do-	-do-

Sl.No.	Name of the Student/Scholar	Program	Name of the Conference/Seminar/Symposia/Workshop	Date & Venue
48.	Yogesh	Ph.D.	-do-	-do-
49	EDV Nagesh	Ph.D.	-do-	-do-
50	N. Raja Mohan	Ph.D.	-do-	-do-
51	G. B. Pradhan	Ph.D.	-do-	-do-
52	Jobin Jose	Ph.D.	-do-	-do-
53	Hari R. Verma	Ph.D.	-do-	-do-
54	S. Begam Elavarasi	Ph.D.	-do-	-do-
55	K. Balamurugan	Ph.D.	-do-	-do-
56	S. Mandal	Ph.D.	-do-	-do-
57	K. Jayasree	Ph.D.	-do-	-do-
58	K.P. Rajesh	Ph.D.	-do-	-do-
59	B. Ramachandran	Ph.D.	-do-	-do-
60	B. Tiwari	Ph.D.	-do-	-do-
61	M. Chandran	Ph.D.	-do-	-do-
62	C.R. Kumaran	Ph.D.	-do-	-do-
63	K. Mohan Kant	Ph.D.	-do-	-do-
64	M. K. Surendra	Ph.D.	-do-	-do-
65	E. Senthil Kumar	Ph.D.	-do-	-do-
66	Subra Singh	Ph.D.	-do-	-do-
67	S. Akbar Ali	Ph.D.	-do-	-do-
68	A. Nautiyal	Ph.D.	-do-	-do-
69	B.S. Kalanoor	Ph.D.	-do-	-do-
70	D V Ramanaiah	Ph.D.	-do-	-do-
71	R. N. Mahato	Ph.D.	-do-	-do-
72	R. Venkatesh	Ph.D.	-do-	-do-
73	A. Bhide	Ph.D.	-do-	-do-
74	B. K. Money	Ph.D.	-do-	-do-
75	R. Kumar	Ph.D.	-do-	-do-
76	A. K. Baral	Ph.D.	-do-	-do-
77	N. N. Thyagu	Ph.D.	-do-	-do-
78	R. Venkatesh	Ph.D.	-do-	-do-
79	P. A. Kurian	Ph.D.	-do-	-do-
80	S. Thakur	Ph.D.	-do-	-do-
81	S. Ramachandran	Ph.D.	-do-	-do-
82	M. R. Parida	Ph.D.	-do-	-do-
83	M. R. Parida	Ph.D.	-do-	-do-
84	M. R. Parida	Ph.D.	-do-	-do-

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

Mr. Basanta Bhaduri, Research Scholar, Department of Physics has been awarded an "SPIE Educational Scholarship in Optical Science and Engineering" of \$ 2,000/- for the year 2007.

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
01	C.Suresh Kumar & Bibekananda Sundaray	91PPH04R0 PH01P01	Laskar Award for Ph.D. (Physics)	Professor A.L.Laskar Memorial Prize
02	Rahul R	EP03B011	Institute Merit Prize for B.Tech (Engineering Physics)	--
03	Gaurav Gupta	PH05M006	Institute Merit Prize for M.Tech. (Solid State Technology)	--

Sl.No.	Name of the Student/Scholar	Roll No.	Name of Prizes	Name of Donor
04	Soumya Bera	PH05C028	Prof.Chilukury Rama Sastry Memorial Prize M.Sc.(Physics)	--
05	Leela Mohana Reddy .A	PH02D009	Bhagyalakshmi and Krishna Ayengar Award	--

4.16.3 Faculty and their activities:

Faculty:

Professors

V.Balakrishnan, Ph.D.

Brandeis Univ.,

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)

V.Sankaranarayanan, Ph.D

(IIT, Madras)

A.Subrahmanyam, Ph.D.

(IIT, Kharagpur)

P.B. Sunil Kumar, Ph.D.

(IISc, Bangalore)

C.Vijayan, Ph.D

(IIT, Madras)

G.Rangarajan Ph.D.

Associate Professors

Arul Lakshminarayan, Ph.D.

SUNY Stony Brook

A.R.Ganesan, Ph.D.

IIT, Madras.

S.Kasiviswanathan, Ph.D.

(IIT, Madras)

Prem B. Bisht, Ph.D

(Kumaun Univ., Nainital)

M.V.Satyanarayana, Ph.D

(Madras Univ.)

K.Sethupathi, Ph.D

(Moscow State Univ., Russia)

V.Subramanian, Ph.D.

(IIT, Madras)

Govindarajan Suresh, Ph.D

(Pennsylvania Univ., USA)

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

Low Temperature Physics, Cryogenics, Thermal and Electrical Properties

Semiconductor Devices, photovoltaics Transparent conducting thin films

Soft condensed matter, Complex Fluids

Photonics, Nonlinear Optics

Quantum Chaos, Quantum Information theory, Chaos and Transport, Mathematical Physics

Applied Optics, Optical metrology

Thin Films

Ultrafast laser optics and spectroscopy

Quantum optics

Low temperature physics, Superconductivity and Magnetic Materials

Microwaves, Semiconductors, Ferroelectrics

Theoretical Physics, Quantum Field Theory String Theory, Solitons and D-branes

Assistant Professors

Arvind., Ph.D.
IISc., Bangalore
N.Harish Kumar , Ph.D
University of Hyderabad,
Kavita Dorai, Ph.D.
IISc., Bangalore
Mahaveer Kumar Jain , Ph.D.
IIT Delhi,
P.Murugavel, Ph.D.
IISc., Bangalore
M.Pattabiraman, Ph.D.
IIT Madras
Prasanta Kumar Tripathy ., Ph.D.
Utkal University
Rajesh Narayanan, Ph.D.
Univ. of Oregon
P.N.Santhosh, Ph.D.
National Chemical Lab.
R. Nirmala, Ph.D.,
IIT Madras.

Quantam Information Theory

Superconductivity, Novel magnetic materials,
Instrumentation and automation
NMR technique development, Application to Biomolecular
structure and dynamics and Quantum Computing
Ceramics Sensors

Physics of dielectric, ferroelectric and magnetoelectric
oxide materials in Bulk, Film and Nanocrystalline forms.
Laser cooling and trapping of atoms; Low Temperature
Physics; Magnetism
String Theory

Condensed Matter Theory

Magnetism in Condensed Matter Physics, Electroceramics

Experimental Condensed Matter,
Material properties at low temperatures, Rare earth
magnetism

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

- STTP-QIP Course on "Processing and Applications of Nano-Structured materials" between 9th and 14th July 2007 at IIT Madras.
Convener : Dr.S.Ramaprabhu
- Organized "QIP program" at Department of Physics, IITM on "Processing and applications of Nanomaterials", July 14-21; 2007.
Convener: Dr.S.Ramaprabhu
- ISRO and IITM conducted the winter school on Atmospheric sciences. The duration of the programme is 21.12.07 to 31.12.07.
Convener: Dr.V.S.Murty
- India-Singapore Symposium on *Current Trends in Physics* Department of Physics, Indian Institute of Technology Madras, Chennai 28 February - 01 March 2008
Conveners: _Deshmukh P.C (IITM), Feng Yuan Ping (NUS)
- The Interface of Life. An International School on Biomembrane Physics: 7-18 January, 2008.
Convener: P. B. Sunil Kumar

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

Sl.No.	Name of the Faculty	Name of the Conference / Seminar / Symposia / Workshop	Date & Place
01	Dr.A.R.Ganesan	National Conference on Recent Trends in optoelectronics and Laser Technology	09 / 04 – 11 / 04 Trivandrum,
02	Dr.V.S.Murty	Presented paper in the National symposium of Indian association of physics teachers	25 / 10 – 29 / 10 Simla
03	Dr.V.S.Murty	Presented paper in the National space science symposium	26 / 02 – 28 / 02 ISRO- National Radio Astronomy Centre, Ooty
04	Dr. S.Ramaprabhu	Gordon Research Conference on FUEL CELLS	22 / 07 – 27 / 07 Bryant University; Smithfield, RI; USA.
05	Dr.S.Kasiswanathan	Lecture on "Plasmon resonance in metal nanoparticle embedded metal oxide films" in the One Day National Workshop on Nanomaterials: synthesis, Characterization and applications	29 / 08 MEPCO SCHLENK Engineering college, Sivakasi,

Sl.No.	Name of the Faculty	Name of the Conference / Seminar / Symposia / Workshop	Date & Place
06	Dr.A.Subrahmanyam	Lecture on "Nanoscience and Technology Opportunities and Challenges" in the National workshop	16 / 08 & 17 / 08 Karkala, Udupi
07	Dr.C.Vijayan	Lecture on Nonlinear optical absorption in strongly quantum confined systems	- do -
08	Dr.M.S.Ramachandra Rao	DAE-BRNS 4 th National Symposium	04 / 10 – 05 / 10 Rajkot, Gujarat
09	Dr.G.Markandeyulu	10 th International Conference on Advanced Materials – organized by International Union of Materials Research Societies	10 / 10 – 12 / 10 Bangalore
10	Dr.P.N.Santhosh	10 th International Conference on Advanced Materials – organized by International Union of Materials Research Societies	10 / 10 – 12 / 10 Bangalore
11	Dr.P.N.Santhosh	Lecture on Multiferroics: And related nano-systems" at the QIP program on "Processing and applications of Nanomaterials", 2007	Dept. of Physics IIT Madras
12	Dr.M.S.Ramachandra Rao	International Conference on Condensed Matter Physics (ICMMM 2007)	25 / 11 – 28 / 11 Jaipur
13	Dr.P.K.Tripathy	Conference on High energy Physics group	11 / 12 – 23 / 12 Fire flies Ashram, Bangalore
14	Dr.A.R.Ganesan	International conference on Sensors & Related Net works	12 / 12 – 14 / 12 VIT Vellore
15	Dr.P.B.Sunil Kumar	Conferece on Physics in Biology: Asynergy	12 / 12 – 14 / 12 School of Physics, University of Hyderabad
16	Dr.M.P.Kothiyal	National Laser Symposium-07	17 / 12 – 19 / 12 Indian Laser Association DAE
17	Dr.P.C.Deshmukh	Topical conferences on Atomic & Molecular Physics 2008	02 / 01 – 05 / 01 Delivered the inaugural plenary talk in addition to presenting the paper. Department of Physics, Sardar Patel University, Vallabh Vidyanagar, Gujarat
18	Dr.S.Ramaprabhu	National Conference on Latest Trends in Nanotechnology	05 / 01 VPM's Polytechnic, Thana
19	Dr. P.B.Bisht	95 th Science Congress	03 / 01 – 04 / 01 Visakhapatnam
20	Dr.N.M.Gupte	Conference on Women in Science	05 / 01 Cochin University of Science, Cochin
21	Dr.Neelima M.Gupte	Workshop on Turbufence	16 / 01 – 18 / 01 IISc, Bangalore
22	Dr.V.Balakrishnan	Lecture Workshop on Frontier Topics in Physics	22 / 01 - Bharathidasan University Trichy.
23	Dr.V.Balakrishnan	International Conference on Recent Development in Nonlinear Dynamics	13 / 02 – 14 / 02 Bharathidasan Univ. Trichy
24	Dr.N.M.Gupte	International Workshop and Conference on Statistical Physics Approaches to Multi-Disciplinary Problems	07 / 01 - 13 / 01 IIT Guwahati,
25	Dr.N.M.Gupte	International Conference on Recent Development in Nonlinear Dynamics	14 / 02 – 16 / 02 Bharathidasan Univ. Trichirapalli
26	Dr.N.M.Gupte	India - Singapore symposium - " Current Trends in Physics	IITM 28 / 02 - 01 / 03

Sl.No.	Name of the Faculty	Name of the Conference / Seminar / Symposia / Workshop	Date & Place
27	Dr.Arul Lakshminarayan	-do-	-do-
28	Dr.M.P.Kothiyal	-do-	-do-
29	Dr.V.Balakrishnan	Conference on Non equilibrium phenomena in Condensed Matter Physics	21 / 02 – 22 / 02 INSA, New Delhi
30	Dr.P.N.Santhosh	3 rd Indo-Japan meeting on Multiferroics	03 / 02 – 06 / 02 Indian Association for the Cultivation of Science, Kolkata.
31	Dr.V.R.K.Murthy	International workshop on Frontiers of Atmospheric Physics & Technology	20 / 02 – 22 / 02 Yogi Vemana University, Kadapa, AP.
32	Dr.A.R.Ganesan	India-Singapore Symposium on "Current Trends in Physics	28/02 – 01 / 03 IIT Madras.
33	Dr.P.K.Tripathy	-do-	-do-
34	PB.Sunil Kumar	International Workshop on Multi Component Membranes	17 / 03 – 19 / 03 Tokyo Metropolitan University Tokyo
35	A.Subrahmanyam	Lecture on Surface Engineering in the program on "Materials Science and Active Surfaces"	10 / 03 / 15 / 03 M/s. Saint Goban in Ecole Polytechnique, Paris, France Under Brief visit
36	N.M.Gupte	Seminar on The universality classes of spatio-temporal intermittency : the dynamical origins of statistical behaviour.	20 / 03 – 23 / 03 Pune University
37	P.K.Tripathy	Workshop in High Energy Physics and Cosmology	11 / 03 - -12 / 03 Centre for Theoretical Physics, Jamia Millia Islamia at New Delhi.

Special Lectures delivered by the Faculty in other Institutions:

Sl.No.	Name of Faculty	Topic of Lecture	Institution	Date
01	Dr.S.Ramaprabhu	Carbon nanotubes:- synthesis and energy related applications	Anna University, Chennai.	04 / 04
02	Dr.S.Ramaprabhu	Hydrogen storage properties of materials	DMSRDE, Kanpur.	25 / 05
03	Dr.S.Ramaprabhu	Energy and Biological applications of nanomaterials	National University forr Singapore, Singapore	17 / 07
04	Dr.S.Ramaprabhu	Processing & Energy applications of nanomaterials	Universiti Teknologi MARA Malaysia	18 / 07
05	Dr.S.Ramaprabhu	Environment & Water related applications of carbon based nanomaterials	Dept of Civil Engg. SRM College Chennai	29 / 09
06	Dr.S.Ramaprabhu	Novel Quantum Phenomena in Graphene, "Processing and applications of CNTs and Graphene"	Institute of Mathematical Sciences, Chennai.	11/ 12 – 12 / 12
07	Dr.A.R.Ganesan	Trends in Optics Research	National institute of Technology, Trichy.	09 / 08
08	Dr.M.P.Kothiyal	Measurement of Spectral Phase and its applications,	Vadodara	17 / 12 – 20/12

Sl.No.	Name of Faculty	Topic of Lecture	Institution	Date
09	Dr.P.N.Santhosh	Multifunctional oxides – as part of UGC refresher course in physics – with emphasis on " nano materials"	University of Kerala	10 / 08
10	Dr.P.N.Santhosh	Multiferroics: and related nano-systems	Dept. of Physics, IIT Madras	
11	Dr.V.R.K.Murthy	Microwave Sintering effects on nanomaterials Role of Dielectrics for Communication Technology	Dept. Physics Sri Krishnadevaraya Univ. Anantapur Academic Staff College, Osmania University, Hyderabad	10 / 09 29 / 09
12	Dr.V.Sankaranarayanan	Super conductivity and its applications	Velammal Engg. College, Chennai.	28 / 09
13	Dr.V.Subramanian	Smart Materials and structures	Thyagaraja College of Engg. Madurai	13 / 09
14	Dr.V.Subramanian	Microwaves and Polymers	Dept. of Chemical Engg. IIT Madras	July 07
15	Dr.V.Subramanian	Microwaves and Nanotechnology	Dept. of Physics IIT Madras	July 07
16	Dr.V.Subramanian	Microwave Band Gap Structures	PSG Tech. Coimbatore	06 / 07
17	Dr.V.Subramanian	Introduction to Microwaves	New Horizon College of Engg., Bangalore	07 / 11
18	Dr.V.Subramanian	Scanning Near-field Microwave Microscope	SRM University Chennai	16 / 02
19	Dr.P.B.Sunil Kumar	On Biomolecular Simulation	Jawaharlal Nehru Centre for Advanced Scientific Research JNCASR - Bangalore	13 / 11 – 14 / 11
20	Dr.S.Ramaprabhu	Carbo Nanotubes: Synthesis & Energy related applicatiomsn	Rochester Institute of Technology, Rochester, USA	19 / 07
21	Dr.S.Ramarapbhu	Processing & Energy Applications of Nanomaterails	DRDO, Avadi, Chennai	23 / 07
22	Dr.S.Ramaprabhu	Fuel Cells: Power Source of the Future", Nanotechnology for Fuel Cells,	IITM, Chennai	01 / 12 - 07 / 12
23	Dr.A.R.Ganesan	Talk on Adaptive Optics & Applications	M.O.P. Vaishnav College for Women, Chennai	30 / 01
24	Dr.V.R.K.Murthy	Key Note lecture on Science	Hindu College PG Courses, AP.	28 / 02
25	Dr.S.Ramaprabhu	Lecture on Carbon Nanotubes in Prof. C.Srinivasan Endowment programme	Madurai Kamaraj University, Madurai	25 / 02
26	Dr.M.V.Satyanarayana	Lecture on modern trends in	Yogi Vemana University Kadappa	27 / 03 – 30 / 03
27	Dr. V.S.Murty	Lecture on Modern Trends in Experimental Physics	-do-	-do-

Sl.No.	Name of Faculty	Topic of Lecture	Institution	Date
28	Dr.V.S.Murty	Optical remote sensing/lidar	Mizoram university Aizawl	29 / 05
29	V.Balakrishnan	Lecture on Thermodynamics and Statistical Physics in the Refresher course	Academic Staff College, Dept. of Physics Bharadhidasan University, Trichy	18 / 03
30	Dr.K. Sethupathi	UGC Refreshers Course in Experimental Physics	Anna University	June 2007
31	Dr.K. Sethupathi	"Nanomaterials and Nanocomposites for magnetic refrigeration Applications" in the STTP-QIP Course on Processing and Applications of Nano-Structured Materials	Department of Physics, IITM	July 2007
32	K. Sethupathi	Condensed Matter Physics Colloquium delivered a lecture on "Magnetic and Unusual magnetocaloric properties of NSMO Manganites"	Department of Physics, Wayne State University, Detroit, USA	November 2007
33	Dr.K. Sethupathi	Delivered a lecture titled "Enhanced Magnetocaloric effect in NdSrMnO ₃ singlecrystalline manganites"	Oakland University, Rochester Hills, Detroit, USA	November 2007
34	Dr.N.Harish Kumar	"Spintronics" in the CEP course on "Advanced Magnetic Materials	DMRL	03 / 12 – 07 / 12

Visits Abroad by Faculty:

Sl. No	Name of Faculty	Country visited	Date	Purpose of Visit
01	Dr.V.Balakrishnan	Belgium	16 / 04 – 15 / 07	To visit Hasselt Univ. Diepenbeek for research collaboration and visit other universities
02	Dr.M.S.Ramachandra Rao	Japan	15 / 05 – 12 / 07	To take up the JSPS visiting professorship under the JSPS (Japanese Society for the Promotion of Science) invitation Fellowship programme in the Dept. of Electrical & Electronics Systems Engg., Kyushu University, Fukuoka
03	Dr.P.C.Deshmukh	USA	14 / 05 – 02 / 07	To visit Georgia State University for research collaboration and visit International Centre for Theoretical Physics, Trieste, Italy.
04	Dr.M.P.Kothiyal	UK	06 / 05 – 10 / 06	Private Visit
05	Dr.Neelima M.Gupte	Thailand	11 / 05 – 16 / 05	Private visit
06	Dr.T.S.Natarajan	Canada	24 / 05 – 22 / 06	Private visit
07	Dr.V.Damodara Das	USA	29 / 05 – 20 / 07	Private visit
08	Dr.P.B.Sunil Kumar	Denmark	21 / 05 – 14 / 06	To visit University of Southern Denmark as associate member for scientific Interaction
		Slovenia	25 / 06 – 20 / 07	To visit Laboratory of Physics, Faculty of Electrical Engg. University of Ljubljana, as a visiting Professor

Sl. No	Name of Faculty	Country visited	Date	Purpose of Visit
09	Dr.N.Harish Kumar	Germany	15 / 05 - 14 / 06	To take up research work as Guest scientist in the Institute of Metallic Materials, Dresden Under professional visit
10	Dr.Prasanta Kumar Tripathy	Switzerland	10 / 05 - 12 / 07	To visit University of Neuchatel under the Indo Swiss Bilateral Research initiative under Provisional visit
11	Dr.N.M.Gupte	Italy	08/07 – 28 / 07	Presented paper in the Conference Statphys 23 held at Genoa and organized a conference in Trieste under Brief visit.
12	Dr.S.Ramaprabhu	USA	14 / 07 – 29 / 07	Presented the paper at Gordon Research Conference and visit other Universities in USA.
13	Dr.P.K.Tripathy	Serbia France	02 / 09 – 09 / 09 10 / 09 – 12 / 09	Attend the "BW 2007 workshop Take research work at the Centre de Physique , France Theorique, France
14	Dr.A.T.Seshadri	Nurnberg Germany France	10 / 09– 13 / 09 16/ 09 – 20 / 09	Present the paper at the International Conference Visit the Science Museum in Paris
15	Dr.C.Vijayan	NUS, Singapore	Sept. 2007	Research collaboration with NUS
16	Dr.G.Marandeyulu	Florida, USA	05 / 11 – 25 / 11	To attend the 52 nd International Conference on Magnetism and Magnetic Materials (MMM2007) and visit other Universities
17	K. Sethupathi	Singapore	17 th to 19 th September 2007	On invitation from the Department of Physics, National University of Singapore to explore the possibility of Collaborative research work. Delivered a seminar in the department on "Magnetic and Magnetocaloric properties of CMR Manganites"
18	K. Sethupathi	Malaysia	18 th September 2007	Visited Institute of Science, Universiti Teknologi MARA, Malaysia and gave a talk on "Magnetic and electrical properties of Nanocrystalline CMR Manganites"
19	Dr. K.Sethupathi	-do-	-do-	-do-
20	Dr.Neelima M.Gupte	Germany	17 / 11 – 23 / 11	To visit the University of Potsdam, Germany to discuss about collaborative research work under Brief visit
21	Dr.T.S.Natarajan	Marakech Morocco	11 / 11 – 16 / 11	To attend the International Conference on Physics Education 2007
22	Dr.P.C.Deshmukh	Sri Lanka	10 / 01 – 13 / 01	Collobaration & MoU with IFS, Kandy Srilanka
23	Dr.K.Hariharan	-do-	-do-	-do-

Honours and Awards obtained

1. The research papers in the subject 'Physics' published during the year 2003-2004 submitted by Dr.N.Krishna Mohan, and his team has been adjudged best for the award of Hari Ohm Ashram Prerit Harivallabhdas Chunilal Shah Research Endowment Prize for the year 2003-2004. The award consists of a cash prize and Gold Medal Both amounting to Rs.1,0,000/-.
2. The paper 'Two wavelength microscopic TV interferometric system for surface profiling' by U. Paul Kumar, Basanta Bhaduri, N. Krishna Mohan & M.P Kothiyal presented at 9th INTERNATIONAL SYMPOSIUM ON MEASUREMENT & QUALITY CONTROL (9th ISMQC) November 21-24, 2007, IIT Madras, was awarded 'Certificate of Merit' prize.

3. Indian Science Monitor Awards - Dr. T. S. Natarajan, amongst the awardees! Congratulations, dear TSN!. The award carried a citation and a Silver medallion. The awardees later interacted with the audience by answering questions.
4. Best Poster Award (Third Prize) was awarded to Ms. Neetu Jha, Research Scholar, and Dr.S.Ramaprabhu, Professor, Department of Physics, IIT Madras, titled "Development of MWNT based Disposable Biosensor on Glassy Carbon Electrode for the Detection of Organophosphorus Nerve Agents" in the ICONSAT - 2008 held at IGCAR, Kalpakkam, during February 27-29, 2008.
5. Dr.S.Ramaprabhu awarded Bhagyalakshmi & Krishna Ayengar Award for guiding best Ph.D. in the field of Alternative Energy Applications (2007).

Books, Monographs authored/co-authored:

N. Krishna Mohan, Book chapter author:
Speckle techniques for Optical Metrology
In New developments in lasers and electro-optics research

Editor: William T. Arkn, Chapter 6, page numbers: 173-222.
Nova Science Publishers, Inc., New York, USA (2007).

Journal Editorial Boards:

SI.No.	Name of the Faculty	Position (Editor/Member)	Journal Name
01	Dr. A.R. Ganesan	Member	J. of Holography & Speckle
02	Dr.V.Damodara Das	Member	Indian Journal of Pure and Applied Physics for period of 3 years from January 2008.
03	Dr.S.Ramaprabhu	Member	American Chemical Society
04	Dr.N.M.Gupte	Member	Pramana Editorial Board.
05	Dr.V.S.Murty	Editor	Prayas student research journal of IAPT
		Member	institute of physics London
		National vice president	Indian association of physics teachers(IAPT)

4.16.4 Design and Development Activities:

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

- i) Developed a Microscopic TV Holographic system for Micro systems analysis
- ii) Developed a compact digital shearography system for non-destructive testing.
- iii) Using Lab LABVIEW and Matlab a software is developed for Speckle and Interferometric Fringe Analysis

New facilities added or major equipment procured through project funds:

SI.No.	Name of Equipment	Value (Rs. in lacs)
1.	High temperature Furnace Under New Faculty Research Scheme, IITM	1.0
2	CCD –monochromator	20.0
3.	Vibration Isolation table	4.0
4	Microscopic TV holography for Micro-systems characterization	5.0
5	4-CPU Computer Cluster (Sponsored by DST Project).	5.0

4.16.5 Research and Consultancy:

Sponsored Research Projects

Sl.No	Title	Period	Funding Agency	Amount (Rs. in Lacs)	Co-ordinators
01	Establishment of a Nano Functional Materials Technology Centre (NFMTC)	3 Yrs	DST	2360	Dr.S.Ramaprabhu (PI) Dr.M.S.Ramachandra Rao (PHY) Dr.S.S.Bhattacharya (Met & Mat. Engg.) Dr.T.S.Sampath Kumar Dr.K.Sethupathy Dr.V.Sankaranarayanan Dr.Nandita Das Gupta Dr.P.B.Bisht Dr.C.Vijayan
02	Implementation of time average phase modulation technique in ESPI for vibration fringe analysis	1 ½ Yrs (6/07 / 11/08)	ISRO/IIT (M)STC	12.79	Dr.N.Krishna Mohan Dr.M.P.Kothiyal
03	Microscopic TV holography for Non Destructive Evaluation of Micro electro mechanical systems (MEMS)	29-05-05 to 29-05-08.	DRDO, New Delhi)	28.92	N. Krishna Mohan and M. P. Kothiyal (Investigators)
04	Physico-bio-chemical fingerprinting and nutrient analyses of selected Ayurvedic	1 Yr. (18/6/07 to 17/6/08)	Rural Tech. Action Group	2.70	Dr.T.S.Chandra (Dept. Biotech) Principal Investigator Dr.V.S.Murty 04(Co-Investigator)
05	Micro lidar studies on tropospheric aerosols and clouds	3 years	ISRO	14.58	Dr.V.S.Murty (PI)
06	Development of High temperature black body source for calibrating microwave radiometer	1 Year w.e.f. 23.08.07	Institute for Plasma Research	9.53	Dr.V.Subramanian
07	Modelling of High power Passive components for HP applications	1 Year w.e.f. 23.08.07	-do-	7.46	Dr.V.Subramanian (PI) Dr. S.Sundar (MA) Co-Investigator
08	CNT based filter for water treatment	3 Yrs. 09 / 07 – 09 / 10	IITM Alumni	13.0	Dr.S.Ramaprabhu
09	Quantum-dot modified nucleotide analogs as probes to understand the mechanism of activation of heterotrimeric G proteins"	3 Yrs	Dept. of Biotechnology	55.75	Dr.A.Gopala Krishna, Dept. of Biotechnology (PI) Dr.P.N.Santhosh Dept. of Physics Co-Investigator
10	Studies on the generation of oxygen for strategic and remote locations	1 year	DRDO	9.91	Dr.A.Subrahmanyam
11	Development of an atomic magnetometer based on nonlinear magneto-optical rotation for geomagnetic applications	3 yrs	DST	38.49	Dr.M.Pattabiraman Dr.P.C.Deshmukh Dr.V.Sankaranarayanan Dr.C.Vijayan
12	Development of lead-free piezoelectric materials for sensors and actuators	2 yrs	Naval Research Board	33	Dr.V.Subramanian Dr.P.N.Santhosh

SI.No	Title	Period	Funding Agency	Amount (Rs. in Lacs)	Co-ordinators
13	Design and development of science enrichment activities in CBSE schools to develop analytical problem solving skills among school children from classes 6 to 12	2 yrs	EDUCOMP India Ltd.	09.40	Dr.T.S.Natarajan
14	Application of electrospun nanofibres in biology for packaging of foods, biofertilizer and biocides	3 Yrs	Dept. of Biotechnology GOI	47.43	Dr.T.S.Chandra Dept. of Biotech. (PI) Dr.T.S.Natarajan Dept. of Physics (Co-Investigator)
15	Multiferrosim, charge ordering, colossal magnetoresistance orbital ordering and their correlation in Perovskite magnates	3 yrs	DST	33.14	Dr. P.N.Santhosh
16	Clustering algorithms: A dynamical systems approach	3 yrs	CSIR	12.66	Dr. Neelima M.Gupte
17	Science Mela	10 M (3/8-12/08)	Parry ware Roca Pvt. Ltd.	05.0	Dr. T.S.Natarajan
18	Investigations in Wavefront Estimation and Compensation for Adaptive Optics Applications		ICSR IIT Madras	5.0	Dr.A.R.Ganesan
19	Generation of 10 femtosecond (fs) pulses by using the technique of non-collinear optical parametric amplification and their characterization	2007-2010	BRNS, Mumbai	56.80	Dr.P.B.Bisht
20	Four wave mixing and multiphoton studies with simultaneous development of femtosecond pulses	2005-2007	DRDO, New Delhi	45.37	Dr.P.B.Bisht
21	Control of radiative rate of molecules by using morphology dependent resonances of a microcavity	2006-2009	DST, New Delhi	37.10	Dr.P.B.Bisht
22	Photophysics of carbon nano tubes by using picosecond laser induced transient grating technique.	2006 - 2009	CSIR, New Delhi	10.96	Dr.P.B.Bisht S. Ramaprabhu (Co-Investigaor)
23	Exchange anisotropy in Magnetic nano-crystals with core-shell structure"	10 / 07 – 10 / 09	Royal Society international joint project UK		Dr.P.N.Santhosh Dr. John Thomas Prabhakar (University of Manchester)
24	The emergent structure and dynamics of networks	On going	DST	22.0	Dr.P.;B.Sunil Kumar (PI) Dr.N.M.Gupte Co-investilgator
25	Development of nanocrystalline oxide dilute magnetic semiconductors for magneto-electronic sensor/device applications	On going	Naval Research Board	21.7	Dr.N.Harish Kumar (PI)
26	Development of Coated Conductors	On going	– DST – DAAD Indo German project	2.3	Dr.N.Harish Kumar Co-Investigator
27	Development of Fe/Co based Magnetoimpedance Materials	On going		25.20	Dr.N.Harish Kumar

16. Variations of intensity in Rb D2 line at weak/intermediate fields Ummal Momeen M, Rangarajan G, Deshmukh P C, (2007) J. Phys. B: At. Mol. Opt. Phys. 40 3163. Coexistence of ferromagnetic and antiferromagnetic phases in Nd_{0.5}CaxSr_{0.5-x}MnO₃ manganites S Savitha Pillai, G Rangarajan, N P Raju, A J Epstein and P N Santhosh (2007) J. Phys.: Condens. Matter 19 496221
17. Tricritical point and Magnetocaloric effect in Nd_{1-x}Sr_xMnO₃, R.Venkatesh, M.Pattabiraman, K.Sethupathi and G.Rangarajan (2008), J Appl. Phys.,103, 07B319.
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5. Prem B Bisht, Photophysics of carbon nanotubes by picosecond spectroscopy, Proc. Of National conference on advanced materials devices and technologies, Sri Venkateswara University, Tirupati, Feb. 20-22, 2008, p.15.
6. Nibedita Ram, M. Pattabiraman and C. Vijayan, "Polarization dependent optical pumping effects in saturation spectroscopy" presented at National Laser Symposium 07 (NLS 07) 17th to 20th Dec. 2007, M. S. University of Baroda, Gujarat.
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11. Sodium metaphosphate based fast ion conducting systems. Amritha Bhide, K. Hariharan. 7th National Conference on Solid State Ionics, November 2007, A.P.S. Univ., Rewa (M.P.).
12. Magnetic and optical properties of Cr_2O_3 nanoparticles. K. Balamurugan, Saumyadip Mandal, N. Harish Kumar and P.N. Santhosh Proceeding of the DAE Solid State Physics Symposium Vol. 52, Page 365-366 (2007) Effect of Fe substitution on the magnetic and magnetotransport properties of the Heusler Alloy Ni_2MnSn
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14. G. Prathiba, Surajit Halder and N. Harish Kumar Structural and Magnetic Properties of Mechanically milled Nanocrystalline Ni-Fe-Cr alloy National Symposium for Materials Research Scholars (MR08) 7th and 18th May 2008 – accepted for oral presentation
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3. D. V. Ramanaiyah and Prem B. Bisht, Experiments on whispering gallery modes of coated microspheres, India-National University of Singapore joint symposium, Feb 28-March 1, 2008, IIT Madras, p.66.
4. Ambika Nautiyal and Prem B. Bisht, Time resolved spectroscopy of pyrene microcrystals, , India-National University of Singapore joint symposium, Feb 28-March 1, 2008, IIT Madras, p.67.
5. S. Akbar Ali, Ambika Nautiyal and Prem B. Bisht, Fabrication details of spectral phase interferometry for direct electric field reconstruction (SPIDER), , India-National University of Singapore joint symposium, Feb 28-March 1, 2008, IIT Madras, p.64.
6. Basanth S. Kalanoor, Kailash C. Jena, Prem B. Bisht, Comparative study of third order optical nonlinearity of rhodamine 6G and carbon disulphide by using phase conjugate and self diffraction technique, , India-National University of Singapore joint symposium, Feb 28-March 1, 2008, IIT Madras, p.65.
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9. "Magnetoresistance in Dy₅Si₂Ge₂" R. Nirmala, S. K. Malik, V. Sankaranarayanan, K. Sethupathi, A. V. Morozkin, V. Prasad and S. V. Subramanyam was presented during 10th International Conference on Advanced Materials IUMRS-ICAM 2007, held during Oct. 8 to 13, 2007, in Bangalore, India.
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11. Characterization of Gd doped cerium oxide nanocrystalline materials synthesized by citrate complex method. Ashok Kumar Baral and V. Sankaranarayanan International and INCCOM-6 Conference on Future Trends in Composite Materials and Processing held at IIT Kanpur December 2007.
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14. Magnetoresistance in Dy₅Si₂Ge₂. R. Nirmala, S. K. Malik, V. Sankaranarayanan, K. Sethupathi, A. V. Morozkin, V. Prasad and S. V. Subramanyam International Conference on Advanced Materials IUMRS-ICAM 2007, held at Bangalore (2007)
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16. Crystallization kinetics and ionic conductivity study of lithium metaphosphate glass, Benson K. Money, K. Hariharan. 16th International Conference on Solid State Ionics, July 2007, Shanghai, CHINA.
17. K. Ramesh Kumar, N. Harish Kumar, J. Arout Chelvane, Volker Neu and G. Markandeyulu Structural Magnetic and Transport Properties of Half Metallic Ferrimagnet Mn₂VGa Presented at the 10th International Conference on Advance Materials (ICAM 2007) held at Bangalore during 8th -13th October 2007.
18. N. Devendra Kumar, N. Harish Kumar, V. Seshu Bai and T. Rajasekharan YBCO and BSCCO superconductors for inductive core applications. Presented at the East Asia Symposium on Superconducting Electronics held at Delhi during 11th – 15th December 2007.

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21. Basanta Bhaduri; N. Krishna Mohan; M. P. Kothiyal Non-destructive evaluation (NDE) using multi-aperture DSPI system and fast Fourier transform method Proc. SPIE 667, San Diego ,USA pp. 667115-667121 (2007).
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23. U. Paul Kumar, Basanta Bhaduri, N. Krishna Mohan and M. P. Kothiyal 3-D surface profile analysis of rough surfaces using two-wavelength microscopic TV holography International Conference on Sensors and Related Networks (SEENNET07), December 12-14, pp.119-123, VIT Vellore, India 2007.
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25. Tuning the magnetization dynamics of silica coated Fe_3O_4 core-shell nanoparticles by thickness control, Presented at 52nd MMM conference to be held in Tampa, Florida (2007).
26. Shubra Singh, N. Rama and M. S. Ramachandra Rao, Correlation between Electrical Transport, Optical and Magnetic Properties of PLD grown ZnO Thin Films, Presented at 52nd MMM conference to be held in Tampa, Florida (2007).
27. B. Ramachandran and M. S. R. Rao, Magnetic and optical properties of monodispersed $\alpha\text{-Fe}_2\text{O}_3$ nanoparticle aggregates by polyol method, International Conference on Magnetic materials, 11-16 Dec. 2007, Saha Institute of Nuclear Physics, Kolkata, India.
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29. Quantum confined magnetite nanoparticles: Synthesis, transport and magnetic properties", K. Mohan Kant, S. Thirupathaiah and M. S. Ramachandra Rao. International conference on condensed matter physics (ICCMP-2007), Jaipur, Nov, 2007.
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33. B. Ramachandran, S. Karthik, M. M. Kottaisamy and M. S. R. Rao, Morphology and optical band gap studies of Ti doped V_2O_5 prepared by sol-gel method, International Conference on Condensed Matter Physics, 24-27 Nov. 2007, Rajasthan University, Jaipur, India.
34. Maneesh Chandran, Mohan Kant, M.S.Ramachandra Rao, Observations of van-Hove singularities via Photoluminescence in CNT thinfilms, presented at ICOSAT, 27-29 Feb. 2008, Chennai, India.
35. E. Senthil Kumar, S. Ravichandra Reddy and M. S. Ramachandra Rao, Synthesis of ZnO nanostructures by direct thermal evaporation, presented at Pondicherry Engineering College, Jan 3-5 2008, International Conference on Nano and Microelectronics
36. Synthesis of novel ZnO hexagonal nanocones by direct thermal evaporation, E. Senthil Kumar, S. Ravichandra Reddy and M. S. Ramachandra Rao, presented at International Conference on Nanoscience and Technology, 27-29 Feb. 2008, Chennai, India.
37. Chia-Ta Chia, Tsan-Yuan Yu, Chieh-Han Lu, G. Santosh Babu, V. Subramanian, V.R.K. Murthy, I.N. Lin, EXAFS and Raman characterization of $x\text{La}(\text{Mg}_{1/2}\text{Sn}_{1/2})\text{O}_3 - (1-x)\text{La}(\text{Mg}_{1/2}\text{Ti}_{1/2})\text{O}_3$ microwave ceramics, Progress in Electromagnetics Research Symposium (PIERS 2008), March 24–28, 2008 in Hangzhou, China.
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39. S. Roopas Kiran, Debasish Saha, V.R.K. Murthy, B.S. Murty, Microwave assisted processing of $\text{Nd}(\text{Zn}_{0.5}\text{Ti}_{0.5})\text{O}_3$ dielectric resonator, International Conference on Powder Metallurgy (PM 08), February 20-21, 2008 in Chennai, India.

40. M. Venkata Ramana, G. Sreenivasulu, S. Roopas Kiran, K.V. Siva Kumar, B.S. Murty, V.R.K. Murthy, Electrical and mechanical properties of Lead free $\text{Na}_{1/2}\text{Bi}_{1/2}\text{TiO}_3$, International Conference on Powder Metallurgy (PM 08), February 20-21, 2008 in Chennai, India.
41. E.D.V. Nagesh, N. Yogesh, V. Subramanian, Microwave band gap structures and negative refraction, India-Singapore Symposium on Current Trends in Physics, February 28 – March 1, 2008 in Chennai, India.
42. N. Rajaa Mohan, V. Subramanian, Passive microwave radiometer for imaging, India-Singapore Symposium on Current Trends in Physics, February 28 – March 1, 2008 in Chennai, India.

Distinguished Visitors to the Department:

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
01	Dr.Vinobalan Durairaj Dept. of Physics & Astronomy University of Kentucky Lexington, KY	15 / 05	Lecture on Synergistic 4d-3d electron coupling in Cr substituted Ruthenetes
02	Dr.Hariharan Srikanth Department of Physics University of South Florida, Tampa FL	25 / 06	Lecture on Functional Magnetic Nanostructures and Hetero structures
03	Dr.G.Ananthakrishna Materials Research Centre IISc, Bangalore	02 / 07	Lecture on Precursors, power law distribution of acoustic emission and shape memory effect
04	Dr.R.Shankar Yale University, USA	12 / 07	Physics Colloquium on Landau Theory for Dummies
05	Dr.Sumedha ISI Foundation, Torino, Italy	25 / 07	Lecture on Evolution of population on neutral networks
06	Dr.Awadhesh Prasad Dept. Physics & Astrophysics University of Delhi, Delhi.	22 / 08	Lecture on "The effect of time-delay on phase synchronization
07	Dr.Rejishnath Institute fur Theoretisc Physik. Leibniz Universit, Hannover, Germany.	23 / 08	Lecture on Solutions and vortices in dipolar Bose Einstein Condensates
08	Dr.T.Venkatesan National University of Singapore University of Maryland and Neocera, Maryland	01 / 10	Colloquium on Beyond Moore's Law: Opportunity for Research in Oxide Electronics
09	Dr.Mojmir Sob Dept. of Theoretical & Physical Chemistry Masaryk University, Czech Republic	05 / 10	Colloquium on Application of ab initio results in modeling phase diagrams containing complex phase
10	Dr.Anirban Basu Institute for Advanced Study, Princeton	12 / 10	Seminar on Higher derivative correction in type II B superstring theory
11	Dr.Vincent G.Harris Dept, Electrical and Computer Engg. Northeastern University, Boston , USA	17 / 10	To deliver colloquium on Frontiers of Ferrite Materials Research
12	Dr.Sajeev John Tokyo University, USA	18 / 10	He discussed with our faculty and students and he visited research laboratories/groups of our department
13	Dr.G.Baskaran Professor, Institute of Mathematical Science, Chennai	25 / 10	Lecture on Possibility of Room Temperature Superconductivity

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
14	Dr.G.S.Singh Professor, Department of Physics, IIT Roorkee	31 / 10	Lecture on Bose-Einstein Condensation in Ultracold Atomic Vapours: An Overview of Experimental and Theoretical Aspects
15	Dr.Werner Martienssen (Editor in Chief, Landolt –Bornstein) Physikalisches Institut J.W.Goethe-Universitat, Germany	09 / 11	Colloquium on Reliable Physical Data, Fundamental Constants, and the Conceptual Structure of Physics
16	Dr.G.Rajasekaran Chennai Mathematical Institute	15 / 11	Colloquium on Neutrinos and INO
17	Dr.Sunil Mukhi TIFR, Mumbai	15 / 11	Lecture on Dyons and their Decay
18	Dr.R.Vijaya Department of Physics IIT Bombay	19 / 11	Lecture on Functionalized Photonic Crystals
19	Dr.Deepak Dhar Theory Group TIFR, Mumbai	20 / 11	Lecture of Exact entropy of dimmer coverings for a class of lattices in two or more dimensions
20	Dr.Dominique Goutee Director Department of Energy French Ministry	27 / 11	Lecture on Structure of the Atomic Nucleus and Origin of the Universe
21	Dr. Gopalan Srinivasan Physics Department Oakland University Rochester, Michigan	30 / 11	Lecture on Microwave and mm- wave magnetoelectric interactions in multiferroics
22	Dr.Sivaram Arepalli Structural Engineering Division, NASA. Johnson Space Center, Houston, USA	04 / 12	Lecture on Carbon Nanotube Applications for Human Space Exploration
23	Dr. Ms.Aruna Rajan Dept. of Physics Beckman Institute University of Illinois at Urbana, Champaign	06 / 12	Lecture of Steady State Thermodynamics
24	Dr.Jyotsna Lee Departamento de Fisica Universidad de Concepcion Casilla	18 / 12	Lecture on Photothermal Radiometry: A tool for subsurface investigation
25	Dr.Thomas Lee Departamento de Fisica Universidad de Concepcion Casilla	18 / 12	Lecture on Electrical, Thermal and Spectroscopic Characterization of LiMn ₂ O ₄ and Carbon nanotube doped LiFePO ₄
26	Dr.G.S.Lodha Faculty, CAT, Indore	27 / 12	In House Symposium on Atomic & Molecular Physics Convened by Dr.P.C.Deshmukh
27	Dr.S.T.Manson Regents' Professor Georgia State University Atlanta, USA	05 / 01 – 18 / 01	Research Collaboration with Dr.P.C.Deshmukh

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
28	Dr.Vijislav Radojevic Faculty, Institute of Physics Serbia, Belgrade	13 / 01 – 13 / 04	Research Collaboration with Dr.P.C.Deshmukh
29	Delegataion from Georgia State Universtiy, Atlanta & Institute of Fundamental Studies Kandy, Srilanka	08 / 01 – 09 / 01	To sign the Tripartute Mou between Georgia State University, USA , Institute of Fundamental Studies, Srilanka and Indian Institute of Technology Madras. Principal Host: P.C.Deshmukh
30	R.Ramesh Dept. of Materials Science & Engineering Dept. of Physics University of California, Berkelay	02 / 01	Lecture on Electrically Controllable Antiferromagnets for Spintronics
31	Dr.Onuttom Narayan Univ. of California at Santa Cruz.	03 / 01	Lecture on Energy transport in one dimension
32	Dr.K.P.Yogendran Hanyang University & CQeST	03 / 01	Lecture on Toroidal branes in SU(2)
33	Dr.Kausik S.Das University of Toronto	08 / 01	Lecture on Surface Thermal Capacity : A New Property of Fluid- Fluid Interfaces
34	Dr.Patrick Soukiassian Universite de Paris Sud/Orsay Commissariat a l'Energie Atomique, France	10 / 01	Lecture on Nanoscience and Nanotechnology at Silicon Carbide Surfaces
35	Dr.Irene D'Amico Department of Physics University of York, U.K.	11 / 01	Lecture on Potential architectures for optically-driver solid state quantum computers
36	Dr.L.Sriramkumar, HRI, Allahabad	18 / 01	Lecture on the evolution of curvature perturbations at super-Hukbbble scales
37	Dr.Apratim Chatterji Forschungszentrum Juelich GmbH, Germany	25 / 01	Lecture on Electrophoresis of Highly Charged colloids
38	Dr. Loren Adamson Georgia State University (Atlanta, USA)	08 / 01 – 09 / 01	visited the laboratories and faculty members of our department:
39	Dr. Gayle Nelson Georgia State University (Atlanta, USA)	-do-	-do-
40	Dr. S.T.Manson Georgia State University (Atlanta, USA)	-do-	-do-
41	Dr. Unil Perera Georgia State University (Atlanta, USA)	-do-	-do-
42	Dr. Kirthi Tennakone Georgia State University (Atlanta, USA)	-do-	-do-
43	Mr.Amza Georgia State University (Atlanta, USA)	-do-	-do-
44	Dr. C. Sudakar Department of Physics and Astronomy, Wayne State University	01 / 02	Diluted Magnetic Semiconducting oxides: the role of defects and clusters
45	Dr. Mahadeva Srinivasan (Retired from Bhabha Atomic Research Centre, Mumbai)	06 / 02	Lecture on Transmutation of Elements in Simple Experimental Configurations
46	Dr.Govind Krishnaswami Dept of Mathematical Sciences & Centre for Particle Theory	11 / 02	Lecture on 1+1 dimensional large-N QCD and baryons

Sl. No.	Name of the Visitor & Designation	Date of Visit	Purpose of Visit
47	Commodore S. Shekhar JMPS sanjivini Consultants (Pvt) Ltd.	12 / 02	Lecture on NICE - The Need for Communication Skills
48	Dr. Satchidananda Rath The University of Electro-communication, Chofu-Shi, Tokyo, Japan	13 / 02	Lecture on Semiconductor nanostructures: Growth, electronic structure and optical properties
49	S. Dutta Gupta	13 / 02	Discussion
50	Dr. Manish Shrimali, M.D.S. University, Ajmer.	22 / 02	Lecture on Associative memory with a controlled chaotic neural network
51	Dr. Raja Paul Dept. Neurobiology, Physiology and Behavior, University of California, Davis, USA.	26 / 02	Mechanical regulation of cell contractility and spontaneous cell patterning
52	Dr. Charusita Chakravarty, Dept. of Chemistry, IIT Delhi.	27 / 02	Water and Other Liquids: Anomalies and Phase Transitions
53	Dr. Serge Florens CNRS, Grenoble, France	27 / 02	Some fundamental challenges in NanoElectronics"
54	Dr. J. Cardy, FRS Rudolph Peierls Centre for Theoretical Physics, UK	04 / 03	Lecture on Quantum Quenches in Extended Systems
55	Dr. Amit Apte Tata Institute of Fundamental Research, Centre for Applicable Mathematics, Bangalore	19 / 03	Lecture on Lagrangian data assimilation and model error
56	Dr. Basanta Bhaduri Dept. of Mech. Engg. Monash University, Australia	24 / 03	Lecture on Assessment of Directional Brownian diffusion dynamics of carbon nano-fibers using video-microscopy
57	Dr. Nivedita Deo Dept. of Physics Delhi University	26 / 03	Lecture on Genus Distribution for extended Matrix models of RNA
58	Dr. David Jules Wolfsfon Centre for Magnetics Cardiff University, UK.	31 / 03	Lecture on Recent developments in advanced magnetoelastic and magnetocaloric materials
59	Mr. Gopal Dixit Centre for Theoretical Studies, Dept. of Physics and Metrology, IIT Kharagpur.	31 / 03	:Lecture on Physical constants are really constant

In House Faculty Seminars

S.No.	Name of the Faculty	Topic of the Lecture	Date
01	Prof. S. Lakshmi Bala	Dynamics of Quantum expectation values	04 / 05
02	Prof. M. S. Ramachandra Rao	Nanostructured Thin Films and Nanomaterials: Prospects and Applications	22 / 08
03	Prof. Shreepad S. Karmalkar Deprat. of Electrical Engg.	Innovative Solutions to Some Problems in Physics & Technology of Semiconductor Devices	08 / 08
04	Prof. R. I. Sujith Dept. of Aerospace Engg.	Physics in Allied Sciences and Engineering Disciplines	23 / 10
05	Dr. R. Nirmla	Functionalized Photonic crystals	19 / 11
06	Dr. B. S. Murty Dept. of Metallurgical & Materials Engg.	Physics in Allied Sciences and Engineering Disciplines	30 / 01

S.No.	Name of the Faculty	Topic of the Lecture	Date
07	Dr.Prem B Bisht	Newton's decomposition of sunlight with a prism (S19665-1966): What if the light employed was a femtosecond pulse?	13 / 02
08	Dr.C.Vijayan	Lecture on Beyond the Young's double slit experiment	05 / 03

Other Activities:

- i. The following M.Sc. student attended the Summer Internship programme in the Department of Physics, National University of Singapore for the period from 14.05 07 to 22.06.07.

S.Neethu

PH06C014

- ii. Prof. R. Shankar (Yale university, USA) is an alumnus of IITM (B.Tech. in EE 1969). His book Quantum Mechanics (Indian edition) release function was held in the Department of Physics on 06.07.2007.

5.1 SOPHISTICATED ANALYTICAL INSTRUMENT FACILITY

5.1.1 Introduction:

Sophisticated Analytical Instrument Facility (SAIF) established with financial support from the Department of Science and Technology provides sophisticated instrument and equipment facilities to Scientists / Faculties of Educational Institutions, National Laboratories, Industries and IIT Madras.

SAIF also undertakes on specific request, servicing of sophisticated instruments at other institution and also provide training for operation and maintenance.

Periodically SAIF conducts workshops, seminars and conferences to expose new trends in sophisticated instrumentation and methods. Contact programs for college students and open house for school children are conducted every year to motivate them towards scientific careers.

5.1.2 Faculty and their activities :

Faculty :

Name and Qualification	Major area of specialization (only 3 areas)
Professor: Dr. S. Pushpavanam (Head)	Modeling and Simulation, Non-linear dynamics, Hydro-dynamic instabilities, Flow Visualisation, Air Quality Monitoring
Professor: Dr.T.Pradeep, Ph.D	Chemical Physics, Spectroscopy, Ion Chemistry, Monolayers, Clusters
Associate Professor:	
T.S.Sampath Kumar, Ph.D	Biometerials, Surface Sciences, Analytical Instrumentation.
Visiting Faculty:	
Scientific Officers : Dr.M.S.Moni	NMR Spectroscopy
Dr.R.Murugesan	Mass Spectroscopy
Dr.Babu Varghese	X-ray crystallography

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

Sl. No	Co-ordinators	Title	Period & Venue
Workshop			
1.	Dr. S. Pushpavanam	SAIF Instrumentation	25/10/2007- SAIF, I.I.T., Madras
2.	Dr. S. Pushpavanam	SAIF Instrumentation	3/12/2007 - SAIF, I.I.T., Madras
3.	Dr. S. Pushpavanam	SAIF Instrumentation	07/01/2007, SAIF, I.I.T., Madras

Short-term courses /Workshops/Seminars/Symposia/Conference /Training attended by the faculty members in Academic institutions and Public Sector undertakings:

Sl.No.	Name of faculty	Title	Period	Venue
Workshop:				
1.	Dr. R. Murugesan	Workshop on "Analytical Instrumentation"	November 2007	SAIF I.I.T.
2.	Dr. R. Murugesan	National Workshop on "Bio-Technology and Analytical Instrumentation"	March 2008	Presidency College, Chennai

Special Lectures delivered by the faculty in other Institutions:

Sl.No.	Name of faculty	Topic of Lecture	Institution	Date
1.	M.S. Moni	NMR Instruments	Tirumalai Chemicals	18.05.2007
2.	M.S. Moni	NMR Instrumentation and prodical aspects	Madras University	05.01.2008

Design and Development Activities:

New facilities added or major equipment procured through project funds:

S.No	Name of Equipment	Vaue [Rs. In lakhs]
1.	500 MHz FT-NMR	230 lakhs

Research Publications:

No. of papers published in Refereed National Journals	..	--
No. of papers published in Refereed International Journals	..	19
No. of papers presented in National Conferences	..	--
No. of papers presented in International conferences	..	--

In Refereed International Journals:

Sl.No	Name of Faculty	Title of the paper	Name of the Journal
1.	Suresh P, Varghese Babu; Varadarajan, T.K.; Viswanathan, B	2,4,6-Tris{[(S)-1-hydroxy-3-methylbutan-2-ylamino] methylene} cyclohexane-1,3,5-trione.	<i>Acta Crystallographica, Section E: Structure Reports Online (2007), E63(2), 0984-0986.</i>
2.	Nandy, Ritesh; Subramoni, Mahadevan; Varghese Babu; Sankararaman, Sethuraman	Intramolecular π -Stacking Interaction in a Rigid Molecular Hinge Substituted with 1-(Pyrenylethynyl) Units.	<i>Journal of Organic Chemistry (2007), 72(3), 938-944.</i>

Sl.No	Name of Faculty	Title of the paper	Name of the Journal
3.	Angappane, S.; Pattabiraman, M.; Rangarajan, G.; Sethupathi, K.; Babu Varghese, Sastry, V.S.	ESR study of spin-lattice correlated cluster in single crystalline Nd _{0.7} Sr _{0.3} MnO ₃	<i>J.Phys. Conden. Matter (2007), 19, 036207</i>
4.	Selvakumar, J.; Varghese Babu; Raghunathan, V.S.; Nagaraja, K.S.	2,2'-[1,1'-(Propane-1,3diyl)bis(nitrilo-ethylidene)]diphenol.	<i>Acta. Cryst. (2007). E63, O1924-O1925</i>
5.	Raghavalu, Thenneti; Mathivanan, V.; Raj, S. Gokul; Kumar, G. Ramesh; Mohan, R.; Kumar, K. Suriya; Kovendhan, M.; Varghese, Babu.	X-ray crystal structure and spectral analyses of nonlinear optical L-lysiniium trichloroacetate single crystals	<i>Main Group Chemistry (2007), 6(1), 1-10.</i>
6.	Bhyrappa, P.; Karunanithi, K.; Varghese, B	2,3,12,13Tetramethyl 5,10,15,20tetra phenylporphyrin.	<i>Acta Crystallographica, Section E: Structure Reports Online (2007), E63(12), o4755.</i>
7.	Martin, S.; Revathi, C.; Varghese, Babu	N-tert-Butylpyrazine-2-carboxamide-□ N4)chloridobis(dimethylglyoximato-□ 2N,N')cobalt(III) hemihydrate	<i>Acta Crystallographica, Section E: Structure Reports Online (2007).</i>
8.	Anbu, S.; Kandaswamy, M.; Varghese, Babu	A binuclear unsymmetrical compartmental Nill complex: [□ - 11,24-dimethyl-16,19-dioxa-3,7,15,2tetraazatricyclo[20.3.1.19,13]heptacosa-1(25), 2,7,9,11,13(27),14,20,22(26), 23-decaene-26,27-diolato] bis[diacuanickel(II)] bis(perchlorate) tetrahydrate	<i>Acta Crystallographica, Section E: Structure Reports Online (2007), E63(9)</i>
9.	Priya, S. Mary Navis; Varghese, Babu, Linet, J. Mary; Das, S. Jerome	Dichlorido diglycinezinc dihydrate.	<i>Acta Crystallographica, Section E: Structure Reports Online (2007), E63(9), m2318</i>
10.	Bhyrappa, P.; Arunkumar, C.; Varghese, B..	Nonplanar liquid crystalline porphyrins: Synthesis and their properties.	<i>Abstracts of Papers, 234th ACS National Meeting, Boston, MA, United States, August 19-23, 2007 (2007), INOR-793. Publisher: American Chemical Society, Washington, D.</i>
11.	Luiz, T. Arun; Doddi, Adinarayana; Varghese, Babu; Rao, M. N. Sudheendra	(Dicyclohexylamino)(phenyl)(piperidin-1-yl)phosphine	<i>Acta Crystallographica, Section E: Structure Reports Online (2007), E63(8), o3449.</i>
12.	Manjunath, B. N.; Aidhen, Indrapal Singh; Varghese, B	Attempted methylenation of 1,2:3,4:5,6-tri-O-isopropylidene-D-gluconolactone using benzothiazol-2-yl-methylsulfone under Julia conditions yields an unusual product.	<i>Journal of Carbohydrate Chemistry (2007), 26(1), 17-25</i>

Sl.No	Name of Faculty	Title of the paper	Name of the Journal
13.	Rajeswari, S.; Venkatesa Prabhu, G.; Krishnakumar, K.; Ramkumar, V.; Varghese, Babu.	1-[(2,5-Dioxopyrrolidin-1-yl)(phenyl)methyl]urea.	<i>Acta Crystallographica, Section E: Structure Reports Online (2007), E63(6), o2929.</i>
14.	Bandyopadhyay, Arkasish; Varghese, Babu; Hopf, Henning; Sankararaman, Sethuraman.	Synthesis and structures of cross-conjugated bis-dehydroannulenes with a Y-enediyne motif and different □ topologies	<i>Chemistry--A European Journal (2007), 13(13), 3813-3821.</i>
15.	Aruna, S.; Bhagavannarayana, G.; Palanisamy, M.; Thomas, Preema C.; Varghese, Babu; Sagayaraj, P.	Growth, morphological, mechanical and dielectric studies of semi organic NLO single crystal. L-argininium perchlorate.	<i>Journal of Crystal Growth (2007), 300(2), 403-408.</i>
16.	Vesta, C.; Uthrakumar, R.; Jerome Das, S.; Varghese, Babu	Poly[tetra aquabis(μ_2 -2,4,6 trinitrophenalato)barium(II)].	<i>Acta Crystallographica, Section E: Structure Reports Online (2008), E64, m451-m452</i>
17.	Bhyrappa, P.; Karunanithi K.; and Varghese, B.;	2,3,5,10,12,13,15,20-(Octaphenylporphinato)copper(II) 1,1,2,2-tetrachloroethane solvate	<i>Acta Cryst. (2008). E64, m330-m331</i>
18.	Bhyrappa, P.; Velkannan, V.; and Varghese, B.	5,10,15,20-Tetrakis(3,5-difluorophenyl)porphyrin.	<i>Acta Cryst. (2008). E64, o190</i>
19.	Arunkumar, C.; Bhyrappa P. ; and Varghese, B.	C ₆₀ 1,1,2,2-tetrachloroethylene tetrasolvate.	<i>Acta Cryst. (2008). E64, o278</i>

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 members effectively participate and contribute to the Institute's commitment of providing a broad base of learning opportunities through the following major activities:

- Academic Programmes (M.Tech and Ph.D) under the Quality Improvement Programme (QIP)
- Short Term Training Programmes under QIP
- Curriculum Development Cell (CD Cell)
- Continuing Education Programmes (CEP)
- Web Studio
- Educational Technology Cell
- National Programme on Technology Enhanced Learning (NPTEL) ✓

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, 418 faculty members from other institutions have obtained Ph.D degrees and 523 faculty members have obtained M.Tech degrees under this programme till 2007-08. 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 2007-08	16	61	15	11	26	17
Number of teachers of degree level Engineering colleges benefited from inception to 2007-08	578	-	418	588	-	523

6.1.3 Short Term Training Programmes under QIP

Organisation of short-term courses under QIP for faculty in engineering institutions is supported by AICTE and it opens up avenues for sharing expertise of our faculty with rich experience in new and upcoming areas. Under this programme, 14 courses for a total duration of 16 weeks were conducted during 2007-08 and 361 teachers of Engineering Institutions as well as a few professionals from industries / R & D organizations have participated in these programmes. From 1970-71 to 2007-08, 247 programs have been held in which 5894 teachers from various engineering colleges participated and benefited.

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 2007-08.

6.1.5 Book Writing Scheme (BWS)

The BWS scheme is designed to encourage textbook writing by faculty members. During the year 2007-08, 5 faculty members have come forward to write book under this scheme. 51 books have so far been published under this scheme.

6.1.6 Continuing Education Programme (CEP)

Several Short Term Courses (STC) 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 certificate programmes and 2-year User Oriented M.Tech Programmes

to meet the specific needs of associated industries are being organized. Such programmes will ultimately pave-way for long-term interaction through research collaborations as well as consultancy assignments with the organizations. From the date of inception, i.e., between 1980 and 2007-08, 861 STCs have been conducted benefiting 19728 participants. Approximately 70 to 80 such programmes are organized every year. During the year under review, 79 Short Term Courses have been conducted and 1974 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 110 video based courses and 128 web based courses. IIT Madras coordinates this project, which has reached the final stages during this year. The video-based courses are telecast through the Gyan Dharsan (Free to air Technology Channel of the Doordarsan), while the web-based courses can be freely accessible by any individual, aimed at students and faculty of Institutions offering undergraduate engineering programmes. Efforts are being made to distribute the web-based and video-based courses to various Engineering Colleges showing interest in utilizing the same for the benefit of their students and faculty.

6.1.8 Web Studio

The web studio was established by IIT Madras through a project funded known as "IITM Courses on the web". It is equipped with state-of-the-art software and hardware required for developing and hosting web-based and video-based courses. It is the principal element of the NPTEL project through which faculty members have developed their courseware and supplementary learning materials. The project staff of Web Studio work closely with all the faculty and staff of the Institute as much as possible are also able to provide other web-related services and in the maintenance of Learning Management Systems for deployment of courses. The national web site on NPTEL was created and is maintained by the staff of web studio.

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 faculty expertise and the resources of IIT Madras to the Students of Educational Institutions, Industrial and R & D organizations across the country by means of audio-visual media. At present ETC comprise of two T.V studios (one with a capacity of 100 and another with 50 seats) with state-of-the-art digital equipment and post-production facility with a line-up of non-linear work-stations. Apart from these, two ENG out-door unit cameras which are being used to cover laboratory experiments, seminars/conferences, extramural lectures and in video-streaming of events/programmes.

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. Initially, over 30 courses comprising of 1200 hours of video-based lectures have been produced. Recently, 19 courses comprising of 700 hours of video-based lectures have been produced in ETC. These video-based lectures are being telecast through Doordharsan GD-3 "Eklavya", an exclusive free-to-air Channel. In addition, these video lecture series are also being distributed to interested Engineering colleges across the country.

The ETC has designed and setup a "Virtual Classroom facility" in the Classroom complex and also installed systems to facilitate interaction in large classes.

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. ETC provides supports regular video-conferencing request of faculty, and also Virtual classes for distance-learning activities.

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.

6.1.10 Central Photographic Section

The Central Photographic Section (CPS) caters to photographic needs of the Departments and Centres of the Institute. CPS 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. Apart from this, photographic coverage of most of the important functions such as Convocation, conferences, etc. held in the Institute are done by the CPS.

The Central Photographic Section has undertaken 220 Departmental job orders and covered 91 functions as well during 2007-08. 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 of graduants for 2008 convocation were 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

Staff

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:

139 projects of value totaling to Rs.6732 Lakhs were taken up by the Institute during 2007 -2008 as given below:

Sl.No	Agency Name	Total Projects	Value (Rs. in Lakhs)
1	Aeronautics Research & Development Board	5	67.83
2	Alumni Association	3	15.00
3	Archeological Survey of India	1	8.00
4	Armament Research Board	1	22.64
5	ASIAN OFFICE OF RESEARCH AND DEVELOPMENT	1	10.14
6	AutoDesk Asia Pte Ltd	1	3.60
7	Board of Research in Nuclear Sciences	3	229.70
8	Chennai Petroleum Corporation Ltd	1	21.63
9	Chevron products corporation	1	40.10
10	Council of Scientific and Industrial Research	13	177.09
11	Defence Research and Development Organisation	1	9.91
12	Department of Atomic Energy	1	0.89
13	Department of Biotechnology	18	930.17
14	Department of Information Technology	2	63.50
15	Department of Science & Technology	36	3492.73
16	EDUComp India Ltd	1	9.40
17	European Commission	1	59.83
18	FCP	1	32.70

SI.No	Agency Name	Total Projects	Value (Rs. in Lakhs)
19	General Motors and Technical Centre	1	5.00
20	Hyderabad Urban Development Authority	1	1.04
21	IBM Corporation USA	3	10.33
22	Indian council for Mecical Research	1	8.28
23	Indian National Academy of Engineering	1	1.00
24	INDIAN OIL CORPORATION LTD	1	26.00
25	Indian Space Research Organisation	5	65.31
26	Indira Gandhi Centre for Atomic Research	5	146.58
27	INSTITUTE OF PLASMA RESEARCH	3	27.30
28	INTEL ASIA ELECTRONICS INC.	1	9.60
29	London School of Hygiene & Tropical Medicine	3	31.22
30	Microsoft Corporation	1	83.58
31	Ministry of New and Renewable Energy	2	38.63
32	Ministry of Shipping	1	32.77
33	National Institute of Ocean Technology	1	17.40
34	Naval Research Board	6	563.10
35	Parryware Roca Pvt Ltd	1	0.50
36	RCI, Hyderabad	1	9.96
37	SHELL Technology India Private Ltd	1	14.74
38	SPACE APPLICATION CENTRE	2	37.56
39	Swedish International Development Cooperation Agency	1	18.48
40	Swiss Innovation Promotion Agency	1	0.85
41	Tata Steel	1	100.00
42	Technology Information Forecasting and Assessment Council	1	108.50
43	Texas Instruments India Pvt Ltd	1	11.57
44	UK INDIA Education & Research Initiative	1	12.79
45	University Grants Commission	1	11.00
46	Others and Additional Grants		143.65
	TOTAL	139	6731.58

This includes International Collaborative and Industry Sponsored Projects.

6.2.3 Consultancy Programmes:

549 Consultancy assignments of value totaling to **Rs.1772 Lakhs**, 55 Research Based Industrial Consultancy for a total value of **Rs.669 Lakhs** and 471 Institutional Consultancy assignments for a total value of **Rs.1035 Lakhs** were taken up during 2007-2008, apart from additional grants to the tune of **Rs.139 Lakhs** for the on-going consultancy assignments. Also 23 faculty members were retained as consultants by various industries for a total fee of **Rs.69 Lakhs**.

6.2.4 New Faculty Scheme:

The new faculty members are given a seed money of upto Rs. 5.00 lakhs by IIT Madras to initiate activities in the field of their research interest and to enable the faculty to interact with organizations sponsoring R & D projects. 35 proposals were approved for funding under the New Faculty Scheme for a total sum of **Rs. 169 Lakhs**.

6.2.5 Industrial Associateship Scheme:

252 Industries were members of this Scheme (Large scale 32, Medium scale 144 and Small Scale 76) for the Year 2007.

The following three Technology Appreciation Programmes were organized during the period under report (April 2007 – March 2008):

1. Ergonomics
2. Metrology and Quality Control
3. Nanomaterials & Nanotechnology

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. 15 on-going projects totaling to a value of Rs.243 Lakhs were continued and 5 new projects for a value of Rs. 65 Lakhs were taken up during the year 2007-2008.

IGCAR-IITM Cell:

10 on-going projects were continued during 2007-2008, totaling to a value of Rs. 133 Lakhs and 4 new projects for a value of Rs.122 Lakhs were taken up during the year 2007 – 2008.

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) Rural Technology Action Group (Funded by Planning Commission).
- (2) Recognition and Mentoring Programme by Lemelson Foundation (USA).
- (3) Socially Relevant Project.

A write-up on the activities of the above projects is given in Annexure – 1.

6.2.7 Distinguished Visitors to the Centre:

The following visited the Institute during the year 2007-08, for Collaborative Research.

S.No	Visitor(s)	Organization	Month
1.	Mr. Famory NIANG, Project Leader – Engineering	Renault India.	April
2.	R&D team	DePuy International, UK along with Johnson and Johnson Medical, Mumbai	May
3.	Mr. Stuart Nichols Director Technology Strategy & Planning	Timken Corporation for Research Collaboration	
4.	Mr. Shinohara, Senior Vice President and his team from	NISSAN along with Tata Consultancy Services	
5.	Dr. Jan van der Eijk, Chief Technology Officer	Shell Technology	August
6.	Mr. Chandrasekaran Duraiswamy	Satyam Computers	September
7.	Dr. Anders Casper, Director, Software Research	Ericsson, Sweden	
8.	Mr. Ravikumar, General Manager – R&D (MTD)	Lakshmi Machine Works Limited	

S. No.	Title	Inventor(s)	Dept.
4	A dual space split air conditioner	Dr M Pradash Maiya	MEE
5	A multi axial fatigue testing machine	Dr M M Mayuram	MEE
6	A method of manufacture of articles of glazed ceramic/ceramic composites on metal substrates	Prof C V Gokularathnam	MEE
7	A method of manufacture of ceramic bodies by micro wave joining	Prof. R Krishnamurthy	MEE
8	A direct internet access system	Prof. Ashok Jhunjhunwala	ELE
9	Scratch Resistant coated plastic ophthalmic lenses and a method of its manufacture	Dr. A. Subrahmanyam	PHY
10	Microfines fluidized bed jet mill for producing ultra-fine powders	Dr. S S Narayanan	CHE
11	A Refrigerant composition for a single stage refrigeration system	Dr. G. Venkatarathnam	MEE

6.2.10 Publications:

- The quarterly publication titled IIT Madras News was continued.

6.2.11 Other information:

- A team from NISSAN Motor India Private Limited, Mumbai visited IIT Madras on 25th June 2007 in connection with setting up of its Design function in Chennai.
- A team from R&D unit of BHEL, Ranipet visited IIT Madras on 13th July 2007 to review the on-going projects and to discuss about taking up of new projects.
- As part of the Technology Appreciation Programme a visit to Sophisticated Analytical Instrument Facility (SAIF), IIT Madras, was arranged on Thursday the 25th October 2007.
- Mr. Ben Wildavsky, Senior Fellow, research & Policy, Kauffman Foundation visited the centre in order to gather material for a chapter about IITs in his book about elite universities around the world.
- Representative from M/s. Sterlite Industries (India) Ltd., Tuticorin visited the centre for a suitable technology to recover waste heat from molten slag.
- Mr. V. Krishnan, Radix Global Solutions, New Delhi Visited the Center for commercialization of Patent.

Rural Technology Action Group (RuTAG), Tamilnadu at IIT Madras

1. Introduction:

IIT Madras initiated development of technologies which are of immediate relevance to society in the nineties. RuTAG is one such project aimed at identifying technology gaps and improving these for the benefit of rural India. A write-up on the activities of RuTAG is given below.

2. Sub Projects Initiated:

2.1. Completed Projects

Sl.No.	Title of the proposal	NGO	Expert Institution
1	Sanitary Napkins	Gandhigram Trust	Kumaraguru College of Technology
2	Natural Dyes – Phase I	Gandhigram Trust, Dindigul District	IIT Madras
3	Physico-bio-chemical Standardization of selected Ayurvedic Preparations – Phase I	Gandhigram Trust, Dindigul District	IIT Madras
4	Coir Spinning Ratt – Phase I	Small Industries Service Institute	IIT Madras
5	Mud Blocks for Low cost Housing – Phase I	Pothu Vivasayeegal Sangam	IIT Madras
6	Bridge across small canal	Pothu Vivasayeegal Sangam	IIT Madras
7.	Rain Gun	RIN	IIT Madras
8.	Low Bed tractor trailer	PVS Karur	IIT Madras
9.	Standard. of some Ayurvedic Preparations –II	GGT, Gandhigram	IIT Madras
10.	Biogas from non-edible oil cakes	Vivekananda Kendra	IIT Madras
11.	White LED Lamps	THI, Sittilingi	NIOT

2.2. Ongoing Projects

Sl.No.	Title of the proposal	NGOs	Expert Institutions
1.	Banana Fibre Extraction Machine	Industree crafts foundation	PSG Tech, Coimbatore
2.	Solar Energy Aided Tricycle	Spastic Society of TN	Anna University
3.	Improving crack resistance of Athangudi tiles	M.RM.RM. Cultural Foundation	IIT Madras
4.	Solar Powered Fans	Kuthambakkam Village Panchayat	IIT Madras
5.	Mud Blocks -II	PVS, Karur	IIT Madras
6.	Coir Spinning Ratt –II	SISI	IIT Madras
7.	Natural Dyes – II	GGT, Gandhigram	IIT Madras
8.	Cono weeder	Pondichery Science Forum	IIT Madras
9.	Weevil Detector	Mitraniketan	NIOT / IIT Madras
10.	Artificial Foot	GGT, Gandhigram	CLRI, Chennai
11.	LED Street Lights	THI, Sittilingi, PVS, Karur	IIT Madras
12.	Baby Diapers	GGT, Gandhigram	KCT
13.	Market Study for Baby Diapers	GGT, Gandhigram	SVPITM, Coimbatore
14.	Natural Dyes II	GGT, Gandhigram	KCT
15.	Low Power Wind Turbines	THI, Sittilingi	KCT
16.	Natural Dyed Textile from Banana Fiber		KCT
17.	Stone Crushing Hammer		IIT Madras
18.	Nutrient Analysis of Ayurvedic Medicine		IIT Madras
19.	Retention of nutrients in Earthen Pottery		KCT
20.	Sterilization of Sanitary Napkins		KCT
21.	Potter's Wheel		KCT
22.	Solar Fan		KCT
23.	System development for optimum utilization of solar panel	THI, Sittilingi	IIT Madras

2.3 Projects Supervised by RuTAG, TN

SI	Title	NGO	Institution
1.	Optimization and modernization of Soap making process	GGT, Gandhigram	IIT Madras

3. Other Significant Initiatives:

- Preparation of database and a web site on rural technologies to bridge information gap on technologies.
- Three pilot units for the manufacture of "Cost effective sanitary napkins" being set up at Kodaikanal, Uttarakhand and North East.
- One pilot plant for conversion of natural dyes into powder form set up at Gandhigram.
- Installation of LED Street lights in 3 villages for trial run.
- Initiated development of 500 W wind mill for Leh and 3 KW micro hydel generator for Uttarakhand.

L-RAMP (Lemelson Recognition and Mentoring Programme)

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

Project Activities

Incubation Support: L-RAMP has received around two hundred (200) applications seeking incubation support. Twenty one innovations proposals are currently being provided with Incubation support by L-RAMP.

Innovations funded (2007-08):

- Bamboo Mat Weaving Machine
- Solar Egg Incubator
- Novel Sprinkler
- Brick Making Machine
- Neo-Therm
- Rural Outsourced Production Enterprise
- Desi-crew Solutions Pvt. Ltd
- Rat Vanisher
- Alginate Band-aid

Innovations funded (2006-07):

- Modified Brick Kiln
- Mini Weeder
- Mini Sanitary Napkin Manufacturing Machine
- Mastitis Kit
- Marine Coastal Collector Well
- Infant Warmer
- Pin Pulveriser
- Nemate

Innovations funded (2005-06):

- Asthma Inhaler
- Fuel+
- Suncon Cooker
- Plant Oil Stove

Student Project Support: The objective of this initiative is to encourage engineering students to work on socially relevant problems for their final year projects and try to find sustainable solutions. Grants were given to forty student projects, through our nodal partners.

Pre-Incubation Training Programme: The Pre Incubation Programme was organized for 200 innovators who required capacity building to help them better understand how to innovate with the market perspective and the journey from idea to enterprise. The main objective of this programme was to provide intervention and value addition to the Innovators who were not selected for the Incubation programme but have the potential to be selected in the future.

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

L-RAMP Innovation Awards: As an initiative to encourage and recognize the efforts of the innovator community and their supporters such as investors, enterprises, journalists/media etc, L-RAMP has institutionalized an annual awards programme, namely the '*L-RAMP AWARD OF EXCELLENCE*'.

The award categories include Grassroots Innovator Award, Woman Innovator Award, Young Innovator Award, Enterprise Award, Investor Award, Media / Journalist Award and, Lifetime Achievement Award.

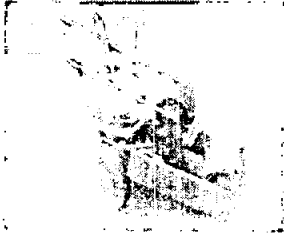
Award Ceremony (2007): The awards were formally given by **Dr. APJ Abdul Kalam** (former President of the Republic of India) in the award presentation ceremony which was held at IC&SR, IIT-Madras on 28th November '07. Each award comprised a trophy, certificate and prize money.

Awardee	Innovation
M. Lalitha (Woman)	Machine to extract "banana-cotton"
G. Ravichandran (Young)	Coconut Dehusker
K. Arvind & Team (Young)	Multipurpose Syringe Pump for Rural Hospitals
M. Mohamed Gany (Grassroots)	Flow Control Valve
R. Siva Saravanan (Grassroots)	Improved IC Engine by new connecting rod design
Dr. M. Christopher (Grassroots)	Instant blood sugar heamoglobin analyzer
M. Parthasarathy (Grassroots)	Surface mounted agricultural pump-sets in open wells
M. Mani (Grassroots)	Multicrop Thresher

Other Categories

Enterprise Award	Servals Automation Pvt. Ltd
Investor Award	Aavishkaar India Micro Venture Capital Fund
Media / Journalist Award	M.J. Prabhu
Lifetime Achievement Award	Sanjit 'Bunker' Roy

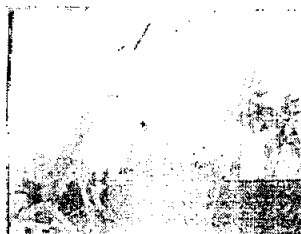
Photographs of the Innovations Funded:



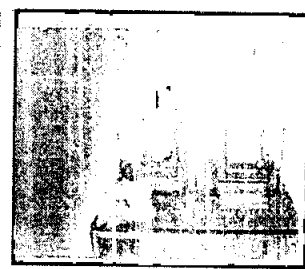
Mini-Weeder



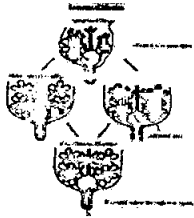
Pin Pulveriser



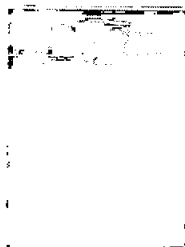
Improved Brick Kiln



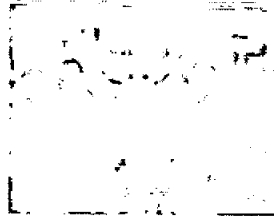
Mini-Sanitary Napkin Manufacturing Machine



Stages in Mastitis Prevention and Detection Kit



Marine Coastal Collector Well

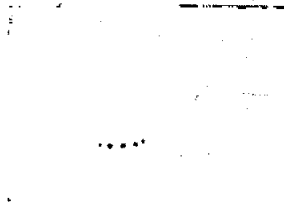


Infant Warmer



Neem Kernel

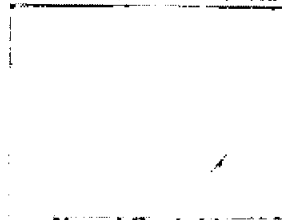
ACG Neem Products (Nemate)



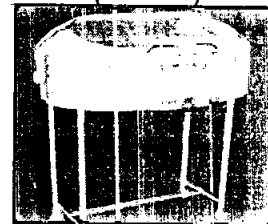
Rat Vanisher



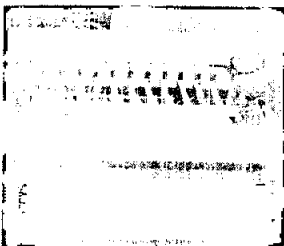
Sugarcane Farm Weeder



Novel Sprinkler



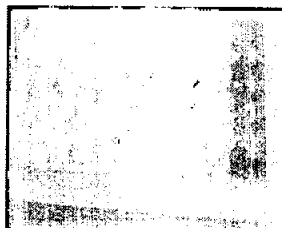
Neotherm



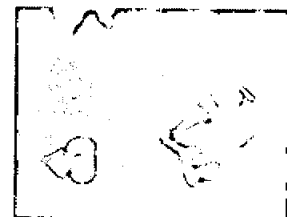
Bamboo Mat Weaving Machine



Brick making machine



Solar Egg Incubator



Production Enterprise

L-RAMP Award Ceremony:



Dr. A.P.J. Kalam presenting the award to the innovator

Group Photograph of the Award Winners

6.3 CENTRAL ELECTRONICS CENTRE

6.3.1 About the Centre

The Central Electronics Centre (CEC) was established in 1971 with the main objective of servicing and maintaining the wide variety of sophisticated electronic equipment. The significant advantage, this Centre has over the other similar organizations is the mixed environment, i.e a blend of academic environment and industry like working atmosphere.

The Centre is housed in dust free environment. The Centre has a team of qualified, experienced and talented staff members, trained in Germany in various fields of electronic instrumentation. The infrastructural and equipment facilities have been adequately strengthened over the years by successive collaborative Indo-German Projects.

While establishing this Centre, i.e. the wayback in 1971, the critical need for training the service engineers for maintaining the electronic equipment was foreseen and an 18 month training program, the first of its kind, in the country was started in the same year. In view of large demand for these trained personnel both within the Institute as well as outside, conducting such long term Training Programs has become one of the important activities of the Centre.

The Centre has continuously enlarged and diversified its activities and now it offers the following services:

- Servicing and Maintenance of Electronic Equipment
- Training Programs for Manpower Development
- Calibration of Electronic Test & Measuring Instruments
- Testing of Electronic Products
- Development of Custom built Equipment
- Consultancy Services to industries in the above areas.

So far, this Centre has lent its expertise in the above areas to more than 230 industries and other organizations in and outside the country.

As a part of Tailor Made Training Programs, four special 12 weeks Training Programs of unique in nature, have been organized to retrain the Radio Officers of Merchant Navy to become Electro-Technical Officers. The project was sponsored by AMET (Academy of Maritime Education and Training), Chennai.

In the area of Renewable Energy too, this Centre has been playing a key role by conducting several Training Programs in the area of Solar Photo Voltaics (SPV). 40 SPV programs have been conducted and more than 860 personnel were trained. The project was sponsored by IREDA (Indian Renewable Energy Development Agency), New Delhi. SPV Laboratory (indoor and outdoor) facilities have been established and Solar Photo Voltaic Park has been developed to promote the developmental activities in this area.

As the Centre had expanded its activities, most of the laboratories have been upgraded and moved to newly constructed building. In 2001, this Centre received ISO 9001:2000 Quality Certification from RWTÜV, Germany for having established the Quality Systems in its services. Also, the Centre received NABL Accreditation in 2004 for Testing and Calibration Laboratories in accordance with ISO/IEC 17025 Standards.

6.3.2 Activities:

1. Training Programs:

Long Term CEC Training Program:

XXIII Batch of Training Program (2 years duration) with 9 candidates commenced on 14th November 2007. The total number of candidates in XXII and XXIII Batch of CEC Training Programs are 19.

2. Laboratory Sessions for M.Tech Dual Degree Students:

Laboratory Sessions on 'Embedded Systems and Microcontrollers' for Laboratory Course ED312 for M.Tech Dual Degree Students of the Department of Engineering Design was conducted between January – April, 2008.

3. Some of the Important Consultancy Projects completed:

S.No.	Co-ordinator	Title of Project	Organisation	No of Assign.	Project value Rs. in Lakhs
1.	Dr.M.Kumaravel	Fault Analysis of Intelligent Battery Chargers & Crane Remote Units	Ford India P. Ltd	4	1.02
2	-do-	Fault Analysis of MGC and F/E Boards	Kody Tech. Ltd.	7	2.37
3	-do-	Fault Analysis of MGC, F/E Boards for Ultra Scanner and CRT Boards	Star Medisystems	1	0.25
4	-do-	Fault Analysis of RF Generator, Belt Motor Drives, Controllers and PECVD	Maharishi Solar	3	0.98
5.	-do-	Servicing of AC Drives	JKM Dretim Automotive Ltd.	2	0.40
6.	-do-	Servicing of MGC Boards	Care & Care Medical Systems, Chennai	1	0.50
7.	-do-	Servicing and Testing of Power Supplies and Calibration of Multimeters	Common Approval	3	1.15
8.	-do-	Servicing of Signal Generator & Oscilloscope	IMetrex Technologies Pvt Ltd, Pondicherry	1	0.28
9	-do-	Servicing of Measuring Amplifier and Conditioning Amplifier	BHEL, Ranipet	1	0.34
10.	-do-	Servicing of DC Power Supplies and Charge Amplifiers	CVRDE	2	0.56
11.	-do-	Servicing of Digital Transmission Analyser and Frequency Analyser	Pondicherry Engineering College	1	0.36
12.	-do-	Testing of Multiproduct Calibrators	InstruLab Aero & Allied Systems	1	0.22

6.3.3. Conference Presentations:

- (i) Dr.M.Kumaravel attended the International Solar World Congress at Beijing from 18.09.07 to 21.09.07 and made an invited presentation on the following:

'Technical Training, Manpower Development and Certification Programs in the area of Solar PV'

Other papers presented in the same conference are:

- 'Solar PV powered Seawater Desalination Plants and their Techno-Economics' by Dr.M.Kumaravel, Mr.R.Gopaldaswami, Ms.K.Sulochana and Mr.G.Saravanan
- 'Performance evaluation of Solar PV modules under field conditions through a quick diagnostic tool' by Dr.M.Kumaravel, Mr.C.R.Jeevandoss, Ms.G.Amutha and Mr.S.Veeraraghavan

- (ii) The following paper was presented in the International Conference 'Green House 2007' (4th – 6th October 2007) at Sydney, Australia:

'Promotion of Solar Photo Voltaic powered Desalination Plants for Perennial Fresh Water Source – A smooth transition towards elimination of Green House emissions' by Dr.M.Kumaravel and Mr.R.Gopaldaswami

- (iii) Dr.M.Kumaravel was invited to give a following presentation in the International Conference 'ICORE 2007' (27th – 28th November 2007) at New Delhi

'Technical Manpower Development towards achieving Quality Solar Photo Voltaic Systems'

Other papers presented in the same conference are:

- 'Solar Photo Voltaic powered white LED based Lighting Systems' by Dr.M.Kumaravel, Mr.C.R.Jeevandoss, Ms.G.Amutha and Mr.S.Veeraraghavan
- 'Solar Photo Voltaic powered Seawater Desalination Plants – System Performance and Techno Economics' by Dr.M.Kumaravel, Mr.R.Gopaldaswami, Mr.P.Sadasivam and Mr.G.Saravanan

6.3.4 Invited Lectures:

- Dr.M.Kumaravel delivered an invited talk on "Solar PV Systems – Current Trends" during GENCO meet organized by NTPC on 29.02.08.
- Dr.M.Kumaravel gave special lectures on 'SPV Systems and SPV Powered Seawater Desalination Plants' on 7-3-2008 for Indo-Swiss EPFZ Program on Technology and Sustainable Development.
- Dr.M.Kumaravel gave an invited talk on 'SPV Power Plant and Integrated Energy Source for Seawater Desalination' during the Indo-UK Workshop on 18-3-2008.

6.3.5 Committees Served:

Dr.M.Kumaravel is serving in the following Committees:

- i. Governing Council Member of Solar Energy Society of India (SESI).
- ii. Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Minjur, Chennai.
- iii. Chairman of Expert Committee for Technical Evaluation and Installation of SPV Plant at CWET (Centre for Wind Energy Technology), Chennai.
- iv. Member of Technical Advisory Committee for CMWSSB, Govt of Tamilnadu for installation of 100 MLD Seawater Reverse Osmosis Desalination Plant at Nemmili, Kancheepuram Dist.

6.3.6 Ongoing Development Activities:

- (i) Solar Photo Voltaic powered Seawater Desalination ('Suryajal') Systems in Standalone as well as Hybrid versions.
- (ii) Solar Photo Voltaic Powered white LED Street Lighting Systems for IIT Madras and Sittiling, a tribal village in Dharmapuri District
- (iii) PV-Hybrid Power System for Lighting and Baby Warmers at Sittiling Hospital
- (iv) Preparation of Preliminary Project Report on 'Design and installation of Solar PV Power Plants (1 MWp to 5 MWp) for different sites in the country and installation for ILFS

6.3.7 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. Currently a cluster of 128 processors being established for scientific computation.

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. The Phase-II implementation of the Data Centre facility was completed with facilities such as new network room and conference room. The network facilities are shifted to the new network room. The Data Centre has been designed as per TIER III standards of UPTIME Institute. The entire facility is monitored by BMS (Building Management System) from operation centre. The facility is one of the largest Data Centre available in the country for an academic institution.

The Campus Network was established in 1994 connecting about 18 buildings in the academic zone using telephone cables to interconnect local area network in the buildings. A high speed campus network was established connecting all the buildings in the academic zone on Fibre Backbone and ATM 622 Mbps communication technology. The campus network has a 10Gbps backbone interconnecting the three zones, Academic, Hostel and Residential. Number of nodes in the campus is more than 6000. The network equipments in the academic zone are being upgraded to provide 1 Gbps and 10/100 Mbps connectivity to the nodes. All the fibre switches were already replaced. All the buildings in the academic zone were provided with dual fibre connectivity. The Internet bandwidth started with 64Kbps in 1996 is 45Mbps to-day.

In view of the proliferation of the use of desktop PC's, the Centre runs a PC Maintenance cell to provide services to handle hardware problems and maintenance of PCs and peripheral devices in the institute, including those used in projects.

The on-going administrative computerization efforts through include the following services:

- | | |
|-----------------------|--|
| 1. Administration | 5. Entrance Examinations for Admission (JEE, GATE) |
| 2. Finance & Accounts | 6. Hostels |
| 3. Hospital | 7. Stores & Purchase |
| 4. Engineering Unit | 8. Academic Section |

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.

6.4.2 Details of Staff

Title/Name and Qualification

Major Area Specialization

Head

Prof. T.A. Gonsalves

Design and performance of computer and Telecom networks. With emphasis on Innovative and low-cost product and technology development for Indian and International Industry. Fostering software development in small towns and rural areas.

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 Engineer Dr. S. Jayaprakash	Software Engineering, Computer Networks, e-Governance
Ramesh S.K., M.S	System Administration, MIS, Data Management, Data Processing, System Programming
Systems Officer Gr.I Sourirajan C.S., M.Sc.	System Administration, Programming Languages, Application Software Development, Data Centre infrastructure and related activities
Assistant System Engineer Baman Banavath B.Tech (CS)	System Analysis & Design, AIX A, Windows NT server Administration, INTERNET, Database Management System, Power builder, Visual Basic GUI Applications
Venkatesan C.S., B.E.(CS), M.Tech.(IT) (MBA), M.Tech (C level), MBA	Software Engineering, Operating Systems (Unix, Windows, Sun, IBM), Database management systems, Programming Languages (C,C++, Cobol), Computer Networking, System administration, HRD Management.
Technical Officers (Systems) Gr.I Ravichandran V., M.Sc.	Application Programming, Database Management systems, Systems Programming, System Administration
Vijayaraghavan C.N., M.Sc., & M.Tech. in Ind. Maths	Computer Network and Data Centre Operations, Operating Systems, System Administration
Assistant Engineer (Systems) Sreekumar P.Y., B.Tech. (CS)	Computer Networks, Database Management Systems, Systems Administration
PC MAINTENANCE CELL In-Charge – Mr.V. Ravichandran	
Senior Technical Superintendent Selvaraju V., B E. (ECE)	PC Hardware and software maintenance and troubleshooting. Microcontroller and Microprocessor based system development and BIOS programming. Training PC Cell Trainees in Hardware and OS (Windows 9X/NT/XP/2000 and Linux), In-charge, Residential Zone, Campus Networking.

Junior Technical Superintendents

Venkata Subba Rao T., B.Tech. (CS)

Maintenance, Troubleshooting and Repair of SMPS, Mother boards, Printer, Monitors and other peripheral devices, Installation, Administration and Maintenance of Windows 9X, NT, XP, 2000, Linux, Novel Netware operating systems. Training on PC Maintenance Cell Trainees and repairs personal computers.

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.

Project Associate/Project Technician

There are five Project Associates and 12 Project Technicians in the Computer Centre to support the Centre operations.

6.4.3 GATE and JMET Examinations 2007-2008

Mr. S.K. Ramesh assisted in the successful conduct of the GATE 2008 and JMET 2008 examinations.

6.4.4 JEE 2007-2008 Data Processing

Mr. C.S. Sourirajan and S. Anandkumar involved in the successful conduct of the JEE 2008 related computer operations that included Applications query on Web/IVR, Data Processing, and results publishing in Web/IVR.

6.4.5 Antivirus

Server-based e-Trust software from CA has been installed in a server at the Computer Centre that provides automatic updating. Installation in individual machines is provided through a website at Computer Centre. Help is provided to the users who face difficulties in activating or updating this from time to time. Clean-ups and reinstallation (if required) are also done.

6.4.6 Seminars / Lectures / Other activities

- Dr. S. Jayaprakash delivered a invited lecture on Networking Infrastructure at the National Workshop on LIS Teachers and the Digital Future jointly organized by IATLIS and IIT Madras
- Dr.S. Jayaprakash conducted a Tutorial on Networking at National Engineering College, Kovilpatti on 02.02.2007, in the iconADELCO 2007, International Conference.
- Dr. S. Jayaprakash attended Technical Expert Committee meeting for Internet Facility at Manonmanium Sundarnar University, Tirunelveli on 16.04.2007.
- Dr. S. Jayaprakash attended Steering Committee meeting on 'e-Governance Programme' at Univ. of Madras on 16.11.07
- Dr. S. Jayaprakash delivered a lecture on Networking at Kings College of Engineering, Punalkulam on 15.02.2008 after inaugurating Cisco Academy Regional Centre at the College
- After the failure of VTLS System in Central Library, Mr. S.K. Ramesh provided new Software to take care of the basic operations of the Central Library.
- Computer Centre organized one day Workshop on CFD Combustion on 20.07.2007 by CD-Adapco, Bangalore.
- Computer Centre organized training program on ICEM & CFX from 17.09.2007 to 19.09.2007, conducted by M/s. Ansys, Fluent India, Bangalore.

6.4.7 Publication

1. Santosh S. Chavan, **S. Jayaprakash** and V. Jagadeesh Kumar, "An Open Standard Protocol for Networking of Energy Meters" **IEEE Transaction on Power Delivery**, accepted for publication
2. Santosh S. Chavan, **S. Jayaprakash** and V. Jagadeesh Kumar, "An Open Standard Protocol for Networking of Energy Meters" 2008 Power Engineering Society General Meeting, Pittsburg, Pennesylvania, USA

6.4.8 Memberships of Committees

- Dr. S. Jayaprakash was invited to serve as a Steering Committee Member 'e-Governance', University of Madras
- Dr. S. Jayaprakash was invited to serve as Member of Doctoral Committee for four Ph.D students, Dept. of Computer Science & Engineering, Anna University, Chennai
- Mr. C.S. Venkatesan, Asst. Systems Engineer was enrolled as a Life Member in ISTE from 2004.

6.4.9 Institute Projects:

S. No.	Title	Coordinators / Staff
1.	Campus Network	Dr. S. Jayaprakash Mr. P.Y. Sreekumar Mr. C.N. Vijayaraghavan Mr. V. Selvaraju Mr. S. Anandkumar
2.	Hospital Drug Management System	Mr. S.K. Ramesh Mr. V. Ravichandran
3.	JEE Data Processing	Mr. C.S. Sourirajan Mr. S. Anandkumar
4.	GATE Data Processing	Mr. S.K. Ramesh
5.	M. Tech Admission	Mr. S.K. Ramesh
6.	Academic Processing	Mr. P.Y. Sreekumar Mr.C.S. Venkatesan
7.	Academic Workflow (New)	Mr.C.S. Sourirajan Mr.C.S. Venkatesan Mr.T.V. Subba Rao
8.	Hostel Pay roll System	Mr. C.S. Sourirajan Mr. V. Ravichandran
9.	Teachers Evaluation	Mr. C.S. Sourirajan Mr.P.Y. Sreekumar
10.	Anti-virus facility	Mr.C.S. Sourirajan Mr. D. Hariharan
11.	Institute payroll	Mr. S.K. Ramesh

7. CENTRAL FACILITIES

7.1 Central Workshop Facilities

Central Workshop was established in the year 1959. Initially it consisted of shops associated with three major production processes, i.e. metal cutting, metal joining and metal forming. Later on, sections of other modern production processes were added .

Presently Central Workshop of our Institute is having the following shops and sections and their activities during the period April 2007- March 2008 are given below.

S.No	Shops	Facilities
1	Carpentry	Planing, crosscutting, turning, thickness reduction, polishing, teeth sharpening, blade sharpening and grinding
2	Fitting & Tool Room	Filing, drilling, tapping, jig boring, tool milling, engraving, marking, slotting, grinding 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	1. Festo training kits with valves . 2. Electromagnetic Kit 3. PLC to demonstrate Pneumatics 4. Practical demonstration like auto wheel brake system. Weight lifting equipment for demonstration from Eukon Bosch . Hydraulic Kit with valves for Students. Bosch training kit for Students Demonstration.
11	Electronics	PCB, Tag board , Soldering and PLC Proofing.
12	FRP	Process material demonstration. Making of dust bin and welding hand shield.
13	Plastics	Introduction to process materials, Practical demonstration in making cycle token, key tags, caps & Folders
14	Instrumentation & Communication Lab	Introduction to basic communication systems. Need for modulation. Analog modulation techniques. Demonstration for optical fiber communication. Introduction to various kinds of transducers. Microprocessor based control applications. Example of stepper motor control and traffic light controller.
15.	Quality control lab	Measurements, metrology Terminologies, Measuring instruments properties, Calibration Standards, Traceability and Errors in Measurements

ISO 9001/2000 recertified in 2005 and valid up to October 2008

Besides the above, Central Workshop also bears the responsibility of maintaining institute vehicles (Light and Heavy, 20 Nos.) and the environment friendly **Battery powered electrical vans(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 518 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).

This year (ie. 2007-2008) both WS 101 & WS 102 were conducted in the 1st Semester as well as in the IInd Semester to facilitate the scheduling of the time-table.

The details of the training are given below.

Department	No. of students	Training received in
1. Electrical Engineering	85	Fitting Electrical
2. Engineering Physics	16	
3. Mechanical Engineering	93	

4. Metallurgical & Materials Engineering	33	Electronics Carpentry Welding Turning Pneumatics & Hydraulics Plastics & FRP Milling & Shaping Foundry Smithy Gear & Tool room Quality control Instrumentation & Communication
5. Aerospace Engineering	35	
6. Chemical Engineering	58	
7. Naval Architecture & Ocean Engineering	32	
8. Civil Engineering	64	
9. Bio- Technology	38	
10. Computer Science	36	
11. Engineering Design	28	
Total	518	

In addition 30 students of IIT D&M have also been given training in CWS.

Central Workshop executes fabrication of test set-ups and their accessories related to PhD, PG and UG Projects. 454 Work Orders were executed during the year 2007 – 2008.

The communication lab has included in its training the basics of Instrumentation in compliance with request from User's Committee.

The staff of CWS made an industrial visit to Sriharikota SHAR centre during the month of November 2007.

A Workshop in Spoken Communication for Engineering Workshop Instructors was conducted for the staff of CWS.

7.2 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 decesses.

- 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 2007-2008.

Industrial Gases:

Description	Qty Ordered Approximate	Qty actual Consumption	Special Gases:-	Qty Ordered Approximate	Qty actual Consumption
Oxygen	2000 cm	1519 cm	High pure Argon	1640 cm	1484 cm
Dry Nitrogen	4000 cm	3038 cm	---do--- Oxygen	400 cm	448 cm
Dissolved Acetylene	300 cm	203 cm	---do--- Hydrogen	500 cm	371 cm
Std. Hydrogen	600 cm	140 cm	---do--- Nitrogen	2600 cm	2310 cm
Carbon-di-Oxide	800 Kgs	837 cm	Helium	200 cm	217.50 cm
			Zero Air	600 cm	560 cm

7.3 Central Glass blowing Section:

The Central Glass Blowing Section is one of the important infrastructures facilities of the Institute since 1972. Being a central facility 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.

Vellalar Engineering College 100 students from Erode visited the CGBS and enjoyed a glass working demonstration.

During April 2007 to March 2008 the section undertook 285 work orders from various departments.

8. CENTRAL LIBRARY

The Central Library is well equipped with all modern facilities and rich information resources in the forms of CD-ROMs, on-line databases, e-journals, e-books, e-standards, e-patents and various other printed information materials on Applied Science, Engineering, Technology, Humanities, Management, Social Science and other new emerging areas. The Central Library holds 4,20,600 collections, 1,182 current journals, catering to the information needs of 6,600 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	2007-2008
A. Collections	
Books	2,31,565
Theses	3,832
Pamphlets and Reports	4,031
Microfilms/Fische	1,842
Book-Bank(General)	6,169
Book-Bank(Weaker Section)	8,090
Current Periodicals by Subscription	1,095
Current Periodicals by Exchange/Gift	87
Back Volumes of Periodicals	97,909
Patents & Specifications	20,000
German Collection	44,280
CD-ROMs	1,252
Audio/Video Cassettes	448
Total	4,20,600
B. Membership	
Staff	780
Faculty	410
Students	4,562
Alumni Members	308
Corporate Members	182
Industrial Associate Members	218
Special Members	78
Project Co-ordinators	62
Total	6,600

C. Services: Circulation

Number of Books/Journals issued	1,27,332
Number of Books issued Book Bank (GS)	2,750
Number of Books issued Book Bank (WS)	3,30,74
Consultation Cards issued to users	155
Overdue & other Charges collected	7,16,343
Xerox Charges collected	1,49,066

D. Permanent Loan to Depts. / Centers

Books Issued	1,635
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E. Inter Library Loan Transactions

Borrowed from other Libraries	93
Loaned to other Libraries	125

F. Reprint Service

Reprints received from other Institutions	656p
Reprints supplied to other institutions	1,540 p

G. Smart Card Generated/issued	1,816
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H. Expenditure on

Purchase of Books	65.16 lakhs
Subscription of Journals	533.14 lakhs

I. New Journals Added	72
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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:

- ISO Surveillance Audit (TUV NORD) was conducted on 04-03-2008
- Internal Quality Audit was conducted on 28-02-2008
- Internal Quality Audit was conducted on 23-11-2007
- Internal Quality Audit was conducted on 06-09-2007

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 HRD Initiatives:

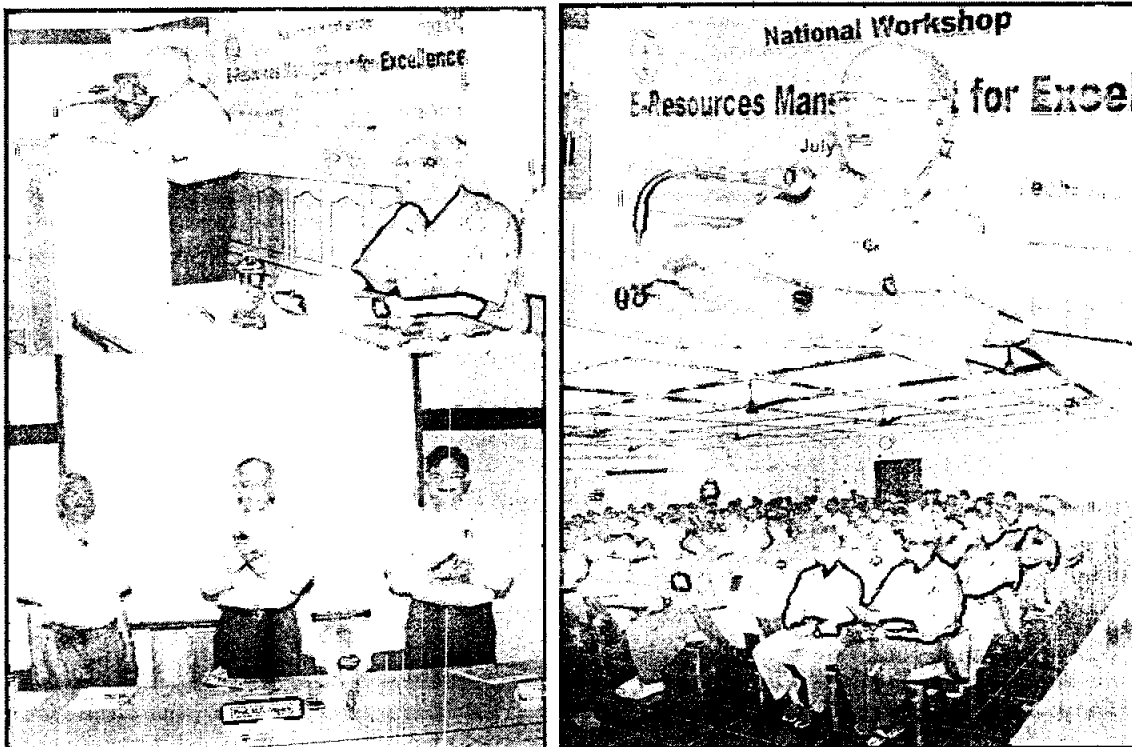
The Central Library, IIT Madras has organized National Workshop on E-Resources Management for Excellence jointly with INDEST-AICTE Consortium during 16-18 July 2007. The major objectives of the Workshop are listed below:

- To provide a forum to the Librarians and Academic Administrators to discuss and share their problems and experiences of using e-resources with core members, INDEST Functionaries, Information Solutions Providers, Experts and Users.

- To create awareness and understanding about the importance of introducing and executing information technology in Libraries and Information Centre for effective and efficient management of e-resources to achieve excellence.
- To provide an opportunity to the participants to see the world-class information technology infrastructure and organization of e-resources in IIT Madras.
- 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 Centre, Media Resource Centre, Children's Library Corner, Web based Library and Information Support Services and other facilities/services

Prof. M.S. Ananth, Director, IIT Madras was the Chief Guest for the Inaugural function and delivered inaugural address. Dr. R.K. Chadha, Joint Secretary, Parliament of India, Lok Sabha Secretariat, New Delhi delivered special address on Challenges before LIS Professionals and Dr. Harish Chandra, Librarian, IIT Madras and Workshop Director welcomed the gathering and also briefed about the Workshop. On this occasion, Chief Guest released the CD-ROM prepared by INDEST-AICTE Consortium which was also distributed amongst the participants. The major topics covered during the Workshop were: INDEST-AICTE Consortium: Services, Economics and its Impact, Intelligent Extraction: A Knowledge Discovery Tool for the New age Researcher, Information Literacy; a Tool for Bridging the Digital Divide, S&T E-Resources, Information Services in Networked World, Digital Resources through National Program on Technology Enhanced Learning (NPTEL), Knowledge Culture: Prerequisite for Digital Resource Management, Networking Infrastructure for Digital Resources, Future Libraries, Value of Scholarly Information, E-Resources with Specific Reference to E-Books, Search Engines Environment for Enhanced Access in Distributed Digital Library, Web OPACs: Effective tool for Information Resources & Retrieval, J-Gate and JCCC, Evaluation of E-Resources: Quality Assurance, User Needs and Expectations, Patents and Standards E- Resources, E-Resources Management

Selected Images



8.3.2 On-line Access to Wiley Journals:

On-line access has been provided for Wiley Journals numbering 52 on the recommendation of the Departments. These journals are accessed through Central Library website <http://www.cenlib.iitm.ac.in> under e-journals link.

8.3.3 Intimation of Books Received:

The Central Library has initiated this new service for intimating the users about the new books received to the concerned faculty through e-mail every week.

8.3.4 Borrowing facility on reciprocal basis:

The Central Library has made special arrangement with IFMR (Institute for Financial Management and Research, Chennai) to provide borrowing facility on reciprocal basis. We have received 10 library borrowing cards w.e.f. 13-11-2007. These cards are used by the faculty and students extensively.

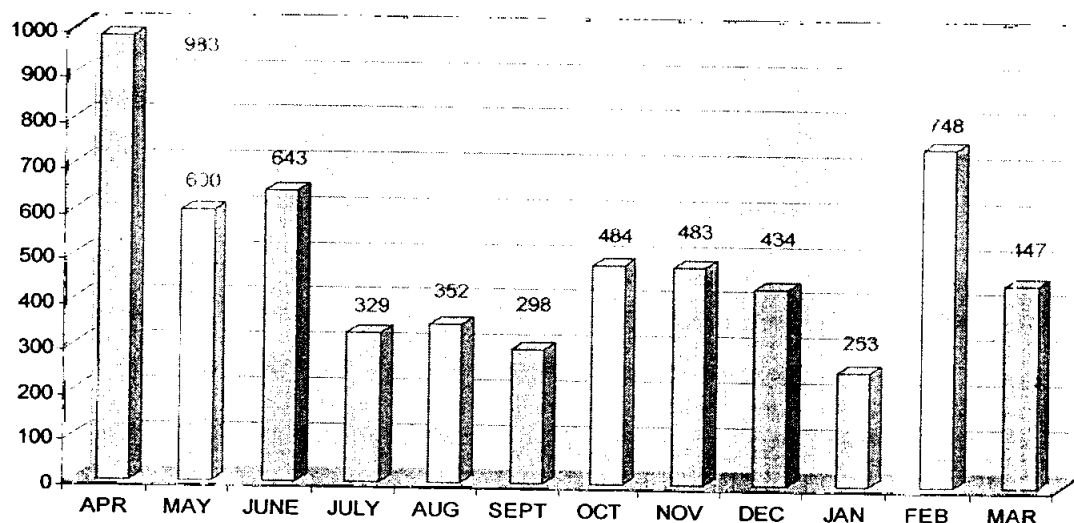
8.3.5 Signage Board:

Signage Board indicating the Location of facilities and services at Levels has been installed at the entrance of the Central Library.

8.4 Binding Facilities:

Over the past decades, users used to face problems for not getting the publications in time as external binders used to take on an average 4 to 6 months to complete the binding. To overcome this difficulty, the Central Library installed Well bound Automatic Binding Machine with the facility to bind the books in few seconds using strong glue. This has saved the entire amount spent on binding through external binder and also saved the time of users ensuring great satisfaction among them. The details regarding the work completed during 2007-2008 are given below:

Figure 1: Total Number of Publications Bound during 2007-2008



8.5 Faculty and their Activities:

Name	Qualifications	Major Area of Specialization (Only Three Areas)
Harish Chandra Librarian	M.A., M.L.I.Sc., Ph.D.	Rural Information System, ISO application in Libraries & Information Centers, Digital Libraries.
C.C.Tom Assistant Librarian	M.A., A.I.D.I.Sc.	Library Administration, Books Acquisition, Technical Processing.
C.R.Sekar Assistant Librarian	B.A., M.L.I.Sc.	SDI Service, CAS, Bibliographic Compilation.
P. Natarajan Assistant Librarian	M.A., M.L.I.Sc.	Resource Sharing, Document Delivery, Inter Library Loan.

8.6 Training/ Lecture/Presentation/Conference Organized:

Sl.No.	Name of the Speaker / Organiser	Topic	Date
1.	Dr. R. Ramachandran, Principal Library Information. Officer National Library, Kolkata	Library Services	07-07-2007
2.	Dr. Harish Chandra	National Workshop on E-Resources Management for Excellence jointly organized with INDEST-AICTE Consortia, New Delhi	16-07-2007 to 18-07-2007
3.	Dr. Dong-Geun OH, Professor Dept. of Library Inform. Science Kei-Myung Univ. South Korea.	Image Processing in Web Content	14-08-2007
4.	Dr. Harish Chandra	Information Literacy Programme on J-Gate Custom Content for Consortia (JCCC)	17-09-2007
5.	Dr. Harish Chandra	Springer Link Database	27-09-2007
6.	Mr. Marty Farrell, Director, International Sells, ASTM	Information Literacy Programme on ASTM standards under Digital Environment	24-01-2008

8.7 Short term Courses / Workshops / Seminars / Symposia / Conferences / Training/ Meeting attended by faculty in recognized Academic Institutions:

Sl.No.	Name of the staff	Title	Institution	Period
1.	Dr. Harish Chandra	DELNET GB Meeting	DELNET, New Delhi	23-04-2007
2.	Mr. C.C.Tom Mr. K. Sethu Mr. Shesha Nadha Sathapathy	National Workshop on E-Resources Management For Excellence	Central Library IIT Madras	16-07-2007 to 18-07-2007
3.	Mr. M. Ramani	National Seminar on Library User's Expectations in Information and Communication Technology (ICT)	Anna University MIT Campus	07-09-2007 & 08-09-2007
4.	Dr. Harish Chandra	Selection Committee Meeting	Tamilnadu Open University, Chennai	29-10-2007
5.	Dr. Harish Chandra	Selection Committee Meeting	Anna University	02-11-2007 & 03-11-2007
6.	Mr. T. Ramakrishnan Mrs. S. Pavalamani	Hindi Training Programme	IIT Madras	w.e.f. January 2008
7.	Dr. Harish Chandra	UGC Expert Committee Meeting	Osmania University, Hyd.	07-02-2008
8.	Dr. Harish Chandra	Selection Committee	IIT Khargpur	15-02-2008
9.	Dr. Harish Chandra	Workshop on LIS Curriculum Reforms	IGNOU, New Delhi	31-03-08

8.8 Special Lectures Delivered by Faculty in other Institutions:

Sl.No.	Name of Faculty	Topic of Lecture	Venue and Date
1.	Dr. Harish Chandra	Patents and Standards E-Resources	Central Library of IIT Madras organized by INEST-AICTE Consortium on 18-07-2007
2.	Dr. Harish Chandra	Central Library System and Services	Department of Management Studies, IIT Madras on 26-07-2007
3.	Dr. Harish Chandra	RFID Implementation in Libraries: Issues and Solutions	University Library, Anna University on 09-08-2007
4.	Dr. Harish Chandra	Implementing INDEST-AICTE Consortium at IITM :Some experiences	Union Christian College, Aluva on 01-08-2007

Sl.No.	Name of Faculty	Topic of Lecture	Venue and Date
5.	Dr. Harish Chandra	RFID Implementation in Libraries: Issues / Solutions	University Library, Anna University on 09-08-2007
6.	Dr. Harish Chandra	Developing the Roadmap for Information Services under ICT Environment	Library, MIT Campus, Anna University on 08-09-2007
7.	Dr. Harish Chandra	Resources Sharing	Technical Teachers Training and Research, Chennai on 19-09-2007
8.	Dr. Harish Chandra	Importance of Library and Information Services under ICT Environment	National Institute of Virology, Pune at Journal Club on 21-09-2007
9.	Dr. Harish Chandra	Recent Trends & Developments in the Principles and Practices of Lib. & Information Sc..	Department of Library and Information Science, University of Pune on 22-09-2007
10.	Dr. Harish Chandra	RFID and Security under Digital Lib. Environment	NITTTR, Chennai on 05-11-2007
11.	Dr. Harish Chandra	TQM in Libraries	NITTTR, Chennai on 31-10-2007
12.	Dr. Harish Chandra	Design and Development of Manual to the Participants of Certificate Course on Modern Library Practices for Overseas Library Professionals	NITTTR, Chennai on 31-10-2007
13.	Dr. Harish Chandra	Framework for the Creation of Digital Knowledge Resources to meet the Challenges for Digital Future: A Librarian's Perspective	National Convention on Knowledge, Library & Information Networking (NACLIN 2007) at India International Center, New Delhi on 22-11-2007
14.	Dr. Harish Chandra	Planning for Infrastructure Development and Management of Digital Conservation of Information Materials	Media Trust, Assam, Guhati on 24-11-2007
15.	Dr. Harish Chandra	1. Let us Think for Library Automation 2. Importance of Lib. System & Procedure Manual	Department of Library and Information Science, University of Pune on 30-11-2007
17.	Dr. Harish Chandra	1. RFID Use in Libraries 2. Web-Based Services	DLIS, University of Mysore on 8-12-2007
18.	Dr. Harish Chandra	E-Resources for Academic Excellence	National Institute of Library and Information Sciences, University of Colombo, 15-16 December 2007
19.	Dr. Harish Chandra	New Trends in Library & Information Science	DC School of Management and Technology, Cochin on 02-02-2008

8.9 Visits abroad by Faculty:

Sl.No.	Name of the Staff	Countries Visited	Date	Purpose of visit
1.	Dr. Harish Chandra	National Institute of Library and Information Science, University of Colombo, Sri Lanka	15-12-2007 to 16-12-2007	Resource Person for International Workshop on Managing E-resources for Excellence

8.10 Journal Editorial Board:

Sl.No.	Name of Faculty	Level	Journal
1.	Dr. Harish Chandra	Member Advisory Editorial Board	OCLC Systems and Services- an International refereed International Journal published by Emerald
2.	Dr. Harish Chandra	Member, Editorial Advisory Board	SALIS Journal of Library and Information Science, SALIS
3.	Dr. Harish Chandra	Member, Editorial Board	New Review of Information Networking - an International refereed Journal, Taylor and Francis

Sl.No.	Name of Faculty	Level	Journal
4.	Dr. Harish Chandra	Member, Editorial Advisory Board	Indian Journal of Information Science & Services .ISSN 0973-8967 published by Bannari Amman Institute of Technology
5.	Dr. Harish Chandra	Member, National Editorial Board	Indian Journal of Library and Information Science, published by World Information Syndicate, Delhi
6.	Dr. Harish Chandra	Member, Editorial Advisory Committee	Trends in Information Management (TRIM) a bi-annual Journal of Dept. of Library and Information Science, University. of Kashmir ISSN 0973-4163

8.11 Books, Monographs Authored/ Co-authored/Edited:

1. Edited SALIS 2007 Papers of National Conference on Future Technologies for Empowering LIS Professionals: Challenges and Opportunities (With A. Hariharan, Dr. K. Nithyanandam) August, 2007, pp. 512
2. Prepared Workshop Course Material on "Web Resources Management for Excellence for the participants of INDEST-ACTE Consortium National Workshop organised by Central Library of IIT Madras during 16th July to 18th July 2007, pp.119

8.12 Paper Published in National Conferences / Festschrift Volume:

1. Harish Chandra, Framework for the Creation of Digital Knowledge Resources to meet the Challenges for Digital Future: A Librarian's Perspective, Proceedings of National Convention on Library and Information Networking (NACLIN 2007) held at India International Center, New Delhi during November 20-23, edited by H.K.Kaul and Sangeeta Kaul, pp. 357-366
2. Harish Chandra, From Dr. Chandra's Pen, Collnet Journal of Scientometrics and Information Management, Vol:1, Number: 2, December 2007, New Delhi, Taru Publications, pp. ix-xii
3. Harish Chandra, My Reminiscences with Prof. C.R. Karisiddappa, In Prof. C. R. Karisiddappa Festschrift: Library and Information Science Profession in the Knowledge Society, edited by M.M. Koganuramath, B.D. Kumbhar and B.S. Kademani, New Delhi: Allied, 2008, pp. 07-12.

8.13.1 Fellowships/Memberships of Academies and Professional Societies:

Sl. No.	Name of Faculty	Name of Academy / Professional Society	Level
1.	Dr. Harish Chandra	DELNET, New Delhi	Two Years, 2010
2.	Dr. Harish Chandra	ISKO (India Chapter) Bangalore	Ordinary
3.	Dr. Harish Chandra	Association of Government of India Libraries	Life
4.	Dr. Harish Chandra	Medical Librarians Association of India	Life
5.	Dr. Harish Chandra	Madras Library Association, Chennai	Life
6.	Dr. Harish Chandra	IATLIS	Life
7.	Dr. Harish Chandra	Society of Information Science, New Delhi	Life
8.	Dr. Harish Chandra	Indian Society for Training & Development, Delhi	Life
9.	Dr. Harish Chandra	Tamilnadu Library Association, Chennai	Life
10.	Dr. Harish Chandra	SALIS, Chennai	Life
11.	Dr. Harish Chandra	IASLIC, Kolkata	Life
12.	Dr. Harish Chandra	Association of Mathematics Teachers of India, Chennai	Life
13.	C.R. Sekar	SALIS, Chennai	Life
14.	P. Natrajan	SALIS, Chennai	Life
15.	K. Sethu	SALIS, Chennai	Life

8.14 Distinguished Visitors to the Central Library:

Sl. No.	Name of the Visitor & Designation	Date of visit	Purpose of visit
1.	Mr. T. Kalasalingam, Chancellor Kalasalingam University, Srivelliputhur, TN	10-04-2007	To see the facilities and functioning of the Central Library
2.	Dr. S. A. Channicula, Professor Dept. of Mechanical Engg. & Prof. In-charge Centre of Acad. Excellence, SVNIT, Surat	15-06-2007	To see the facilities and functioning of the Central Library
3.	20 Polytechnic Librarians from Karnataka	17-09-2007	To see the facilities and functioning of the Central Library
4.	Dr. Magdalena Brinckmann Head of Unit, IT and Internal Services Ministry for Economics, Labor & Transport of Niedersachsen, Germany	19-10-2007	To see the facilities and functioning of the Central Library
5.	46 students Delegation of Gopal Govind Roy Raiturear College of Commerce and Economics, Goa	22-10-2007	To see the facilities and functioning of the Central Library
6.	13 Overseas Library Professionals Led by Librarian, NITTTR, Chennai.	05-11-2007	To see the facilities and functioning of the Central Library
7.	16 BLISc students from Rajagiri College of Social Science, Kochi	05-11-2007	To see the facilities and functioning of the Central Library
8.	50 students Delegation of MES College of Arts and Commerce, Zuarinagar, Goa (Through Training & Placement Office)	16-11-2007	To see the facilities and functioning of the Central Library and discussing digital libraries
9.	20 ASEAN students Delegation (Through Training and Placement Office)	11-12-2007	To see the facilities and functioning of the Central Library
11.	36 members from DLIS, AEC Training College and Centre, Pachmarhi (MP)	22-01-2008	To see the facilities and functioning of the Central Library
12.	A Team of 21 members consisting of Library Science Teachers/Librarians from Karnataka, Kerala and Tamilnadu.	06-02-2008	To see the facilities and functioning of the Central Library
13.	18 Students from Department of Library and Information Science, Kuvempu University,	09-02-2008	To see the facilities and functioning of the Central Library
14.	10 Delegates from eight countries. Librarian, NITTTR led the delegation.	18-02-2008	To see the facilities and functioning of the Central Library

8.15 New Facilities / Equipments added:

1. Electric Alarm Bells installed on Levels III, IV, V
2. Installed new water cooler of 15 liter capacity on Level - III
3. Signage Board indicating the Location of facilities and services has been installed at the entrance of the Central Library.
4. Created 96 Wooden Pigeon Holes to provide place for keeping personal belongings of users.

8.16 Other Activities:

1. List of Core Journals subscribed during the year 2007 has been added on Central Library Website on 26-09-2007
2. Invited book suggestions for adding general nature and technical books from HoDs/LAC members on 14-10-2007
3. A Soft copy of New Addition List was sent to all HoDs / LAC members on 29-10-2007
4. 121st and 122nd Library Advisory Committee meetings were held on 23-08-2007 and 30-10-2007
5. Limited Quotations opened for the subscription of current journals for the year 2008 on 14-01-2008

9. STUDENTS AMENITIES AND ACTIVITIES

9.1 Hostels:

All students admitted to IIT Madras required to reside in the hostels inside the campus. There are 13 men's hostels and 2 ladies hostel with a total of 3213 single rooms, 255 double rooms and 18 triple rooms. During the period under report, there were 3633 men and 490 women students residing in the hostels.

A warden and an Assistant Warden administer each hostel. Hostel Council consisting of student secretaries and Assistant Warden assists the Warden in day-to-day functioning of the hostel. The Hostel Management is a centrally administered body and is in overall charge on the functioning of the hostels and the Central Supplies Unit. There are 157 hostel employees and are responsible to the Hostel Management through the respective Wardens of the hostels. The Chairman, Council of Wardens is the Chairman of the Hostel Management. He is assisted by the supporting staff. During the period under report, the following Wardens were in position:

Chairman, Council of Wardens and Hostel Management	Dr A Mani Professor, Dept. of Mechanical Engg.
Name of the Hostel/Unit	Warden
Alakananda	Dr. Deepak Khemani Associate Professor, Dept. of Computer Science & Engg.
Brahmaputra	Dr. V Raghu Prakash Associate Professor, Dept. of Mechanical Engg.
Cauvery	Dr. K Ananthanarayanan Associate Professor, Dept. of Civil Engg.
Central Supplies Unit	Dr. A Mani Professor, Dept. of Mechanical Engg.
Ganga	Dr. R Sarathi Associate Professor, Dept. of Electrical Engg.
Godavari	Dr. P Selvam Professor, Dept. of Chemistry
Jamuna	Dr. Prem B Bisht Associate Professor, Dept. of Physics
Krishna	Dr. R Gnanamoorthy Professor, Dept. of Mechanical Engg.
Mahanadhi	Dr. K Murali Associate Professor, Dept. of Ocean Engg.
Mandakini	Dr. C Vijayan Professor, Dept. of Physics
Narmada	Dr. C Balaji Associate Professor, Dept. of Mechanical Engg.
Pampa	Dr. Udaychandran Chakkingal Associate Professor, Dept. of Metallurgical & Materials Engg.
Saraswathi	Dr. Y V S S Sanyasiraju Associate Professor, Dept. of Mathematics
Sarayu	Dr. R Madhumathi Associate Professor, Dept. of Management Studies
Sindhu	Dr. K Rajagopal Professor, Dept. of Civil Engg.
Sharavati	Dr. Ligy Philip Associate Professor, Dept. of Civil Engg.
Tapti	Dr. A R Ganesan Associate Professor, Dept. of Physics

9.2 Medical Facilities:

Medical facilities are provided to the students in the well equipped Institute Hospital. Advice is given to the students on a wide range of health problems. The details of medical facilities available are given in Chapter 13 – Campus Amenities.

9.3 Gymkhana:

The Institute Gymkhana takes care of general welfare, the Sports, Co-curricular and Cultural activities of students in particular. Sports activities form an integral part for the overall development of personality, which prepares the students to overcome challenges in their various walks of life after their graduation. Hence the students are encouraged towards participation and organization of a number of sports activities.

The following tournaments were conducted during the year 2007-2008 by the Institute Gymkhana of IIT Madras.

- ❖ The Inter-Collegiate Invitation Tournament "SPORTFEST – 2007".
- ❖ 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
- ❖ Institute Open Chess Tournament.

SPORTFEST – 2007:

The Inter Collegiate Tournament was conducted for city colleges both for men and women during 22nd to 27th September 2007. This tournament helps to finalize the Inter IIT team probables. Our students took part enthusiastically in all the games and won few events.

Basketball (Winners), Badminton, Table Tennis, Hockey and Football (Runner-up) Volleyball and Table Tennis (Boys) won the third place. Our Girls team won the Badminton Trophy.

Inter-IIT Aquatic Meet 2007:

The Inter-IIT Aquatic Meet was held from 2nd – 5th October 2007 at IIT Bombay. IIT Madras contingent secured the third place in Swimming and won the Gold in Water Polo. The overall First place in the Aquatic Meet was won by IIT Madras with 12 points IIT Madras created a new record time in 4X100M Medley Relay.

Inter-IIT Sports Meet 2007:

The 43rd Inter-IIT Sports Meet was held between 15th and 21st December 2007 at IIT Bombay. The intense practice during mini camp in the month of November improved our preparations quite a bit. IIT Madras won first position in women section. IIT Madras (Men) was second with 70 points and won overall Silver Medal. IIT Madras won the Gold in Tennis, Table Tennis and Weight Lifting, IIT Madras won the Silver in Cricket and Volleyball. In the Women's section, IITM secured the first place with a total of 32 points. The Women's Basketball team performed well to receive the top honors, while the Women's athletics team got first place. Our Badminton Girls and Table Tennis Girls won Gold Medal. Our women athlete Pragati Meena got the "best women athlete" award with a trophy for the second year in succession. No doubt most of our teams performed at their best.

All-India Inter-Collegiate Invitation Basketball Tournament 2008:

This tournament was conducted from 30th January to 3rd February 2008 and attracted teams from South India. The venue of the tournament was shifted from OAT to the new flood-lit basketball courts. A large number of spectators who attended this tournament, witnessed many exciting matches wherein excellent performance was displayed by many teams. Sathyabama University, Chennai retained the Gerhard Fischer Trophy for Men for third year in succession and IIT Madras Girls team won the coveted the Kokila Rajaiah Trophy for Women for the first time from its inception.

IITM-Sanmar Inter- Collegiate Cricket Tournament:

The prestigious IIT-Sanmar Inter-Collegiate Cricket Tournament for city Colleges sponsored by ' Sanmar Group' was conducted from 16th February to 29th 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 Gurunanak College regained the coveted Trophy and RKM Vivekananda College entered in the finals and was placed runner-up.

Inter-Hostel Tournaments:

The Inter-Hostel Tournament were conducted in all the Games/events spread over the academic year and were contested for the Schroeter Trophy for General Championship, adhering to the Inter-IIT pattern of sports events. Also the Dean's Trophy events were conducted on non-media and non-Inter IIT Sports events "GANGA" Hostel won the Schroeter Trophy as well as the Dean's Trophy.

The following non-media tournaments were conducted for the students: (i) 9-a-side Tennis ball Cricket, (ii) 9-a-side Tennis ball Cricket for Freshers, (iii) 6-a-side Football , (iv) 6-a-side Hockey, (v) 3-a-side Basketball and (vi) 3-a-side Volleyball also, institute open events namely, Road Race, Cycle Race, Triathlon, Chess were conducted. All these events encourage larger participation of the students / campus community. These events were a grand success, attracting a large number of participants and student spectators, who witnessed and encouraged their hostel teams.

All the Gymkhana clubs like Fitness Club, with newly added facilities, Badminton club, Tennis club and Swimming Pool club functioned very well during 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.

The Fitness club had a registered membership of 530, the Tennis club membership of 83 and the Badminton club a membership of 52. Excellent training and able guidance were provided for the students and the Campus residents at the fitness club, 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 2007-08 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.

9.4 Guidance and Counselling Unit:

A campus information booklet along with an informal video about stay at IITM - 'Life at IITM' was prepared for the fresh students and made available to all of them.

The first year students (freshers) 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 GCU team of the hostels conducted the initial roll-calls and ensured that the freshers had a good idea of the extra-curricular and co-curricular activities of the institute. The student counselors also provided initial assistance for students having problems with English and computer skills.

The GCU orientation function for freshers was conducted on 1st August, 2007 at SAC during which incoming students were introduced to their respective faculty and student counselors for individual attention. During the semester, the GCU arranged a talk on "Dealing with Ourselves" by Prof. L.S. Ganesh and Lt. Col. Jayakumar and also conducted an orientation session on the curricular summer industrial training program with content provided by seniors from different branches as well as different types of summer training programs. GCU also organized sessions on how to prepare a good resume. In some hostels, similar sessions were repeated due to student demand. GCU

prepared two interesting posters on 'Smoking' and 'Importance of Good Sleep' in the interest of the student community. Both were well-received and a handful of students sought the help of GCU to quit smoking.

The GCU took an initiative of collecting the placement files from the final year students. This is an attempt by the GCU to document the placement experience of a cross section of graduating students which is expected to be helpful for future batches. This is aimed at educating the future final year students about how a typical placement might go.

Due to the effort put in by the GCU teams for the past 2 years, GCU has gained a lot of visibility among the student community and has achieved an 'approachable' image. As a result, many students sought the help of the GCU in solving their problems. Some of the problems addressed included substance abuse and addiction, suicidal tendencies, depression and inferiority complex as also academic issues like course scheduling for students with backlogs and branch change, selection of minor.

9.5 Women's Forum:

A talk by Ms. Vatsala, a writer and ex-employee of IIT Madras (Computer Centre) was organised on May 4 2007. The title of the talk was "Finding Ourselves"

Farewell for "Dr. Usha Titus" ex-registrar was organised by the women's Forum on 24th July 2007.

Women's Forum addressed the B Tech students at the meeting organised by GCU in September 2007.

A Conference on "Consulting as a career option for women," was attended by M Thenmozhi and Hema A Murthy in October 2007.

Dr.K.Srilata (Dept. of HSS) took over from Prof. Hema Murthy (CS Dept.) as Women's Forum chairperson in February 2008. A new executive committee was formed.

Women's Day was celebrated on March 11, 2008. There were two major events: a talk by Dr.Anandhi on "Understanding Caste and Gender" and a literary event – "Exploring the Inner Courtyard: An Evening of Women's Writing" which consisted of a reading by the Tamil poet Ms.Kuttirevathi and a reading from Women's writing by M.A students, Dept. of HSS. This was followed by a programme women staff. Retired women employees of the institute were also felicitated on the occasion by Prof. Idichandy, Director in charge.

9.6 Alumni Affairs

The education and training our alumni have received at the Institute have enabled them to launch themselves into professionally satisfying and successful careers. They have distinguished themselves professionally and many of them occupy top positions in the Industry, Government and the Academe. Since 1997, we have been honouring selected alumni for their accomplishments through the Distinguished Alumnus Awards. The names of the awardees for this year were announced during the Republic Day Function. They include:

1. Dr. Krishnaiyan Thulasiraman, Professor and Hitachi Chair in Computer Science, University of Oklahoma, USA
2. Dr. A H Chokshi, Professor, Department of Materials Engg., IISc Bangalore.
3. Dr. Venkatachalam Anantharam, Professor, Department of Electrical Engg., University of California, Berkeley.
4. Dr. J Narayanadas, Director, Naval Materials Research Laboratory, Ambemath, Maharashtra.
5. Mr. Bhaskar Bhat, Managing Director, Titan Industries Limited, Bangalore.
6. Mr. Vijay Kumar Magapu, Whole-Time Director and Member of the Board, L & T Ltd, Mumbai.
7. Mr. Girish Reddy, Founder and Managing Partner, Prisma Capital Partners LP, Jersey City, NJ.

The alumni of all IITs have come together to form the PAN IIT organization. The next PAN IIT Conference is to be organized during December 2008 at our Institute Campus.

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. Various chapter meetings have been organized within India and abroad.

The 1967 batch celebrated their Ruby Reunion, 1977 batch celebrated their Pearl Reunion and 1982 batch celebrated their Silver Reunion during December 2007.

The alumni of the Institute have launched the IITM Growth Fund to raise funds for the Institute. Many alumni have come forward to contribute towards the fund.

10. STUDENTS PLACEMENT

10.1 Introduction:

The Placement activity commenced with Pre-Placement Talks from 20 August 2007. The actual process of campus recruitment began on 01 December 2007.

A total of 190 companies visited the campus this year. Majority of the visitors were from core industries besides those in finance, consulting, IT services and R&D.

During the year 830 students / scholars were placed in various organisations.

Department and programme-wise details are given below:

S.No.	STUDENTS / SCHOLARS PLACED								
	Branch	BTech	Dual	MTech	MBA	MSc	MS	PhD	Total
1.	Aerospace	17	08	08	--	--	01	--	34
2.	Applied Mechanics	--	--	05	--	--	03	01	09
3.	Bio Technology	29	07	--	--	--	05	01	42
4.	Civil	35	12	40	--	--	04	01	92
5.	Chemical	39	10	20	--	--	04	02	75
6.	Chemistry	--	--	--	--	03	--	--	03
7.	Com. Science	28	12	33	--	--	24	--	97
8.	Electrical	54	37	37	--	--	23	02	153
9.	Engineering Physics	06	--	--	--	--	--	--	06
10.	Humanities	--	--	--	--	--	--	--	--
11.	Management Studies	--	--	--	57	--	01	--	58
12.	Mathematics	--	--	08	--	11	--	--	19
13.	Mechanical	69	22	42	--	--	16	11	160
14.	Metallurgical	26	05	09	--	--	04	03	47
15.	Naval Architecture	17	02	--	--	--	--	--	19
16.	Ocean	--	--	05	--	--	05	--	10
17.	Physics	--	--	02	--	04	--	--	06
Total		320	115	209	57	18	90	21	830

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 2007-08 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 490 students benefited. The year-wise details of number of students were benefited are given in Table 11.1

SC/ST students admitted to B.Tech programme were sanctioned the concession of free messing plus pocket allowance of Rs.250/-p.m. exemption from payment of tuition fees and hostel seat rent as per Government of India post-matric scholarship rules. As on 31.3.2008, 181 students were benefited.

The Institute freeship for B.Tech/Dual Degree students were sanctioned to the students, which comprises of exemption from payment of tuition fees.

The batch-wise details of number of students benefited also are given below:

Govt of India Ministry of Tribal Affairs ST Scholarships
Table 11.1

Batch	No. of Scholarships
2007	5

Govt of India Ministry of Social Justice and Empowerment Scholarships
Table 11.1

Batch	No. of Scholarships
2007	10 (Amount not released)

No of MCM and SC/ST scholarships
Table 11.1

Batch	MCM Scholarship	SC/ST Scholarship	Student Freeship
2007	97	32	—
2006	131	60	3
2005	132	57	16
2004-2008	(137)	(32)	(4)
Total	(497)	(181)	(23)

In addition to the above, the Institute sanctioned notional prize of Rs. 1000/- to 29 first B.Tech top ranking (in the JEE 2007) 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
2007	26
2006	35
2005	33
(2004-2008)	(59)
Total	(153)

No. of State Government Scholarship obtained by B.Tech students

State	Batch / Total no. of students				Total
	2007	2006	2005	2004	
Andhra Pradesh	5	10	12	15	42
Dehi	5	10	15	1	31
Karnataka	3	2	2	1	8
Kerala	4	3	3	2	12
Tamil Nadu	-	-	1	-	1
Other States	3	6	5	10	24
Total	20	31	38	29	94

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 234 fresh assistantships and 268 renewed assistantships were given. The discipline-wise details are given below:

No. of HTTA awarded

Sl. No.	Discipline	Fresh – 2007 batch		Renewal - 2006 batch
		I Sem.	Non-HTTA got HTTA	
1	Aerospace Engineering	06	2	9
2	Applied Mechanics	10	2	7
3	Chemical Engineering	24	3	28
4	Civil Engineering	34	6	45
5	Computer Science & Engg.	35	0	34
6	Electrical Engineering	45	0	72
8	Indl. Maths & Sc.Computing	05	2	9
9	Mechanical Engineering	49	6	42
10	Metallurgical & Mat. Engg.	14	1	10
11	Ocean Engineering	07	1	06
12	Solid State Technology	05	0	06
Total		234	23	268

11.3.2 M.Tech Dual Degree

Students who joined M.Tech programme under Dual Degree of 2003 batch were awarded Half-time Teaching Assistantship (HTTA) at Rs.5000/- per month based on their obtaining valid GATE score. During the period under review 108 students were awarded fresh assistantships of Rs.5000/- per month from June 2007 and 108 renewed assistantships in Jan. 2008 out of which 94 students were renewed HTTA at the rate of Rs. 5000/- p.m and 14 student at the rate of Rs. 2858/-p.m. since they obtained CGPA of less than 6.5 in July-Nov. semester. The department-wise details are given below:

Sl. No.	Discipline	2003 batch	
		Fresh (9 th Sem.)	Renewal (10 th Sem.)
1	Aerospace Engineering	07	07
2	Biotechnology	08	08
3	Chemical Engineering	11	11
4	Infrastructural Civil Engg.	11	11
5	Computer Science & Engg.	09	09
6	Electrical Engineering	36	36
7	Mechanical Engineering	18	18
8	Met. & Mat. Engineering	05	05
9	Naval Arch. & Ocean Engg.	03	03
Total		108	108

11.4 M.Sc.:

Students admitted to M.Sc programme were sanctioned Rs 1000/- p.m. merit scholarship as per rule. Exemption from payment of tuition fee was also given to certain students. During the period under report 66 students benefited. The department-wise details are given below:

No. of Merit Scholarship and freship awarded

Sl. No.	Course	Merit scholarship		Freship (tuition fees waiver)	
		1 st Year	2 nd Year	1 st Year	2 nd Year
1.	Chemistry	6	7	3	3
2.	Mathematics	7	8	4	4
3.	Physics	7	6	3	2
Total		21	23	11	11

11.5 M.S.:

The scholars admitted to MS programme through GATE are given Half-time Teaching Research Assistantship (HTRA) of Rs 5000/- p.m. for three years. During the period under report 287 scholars received this assistantship of which 35 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	10	13
2	Applied Mechanics	3	12	15
3	Biotechnology	3	17	20
4	Chemical Engineering	3	16	19
5	Civil Engineering	2	24	26
6	Computer Sc. & Engg.	6	32	38
7	Engineering Design	1	2	3
8	Electrical Engineering	5	61	66
9	Management Studies	2	18	20
10	Mechanical Engineering	4	36	40
11	Metallurgical & Mat. Engg.	2	12	13
12	Ocean Engineering	1	12	14
Total		35	252	287

11.6 Ph.D.:

The Scholars admitted to Ph.D. full time programme in Engineering are sanctioned Half-time Teaching / Research Assistantship (HTRA) of Rs.9500/- p.m. for first 2 years and Rs.10000/- p.m. for next 2 years. Scholars admitted to the Ph.D fulltime programme in the Science subjects through GATE or other equivalent exams are sanctioned Rs.8000/- p.m. for first 2 years and Rs.9000/- p.m. for next 2 years. During the period under report 607 students obtained assistantships of which 48 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	13	16
2	Applied Mechanics	3	19	22
3	Biotechnology	4	39	43
4	Chemical Engineering	8	30	38
5	Chemistry	3	67	70

Sl. No.	Discipline	Fresh	Renewal	Total
6	Civil Engineering	4	59	63
7	Computer Science & Engg.	1	22	23
8	Engineering Design	1	3	4
9	Electrical Engineering	9	52	61
10	Humanities & Soc. Sciences	3	18	21
11	Management Studies	2	22	24
12	Mathematics	2	25	27
13	Mechanical Engineering	3	87	90
14	Metallurgical & Mat. Engg.	0	26	26
15	Ocean Engineering	0	14	14
16	Physics	2	63	65
Total		48	559	607

11.7 Financial Assistance to Research Scholars/Students for presentation of papers abroad:

This Institute is encouraging the Research Scholars to present papers in international conferences for which they are given financial assistance. The financial assistance provided to M.S. & Ph.D. scholars are given under:

Adhoc amount : Rs. 50,000/-
Registration fee : US \$ 500/-

National conference/International conference in India:

Research scholars and students of course programmes are given the following financial assistance for presentation of papers in National/International Conferences in India:

Registration fee:

National conference : Rs. 2,000/-
International conference : Rs. 3,000/-
Travel : Second class rail fare
Daily allowance : Rs.200/- per diem subject to a maximum of 10 days

12. WEAKER SECTION & FOREIGN NATIONAL STUDENTS

12.1 B.Tech programme:

As per the GOI orders 15% and 7.5% of seats are reserved for SC and ST students respectively in the B.Tech. programme. These students are admitted through the Joint Entrance Examination with a relaxation. These students have to get only 60% of the marks obtained by the last student of the general category to get qualified for admission. During counselling prior to admission, the Adviser explained to each student the requirements of different branches. This helped the students to choose a suitable branch based upon their capability and interest. When a student finds the chosen branch is tough, he is allowed to switch over to lower JEE cut-off branch at the end of his first semester.

The following are the details of number of SC/ST students admitted to B.Tech programme through JEE and Preparatory Course in July 2007:

Total Sanctioned Intake	Sanctioned Intake		No. joined through				
			Programme	JEE		Preparatory Course	
	SC	ST		SC	ST	SC	ST
B.Tech - 318	48	24	B.Tech	48	10	--	08
Dual Degree - 222	33	17	Dual Degree	33	04	--	06

SC/ST students admitted against reservation are given the following benefits:

- Travelling allowance (II Class train fare/ordinary bus fare) from the place of residence to Chennai to join the B.Tech programme.
- Tuition fee waiver.
- Free lodging and messing (basic menu only) and pocket allowance of Rs.250/- p.m. provided their parents' income is Rs.2,00,000/- net per annum or less.
- A Book Bank as part of Central Library is maintained for the benefit of the SC/ST students. The students are issued 12 tickets for taking books from the Book Bank. Books are issued for a semester.
- Drawing instrument (Mini-drafter) free of cost.
- Help in getting placement. Wherever possible, industries are requested to conduct separate interviews for SC/ST students and the requirements for these students are lower than those for the general category.

12.2 Preparatory Course for admission to B.Tech programme:

A preparatory course of one academic year was initiated by the Ministry of Human Resource Development, Government of India, during the year 1983-84 exclusively for SC/ST students. Selection for this course is made from the Joint Entrance Examination list of SC/ST students who did not qualify for admission. Upon successfully completing the preparatory course at the IIT, they would be eligible to join the B.Tech programme and they will not require to write the JEE again. Following are the details of admission in July 2007:

Offer issued for PC		No. joined	
SC	ST	SC	ST
--	27	--	24

In July 2006, 6 SC and 14 ST candidates were offered admission as they successfully completed the course and joined B.Tech/Dual Degree programme in July 2007.

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 2007:

Offer issued		No. joined	
SC	ST	SC	ST
91	50	41	20

12.4 M.Sc programme:

Admission was made to the M.Sc. programme through entrance examinations only. 8 students were admitted in SC category. These students were given tuition fee waiver.

M.Tech and M.Sc students admitted against reservation are given the following benefits:

- Book Bank facility with 12 library tickets. Books are issued for a semester.
- Both Public Sector and Private Sector industries were requested to recruit SC and ST students. Other special steps were also taken to enhance the recruitment of this category of students.
- Scholarship is given to these students as per Govt. of India norms.

12.5 Admission of Foreign National Students and Indian National Residing Abroad:

In July 2007, 4 foreign national students joined M.Tech programme.

At the end of March 2008, 11 foreign nationals and 1 Indian national residing abroad were on the rolls of the Institute. The programme and country-wise details are given below:

Country	I Year	II Year	III Year	IV Year	V Year	Total
1. Foreign National Students						
M.Tech						
Ethiopia	4	3	--	--	--	7
M.S.						
France	--	1	--	--	--	1
Ph.D						
Ethiopia	1	1	--	--	--	2
Korean	--	--	--	1	--	1
Total	5	5	--	1	--	11
2. INRA students						
Oman	--	--	--	--	1	1

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 students benefited and Rs. released for the above purpose.

13. CAMPUS AMENITIES

IIT Madras is a residential Institution. It is housing about 4352 Students and 980 Staff members in the Campus. It provides various amenities in the Campus for students and staff.

13.1 Major Works:

The following are the major works completed during the year 2007-2008:

Sl. No	Name of work	Rupees in Lakhs
1.	ME & MH interior work	25.00
2.	Renovation of rooms at Krishna, Cauvery and Sarayu Hostel	90.00
Total		115.00

Work in progress:

Sl. No	Name of work	Rupees in Lakhs
1.	Construction of Engineering Design Centre	803.00
2.	Construction of C2 type quarters	2976.00
3.	Addition & Alteration work in Academic Zone	240.00
4.	Renovation of minor repair works in Kitcher, Toilet and Bathroom at residential & Non residential buildings in IIT.M	101.68
5.	Special repairs to residential & non residential buildingxs (SH: Exterior & Interior paintings)	314.47
Total		4435.15

13.2 Housing Facilities:

As on 31.03.2008, 980 quarters are available for accommodation to the staff members. In addition to this 209 servant quarters are also in the campus.

13.3. Horticulture:

A separate horticulture unit is functioning under Engineering Unit. A Corridor has been formed near proposed sports complex area for movement of blackbuck from hostel zone.

13.4 Telephone Facilities:

A new Telephone Exchange was commissioned by BSNL, Chennai Telephones Division in the Campus. All direct lines of this institute, which were linked from Raj Bhavan Telephone Exchange, were linked to this Exchange.

13.5 Central Supplies Unit:

- It functions under the administration of a Warden. The Unit procures milk from Tamil Nadu Co-operative Milk Producers' Federation (TCMPF) and distributes to the student hostels.
- Under the provision supply scheme, the Unit procures the items of major consumption from the wholesale suppliers through Provision Selection Committee and Provision Purchase Committee and distributes them to hostels, thus economizing the mess expenditure in the Hostel.
- Further to the above, the Unit is procuring the branded cosmetics, and eatables from the wholesale dealers and distributing the same to the students through Students Amenities Centres under nominal price which is comparatively very less than the maximum retail price (MRP).

13.6 Guest House:

There are two Guest House in the Campus viz. the Main Guest House and Taramani Guest House which have 7 suites and 84 rooms respectively.

13.7 Hospital:

Institute hospital served 1206 employees, 3380 dependents, 5303 students, 967 retired staff and their spouse and 280 project staff. In total 11136 persons are registered in the hospital.

Doctors

Regular:

Dr.Sabitha Selvam	Medical Officer / CMO i/c
Dr. Mahalakshmi M. Ravi	Medical Officer
Dr. B. Rebecca Punithavalli	Medical Officer
Dr.N.Porchelvi	Junior Medical Officer
Dr. V. Thenral	Junior Medical Officer
Dr.(Sq.n.Idr)A.J.Tamilmani	Junior Medical Officer

On Contract:

Dr. Kanimozhi P.	Junior Medical Officer
Dr.Gangaiamaran R.	Junior Medical Officer
Dr.Sampath kumar B.	Junior Medical Officer
Dr.K.Gayathri	Junior Medical Officer
Dr.T.A.R.Vinod	Junior Medical Officer

Part-time Consultants

Dr. M.S. Sornam	Gynaecologist
Dr. S.K. Rajavalli	Dentist
Dr. Vijay Ebenezer	Dentist (from Sri Balaji DentalCollege)
Dr.D.Sankar	Dentist
Dr. Indira Chaturvedi	Pediatrician
Dr.S.Srividya	Pediatrician
Dr. Jaishree Vasudevan	Paediatrician
Dr. E.S. Krishnamurthy	Neuropsychiatrist
Dr. J.S.N. Murthy	Cardiologist
Dr. S. Manoj	Cardiologist
Dr. K.Krishna Kumar	Ophthalmologist (from Prems'Eye Clinic)
Dr. V.Praskash	Endodontist (from Sri Balaji DentalCollege)
Dr.A.Mohan Rao	General Surgeon
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. M.Amutha	Dermatologist
Dr. S. Vijayaraghavan	General Physician
Dr. A. Vikram	Gastroenterologist
Dr. Vasantha Jayaram	Psychiatrist
Dr. N. Mahesh	Neurologist
Dr.Jayashree Kailasam	Internal medicine
Dr. Anu Rajan	Physiotherapist

Para-medical staff:

	Regular	On Contract
Staff Nurse	- 6	6
Pharmacists	- 2	Nil
Lab. Technician	- 1	Nil
Male Helpers	- 5	1
Female Helpers	- 3	7
Office Staff	- 3	Nil
Technician	- Nil	3
Optometrist	- Nil	1

Outpatient Services:

A total of 67,392 were treated in the Hospital. A new medical record division is functioning with daily registration. New case file records have been designed and in use.

Inpatient Services:

There are **18** beds in our hospital for treating in-patients. In 2007-08, **485** patients were admitted and 6 deliveries were conducted.

Our surgeons performed **257** surgeries in 2007-08 including emergency laprotomy and caesarian. Extended medical facility was given to participants of "Shaastra 2007" All India Basketball Tournament, Saarang 2008, Inter Collegiate Sports Meet and Inter Collegiate Cricket meet.

Emergency services:

Emergency service is available round the clock on all days with a duty Doctor and supporting staff. **7200** emergency cases were attended during Non-OP hours in 2007-08. An ambulance service run by Trauma Care Consortium is available at hospital on round the clock.

Emergency x-ray and Ultrasound facilities have been extended on Sundays from April 2007. 191 x-ray and 29 sonographies have been done on emergency.

Hepatitis B Vaccination

980 Hepatitis B Vaccination were given to Students and Staff.

Physiotherapy, X-ray & USG services:

6809 patients had Physiotherapy, **617** patients had Ultra Sound Scan and **3087** patients had X-ray taken at our hospital.

Treatment for Non-entitled Patients:

Non-entitled in - campus dependants of Students and staff availed **emergency** treatment on payment basis as per the institute rules Rs.50/- per consultation. **Rs. 1,40,210/-** was collected in the year of 2007-08 for non-entitled

Paid Clinic:

Rs.1,30,850/- was collected for **Ultra Scan charges**, **Rs.1,91,400/-** collected for Dental charges, **Rs. 16,21,112/-** was collected towards Medical Insurance Claim.

Other Activities:

1. **All IIT Hospital Doctor's meeting** held in IIT Madras Hospital on 30.07.07 & 31.07.07 and all Doctors from IIT Mumbai, Kharagpur, Roorkee, Gowhati and Chennai attended the meeting and discussed about several issues related to the hospital and staff.
2. Dr.Sabitha Selvam, CMO i/c attended a CME programme on 24.08.07 & 25.08.07 organised by 'TARGET' 2007 at Chennai on Musculo Skeletal Radiology.
3. A lecture on "**Diseases transmitted by the habit of spitting in public places**" was delivered to NSS volunteers of IIT-M in Institute Hospital by Dr.Sabitha Selvam on 5.9.07.
4. A free "**Spirometry Camp**" (Lung function assessment camp) was sponsored by CIPLA and conducted by Dr.Manimaran, Consultant, Pulmonologist & Allergist (Chest Physician) on 24.10.07. About 70 patients underwent this test out of which 45 was advised treatment.
5. "**Rabies Vaccination – Indication & Methodology - A Demonstration**" was sponsored by Ranbaxy to all Medical Officers and staff nurses on 31.10.07 .
6. IIT Hospital in association with Prem's Eye clinic conducted a **School Health Check up** camp for 1500 students of Kendriya Vidyalaya from 18.12.07 to 20.12.07.
7. **Women's Health Screening Camp** conducted in connection with Women's Day from 10.03.08 to 13.03.08 was given to 55 women employees and Ladies Club members in the campus.

8. Health "O" genix – Quiz and a drawing competition for school children of KV, Vanavani and Corporation Higher Secondary School of Taramani & Velacherry was conducted by IIT NSS Group on 02.03.08 at SAC building. Guest lecture on **General and Oral Hygiene** was delivered by Dr.Sabitha Selvam CMO i/c.
9. A "**Free Pulse Polio Immunization Camp**" was held in IIT Hospital for children in the age group of 5 years on 06.01.08 & 10.02.08.

Salient points of the Hospital:

On working days

Doctor in OPD	8.00 am – 6.00 pm
Doctor for emergency	5.00 pm - 8.00 am

Saturdays

Doctor in OPD	8.00 am – 1.00 pm
Causalty Duty Doctor	9.00 am – 5.00 pm
Doctors for emergency	5.00 am – 8.00 pm

Sundays & Institute Holidays

Doctors for emergency	24 hours
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Labs / Departments	Timings
Pathology	
Sample Collection	8 am – 6 pm
Report Collection	3 pm – 6 pm
Radiology	
X-ray	8 am – 6 pm
Ultra Sonography	By appointment
Physiotherapy	9 am – 12 noon 4 pm – 7 pm
Pharmacy	7.30 am to 9.00 pm

The following **12 CME programmes** were conducted at our Hospital during 2007-08:

Sl. No.	Title of Programme	Date	Name of the Person conducted the programme
1.	Movement Disorders	12.04.07	Dr.A.V.Srinivasan, Neurologist, Madras Medical College, Chennai
2.	Management of GERD	16.05.07	Dr.Shanthi Vijayaraghavan Gastroenterologist Life Line Hospital, Chennai
3.	Insomnia	25.07.07	Dr.N.Mahesh, Visiting Neurologist, IIT Hospital, Chennai
4.	Diabetes	26.07.07	Dr.Nallaperumal, Diabetologist, Swamy Diabetes Centre, Chennai
5.	Approach to common Communicable acquired infectious	18.08.07	Dr.Ramagopalakrishnan Infection disease Specialist Apollo Hospitals
6.	An approach to the patients with unexplained clinical symptom	18.09.07	Dr.E.S.Krishnamurthy, Visiting Neurologist IIT Hospital
7.	Management of Diabetic foot	18.09.07	Dr.Sandeep Murali, Surgeon VHS Hospital, Chennai
8.	Bleeding Disorders	20.09.07	Dr.Revathy, Heamatologist Apollo Speciality Hospital, Chennai
9.	Hypothroidism-Investigation & treatment	27.09.07	Dr.Kumaravel Consultant & Endocrinologist
10.	Sneeze and Wheeze	17.10.07	Dr.G.S.Kailash, Medical Superintendent Venkateswara Hospital

11.	Isolated Systolic Hypertension	17.11.07	Dr.K.Chandrasekaran Interventional Cardiologist & Electro Physiologist, Billroth Hospital, Chennai
12.	Arthritis / Osteoporosis	12.12.07	Dr.Vijaykrishnan, MS Ortho SPOT Hospital, Chennai
13.	Smoking Cessation Strategies	15.03.08	Dr.Prasanna Kumar Thomas Apollo Speciality Hospital , Chennai
14.	Community Acquired Pneumonia	27.03.08	Dr.Gayathri, Pulmonologist Apollo Hospital, Chennai

Month	O.P	Emergency cases	Non Entitled	Dental	In-Patient	Delivery	Surgery	Infectious diseases	AGE	Malaria	X-ray	USG	Physio
APRIL 2007	5770	483	117	331	27	1	21	3	9	2	222	43	593
MAY 2007	4877	513	106	285	37	1	19	1	8	2	187	64	549
JUNE 2007	4532	434	132	318	31	Nil	12	1	2	1	130	59	477
JULY 2007	4402	435	164	319	19	1	24	2	8	Nil	132	30	403
AUG 2007	5123	556	124	317	46	Nil	24	1	3	5	174	28	605
SEP 2007	5614	779	174	341	44	Nil	24	8	1	3	173	59	663
OCT 2007	5542	634	171	393	44	Nil	18	9	8	2	179	47	552
NOV 2007	6900	681	159	299	64	Nil	25	4	1	1	230	65	622
DEC 2007	6475	664	169	226	41	1	11	1	5	1	193	45	438
JAN 2008	5190	546	169	233	36	1	18	19	2	Nil	159	41	520
FEB 2008	7036	834	145	258	51	Nil	16	9	Nil	Nil	208	63	727
MAR 2008	5931	649	140	306	45	Nil	45	6	4	Nil	249	72	660
TOTAL	67392	7200	1770	3626	485	6	257	64	48	17	3087	617	6809

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 72nd Finance Committee of the Institute in its meeting held on 17/12/2007 recommended Non-Plan Revised Estimates of Rs. 11950 lakhs (Gross) for 2007-08 and Budget Estimates of Rs. 13140 lakhs (Gross) for the year 2008-09. The Committee also recommended Plan Revised Estimate of Rs. 5470 lakhs for 2007-08 and Rs. 9310 lakhs Plan Budget Estimate for 2008-09.

The following are the Summary of Revised Estimates 2007-08 and Budget Estimates for 2008-09 as approved by the Board of Governors of the Institute in their 196th Meeting held on 17/12/2007.

(Rs. in Lakhs)			
Head	BE – 2007-08	RE – 2007-08	BE – 2008-09
I. Non-Plan			
Income	2765.00	2970.00	3040.00
Grant from MHRD	7300.00	8980.00	10100.00
Total	10065.00	11950.00	13140.00
Expenditure	10065.00	11950.00	13140.00
Total	10065.00	11950.00	13140.00
II. Plan			
Grant from MHRD	6000.00	5470.00	9310.00
Expenditure	6000.00	5470.00	9310.00
Total	6000.00	5470.00	9310.00

Audit

The Annual Accounts of the Institute for the year 2006-07 was audited by Principal Accountant General (Tamil Nadu & Pondicherry) during July 2007. The certified copy of Accounts and Audit Report were sent to MHRD, New Delhi for placing before Parliament on 18th December 2007.

Summary of Plan/Non-Plan funds utilization for 2006-07 is as below.

PLAN

(Rupees in Crores)	
Opening Balance	Nil
Grant Sanctioned during 2006-07	53.00
Funds from Corpus	0.00
Total available	53.00
Capital Expenses during 2006-07	
Buildings & Construction	30.74
Furniture & Fixtures	1.18
Equipments	9.02
Networking	2.04
Books	0.61
Vehicle	0.01
Others(networking/books/vehicles)	2.66
Revenue Expenditure(scholarships)	2.62
Total	46.22
Balance	6.78

NON –PLAN

Opening Balance	Nil
Grant Sanctioned during 2006-07	68.25
Tuition fees	5.79
Other fees	3.49
Other Income	19.67
Total available	97.20
Expenditure during 2006-07	
Pay & Allowances	36.25
Service Pension & Family Pension	14.65
Current Year Retirement Benefits	5.93
Library Services	5.26
Health Services	1.50
Student Scholarship	8.00
Hall Subsidy	0.39
Administrative Expenses	1.48
Departmental/Laboratory/Workshop expenses	5.59
Transport Subsidy	0.29
Student support Activities	0.53
Computer Facilities	1.03
House Keeping & Estate Maintenance	9.41
Water/Electricity Charges	12.58
Entrance Examination Expenses	2.77
Total utilized *	105.66
Deficit	8.46

- Deficit made good from Corpus Fund interest earnings of earlier years.

1. THE SENATE

Chairman

Prof. M.S. ANANTH

Members

Achar, D.R.G.	Jayachandran S.
Ajit Kumar Kolar	Jayakrishnan, A
Amitava Dasgupta	Jhunjhunwala, A.
Anantha Subramanian, V	Job Kurian
Anju Chadha	Kalpakam, S.
Archita Patnaik	Kalyanakrishnan, R.
Arindama Singh	Kalyanaraman, V.
B.S. Murthy	Kamala Krithivasan
Balakrishnan, A.R.	Kamalanabhan T.J.
Bhaskar K	Kamath, S.G.
Bhaskaran, S	Karmalkar S.
Bhaskar Ramamurthi	Karunagaran D.
Bhattacharyya, S.K.	Kesavan Nair, P.
Boominathan, A.	Koshy Varghese
Chandra, T.S.	Kothiyal, M.P.
Chandrakumar, N.	Krishnaiah, K.
Chandramouli, P	Krishnakumar, R.
Chaudhary, S.C.	Krishnan Balasubramaniam
Chidambaram, M.	Kulkarni, S.H.
Choudum, S.A.	Kumaraswamy, S.
Damodara Doss, V.	Lakshmana Rao, C.
Deshmukh, P.C.	Lakshmi Bala, S.
Devdas Menon	Loganathan D.
Devendra Jalihal	Malathy Duraisamy
Dhamodharan R.	Mangala Sundar, K.
Doble Mukesh	Mani, A.
Enakshi Bhattacharya	Mani, J.S.
Evangeline Manickam	Markandeyulu, G.
Gandhi, S.R.	Mathews, M.S.
Ganesan, N.	Mayuram, M.M.
Ganesh Babu, K.	Meher Prasad A
Ganesh, L.S.	Mehta, P.S.
Giridhar, K.	Mishra A.K.
Gnanamoorthy, R.	Mohan, S.
Gokhale, S.S.	Muraleedharan, V.R.
Gopinath, K.	Murthy B.S.
Govardhan, M.	Murthy, V.R.K.
Hariharan, K.	Muthuveerapan, G.
Harishankar Ramachandran	Nagarajan R.
Hema A. Murthy	Nandita Dasgupta
Idichandy, V.G.	Narayanan, S.
Inderpal Singh Aidhen	Narendran, T.T.
Jagadeesh Kumar, V.	Natarajan, R.
Janakiram D.	Natarajan, T.S.
Janakiraman, P.A.	Neelima M. Gupte

Panda, T.
Pandurangan, C.
Paramanand Singh
Parthasarathy, P.R.
Pathak, S.D.
Ponnusamy, S.
Prabhu, K.M.M.
Pradeep T.
Prakash Maiya M.
Prasad B.V.S.S.S.
Prasad Rao, K.
Prasanna Kumar, T.S.
Pushpavanam, S.
Raghavan, S.
Raghavan, S.V.
Rajagopal, K.
Rajendran, C.
Raju Sethuraman
Rama, R.
Ramachandra Rao, M.S.
Ramachandra Rao, V.S.
Ramachandraiah, A.
Ramachandran, K.B.
Ramakrishna, M.
Ramamoorthy, B.
Ramamurthy K.
Ramaprabhu S.
Ramasubbareddy M.
Ramesh A.
Ramesh Babu, N.
Ramesh, K.
Ravi, R.
Ravinder David Kollpillai
Ravindra Gettu
Sai P.S.T.
Sankaranarayanan M.V.
Sankaranarayanan V
Sankararaman, S.
Santhakumar, S.
Sarit Kumar Das
Sathyanarayana K.N.
Satyajit Roy
Selvam, P.
Seshadri Sekhar, A
Shankar Narasimhan, S
Shunmugam, M.S.
Singaperumal, M.
Sitaram, N.
Siva Prasad, N.
Siva Ram Murthy, C.
Sivakumar, M.S.
Sivanandam, R.

Sreenivas Jayanti
Sreenivasa Kumar, P.
Srinivasa Murthy, S.
Srinivasan G.
Srinivasan, K.
Srinivasan, S.
Sriram P.
Subrahmanya Murty, V.
Subrahmanyam, A.
Subramanyam, P.V
Sudheendra Rao, M.N.
Sudhir Chella Rajan
Sujatha C.
Sujith, R.I.
Sundar, S.
Sundar, V.
Sundararajan, T.
Sundaravadivelu, R.
Sunil Kumar, P.B.
Suraish Kumar, G.K.
Swaminathan, T.
Swarnamani S.
Thamban Nair M.
Thamizh Arasan, V.
Thenmozhi, M.
Timothy A. Gonsalves
Usha, R.
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Varadaraju U.V.
Veeramani, P.
Veeraraghavan, A.
Vekatarathnam G.
Vendhan, C.P.
Venkateshan, S.P.
Vetrivel, V.
Vidyasagar, K.
Vijayan, C.
Vijayaraghavan, L.
Vinita Vasudevan

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Dr. Harish Chandra

Student Members:

Abhishek Chanani, A A S
Akshay Ranjan Shukla, R A S
K. Rakesh, G S

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Dr. K Panchalan (from 01.08.2007)
Registrar

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Mr K Rakesh, Students General Secretary

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Sri K Rakesh, Students General Secretary

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Mr. D. Satyadileep, Student Member (SAC)

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Dr. Usha Titus, Registrar (Upto :)

Dr. K. Panchalan, Registrar (From. :)

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Kerala State Council for Science, Technology & Environment
Sasthra Bhavan, Pattom
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Chennai-600 036

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Department of Secondary & Higher Education
Government of India, Shastri Bhavan,
New Delhi-110 001

Shri Ravi Mathur
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Department of Secondary & Higher Education
Ministry of Human Resource Development
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CHENNAI - 600 025

Smt K.P. Geetha
Senior Joint Director of Technical Education
Government of Kerala,
Padmavilasom, Fort
Thiruvananthapuram-695 023

Secretary
Dr. Usha Titus (*upto 31.7.2007*)

Dr. Panchalan K
Registrar
IIT Madras

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Director
IIT Madras

Members

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Director (T)
Department of Secondary and Higher Education
Ministry of Human Resource Development
Government of India,
New Delhi - 110 001

Shri R. Sathisan
Chief Engineer (distribution), Chennai
Region(South)
Tamil Nadu Electricity Board,
Electricity Avenue, 5-A, Block, First Floor
No.802, Anna Salai,,
Chennai-600 002

Shri V. Subramanian
Director of Works (SR)
Office of the Additional Director General (SR)
Central Public Works Department,
First Floor 'G' Wing,
Rajaji Bhavan, 3rd Avenue, Besant Nagar,
Chennai – 90

Prof. Bhaskar Ramamurthi
Dean (Planning)
Indian Institute of Technology Madras,
Chennai-600 036

Shri R.Arumugam
Superintending Engineer
Engineering Unit
Indian Institute of Technology Madras,
Chennai-600 036

Prof. Ravindra Gettu
Chairman (Engineering Unit)
Indian Institute of Technology Madras,
Chennai-600 036

Member-Secretary

Dr. Usha Titus (*upto 31.7.2007*)

Dr. Panchalan K
Registrar
IIT Madras

