

ANNUAL REPORT

2012-2013



**INDIAN INSTITUTE OF INFORMATION TECHNOLOGY,
DESIGN & MANUFACTURING (IIITD&M), KANCHEEPURAM**

DIRECTOR'S REPORT



The institute established as one of the centres of excellence in Design and Manufacturing oriented engineering education and research in 2007 has witnessed a steady and consistent growth in IT enabled design and manufacturing pedagogy and research. The institute presently offers novel undergraduate programmes in B.Tech Computer Engineering, B.Tech Electronics Engineering (Design & Manufacturing) and B.Tech in Mechanical Engineering (Design & Manufacturing). Till date three batches of UG students have passed out from the portals of the institute, specializing in MDM (2007 onwards), EDM(2008) and COE (2009) respectively. The pioneer and subsequent batches have been placed in reputed design and manufacturing based companies or are pursuing higher studies in institutes of global standing. Further to establishing industry demand based UG programmes, the institute introduced PG programmes on Design (Master of Design) in 2010. The period under report saw the introduction of a novel and innovative M.Des in Communication Systems. M.Des programmes are offered in the disciplines of Mechanical Systems Design, Electronic Systems Design and Communication Systems Design. PG students of the institute have also been absorbed in research and industries specializing in core design and manufacturing.

Since our modest beginning in 2007 with an intake of 30 B.Tech students, the institute has increased its intake in a phased manner. The year under report saw 90 UG and 30 PG students join IIITD&M Kancheepuram family. Subsequent year will see an

increased admit of 120 B.Tech students. This phased increase is to accommodate the permanent campus construction activities. The period under report saw the handover of new Hostel buildings, Jasmine and Ashoka, to cater to the residential needs of the students. Lecture Hall and Administrative building constructions are in full swing and is tentatively expected to be completed in December 2013.

I am equally glad to highlight the achievements of the institute sports contingent at the recently concluded sports meet conducted by IIITM Gwalior. TWARAN 2013 saw participation from IITs and NITs in the country in addition to IIITs and the institute achieved a highly commendable overall second position in the medals tally, securing 6 gold, 4 silver and 2 bronze medals. Designers Club of the institute successfully organized the third version of the cultural and technical fest SAMGATHA. As opposed to the previous years, Samgatha 2013, matured to an inter college level contest and saw participation from outsiders. Various events such as Electronica, Untangle, Panchatantra, etc.were conducted as part of this fest and the event saw greater success in relation to earlier years, with competition from other colleges.

The Social Service Group (SSG) of the institute organizes several programmes and events with the objective of giving back to the society. Eye check-up and medical check-up camps were organized in collaboration with local hospitals free of cost for the benefit of adjoining area citizens. The period under report also saw the institution of the Students Body.

A duly constituted Students Constitution was approved by the Senate and subsequently the Student Elections for various wings of the Students Body such as Academic Affairs, Hostel Affairs etc. was conducted successfully. This Body shall be incharge for the conduct of activities such as cultural fest, hostel affairs, etc. and is an important beginning.

Placements for the period under report saw companies M/s Bally Technologies, M/s Flextronics, M/s TCS, M/s Taegutech etc. visit the institute /absorb our students. A few of our students have also secured admits for PG / PhD from reputed institutes abroad. There were also guest lectures and industrial visits organized by the institute for the benefit of the student community. Lectures on Robotics, Software Engineering & OO Paradigms were organized.

Faculty members of the institute have published in international journals and conferences of repute and

have also been sanctioned funded projects. Ph.D programme of the institute is stabilizing since its inception in 2009 and at present there are around 18 scholars pursuing research in various fields such as smart materials, electrical derives, VLSI, Image processing, thermal systems, etc. A few of the students are nearing their research work completion and the subsequent years shall see an increased intake with additional faculty resources available at the institute disposal.

The year gone by has been a successful one and the ensuing year shall see increased admit of students, recruitment of various staff and faculty level appointments. Given the committed and dedicated efforts of the students, staff and faculty members, I am confident the institute shall scale even greater heights in the subsequent year in terms of academic, research, co and extra curricular activities.

Prof. R. Gnanamoorthy

INSTITUTE ADMINISTRATION

The Indian Institute of Information Technology, Design & Manufacturing, (IIITD&M) Kancheepuram is a Centre of Excellence for technical education and research established in 2007 by the Ministry of Human Resource Development, Government of India. The Board of Governors (BoG) are responsible for the overall administration and functioning of the Institute. The Board is headed by a Non-Executive Chairman selected for a three-year term. The Board (Table 1) is entrusted with the responsibility of planning and execution of all activities of the Institute. The Board lays down major policies, rules of governance including delegation of authority, recruitment, service conditions, financial management and all other matters pertaining to the day to day administration of the Institute.

Matters relating to financial management of the Institute are referred to the Finance Committee. Finance Committee shall examine the accounts and scrutinize proposals for expenditure. The committee shall examine the annual accounts and financial estimates of the Institute and thereafter submit

them to the Board of Governors together with its comments for approval.

The Buildings and Works Committee advises the Institute on matters relating to construction activities. This committee is entrusted with the responsibility of development of all major capital works after securing approval from the Board. It shall have the power to give the necessary administrative approval and financial sanction for all construction works and work pertaining to the maintenance and repairs, within the grant placed at the disposal of the Institute for the purpose. It shall prepare estimates of cost of building and other capital work, minor works, repair, maintenance and the like. It shall be responsible for making technical scrutiny of each work as may be considered necessary by it. It shall have the power to secure rates not covered by tenders and settle claims and disputes with contractors. Members of the Finance and Building and Works Committee are given in Tables 2 and 3 respectively.



Table 1

**Board
of
Governors
of
the
Institute**

(2012-2013)

Shri. R. Seshasayee Chairman
Executive Vice Chairman,
M/s. Ashok Leyland

Thiru S.K Prabakar IAS
Secretary to Government
Dept of Information Technology,
Govt. of Tamil Nadu

Shri R. C Meena
Economic Advisor (HE),
MHRD

Shri T Ramaswamy
Secretary, Dept. of Science & Technology,
Govt. of India

Prof. Bhaskar Ramamurthi
Director,
Indian Institute of Technology Madras

Lt. Gen (Retd.) K. R. Rao
PVSM, AVSM, VSM,
Hyderabad

Dr. K.P Isaac
Member Secretary,
AICTE

Shri Deepak Puri
Chairman & Managing Director,
M/s. Moserbaer Ltd.

Prof Ashok Jhunjunwala
Department of Electrical Engineering,
IIT Madras

Prof S. Narayanan
Department of Mechanical Engineering,
IIT Madras

Shri Onkar Singh Kanwar
Chairman, M/s. Apollo Tyres Ltd.

Prof. David Koilpillai
Dept. of Electrical Engineering, IIT Madras

Prof R. Gnanamoorthy
Director,
IIITD&M Kancheepuram

Table 2

Finance Committee of the Institute

Shri. R. Seshasayee Chairman
Executive Vice Chairman,
M/s. Ashok Leyland

Prof R. Gnanamoorthy
Director
IIITD&M Kancheepuram

Shri. NavinSoi
Director (Finance), Dept. of Higher Education
MHRD, Government of India

The Director
Dept. of Higher Education,
MHRD, Government of India

Prof. S. Narayanan
Emeritus Professor, IIT Madras

Shri. S. Sambasivam
Deputy Registrar (F&A),
Indian Institute of Technology Madras

Mr. A Chidambaram Secretary
Deputy Registrar (Accounts),
IIITD&M, Kancheepuram

Table 3

Building and Works Committee of the Institute

Prof R. Gnanamoorthy Chairman
Director,
IIITD&M, Kancheepuram

The Director
Dept. of Higher Education,
MHRD, Government of India

Prof S Narayanan
Emeritus Professor, IIT Madras

Shri R Arumugam
Superintending Engineer, IIT Madras

Shri Rajeev Sharma
Superintending Engineer(Elect), CPWD

Mr. A. Manickavasagam Secretary
Consultant Engineer (Civil),
IIITD&M Kancheepuram

Table 4

Senate of the Institute

Prof R Gnanamoorthy Chairman
Director

Prof. S. Narayanan
Dept. of Mechanical Engg., IIT Madras

Prof. K. Sridharan
Dept. of Electrical Engg., IIT Madras

Prof. S. Santhakumar
Dept. of Aerospace Engg., IIT Madras

Dr. Raghu V. Prakash
Dept. of Mechanical Engg., IIT Madras

Prof. K. Chandrasekaran (Retd.)
Anna University, Chennai

Dr. Nitin Chandrachoodan
Dept. of Electrical Engg., IIT Madras

Prof. P. Chandramouli
Dept. of Mechanical Engg., IIT Madras

Prof. V. Kamakoti
Dept. of Computer Sci. & Engg., IIT Madras

Dr. B. Sivaselvan
Assistant Professor,
Computer Sci. & Engg.

Dr. Shankar Balachandran
Dept. of Computer Sci. & Engg., IIT Madras

Prof. Nilesh Vasa
Dept. of Engineering Design, IIT Madras

Dr. Binsu J Kailath
Assistant Professor, Electronics Engg.

Prof. G. Thanigaiyarasu
Anna University, Chennai

Dr. M. Sreekumar
Assistant Professor, Mechanical Engg.

Prof. Pradeep Y Yammiyavar
IIT Guwahati

Dr. Noor Mahammad
Warden, Boys Hostel

Prof. R. Ramanujam
Institute of Mathematical Sciences, Chennai

Dr. K. Selvajyothi
Warden, Girls Hostel

Prof. Harishankar Ramachandran
Dept. of Electrical Engg., IIT Madras

Industry Experts

Dr. Ravikishore. B
HCL Info Systems Pvt. Limited,
Chennai

Dr. C Mathiazhagan
CEO Market I Japan, &
MK Tech India

Dr. M. Sathya Prasad
Ashok Leyland,
Chennai

Matters related to the conduct of the various academic programs of the Institute are referred to the Senate. The Senate advises the Institute on introduction of new academic cum research programs, curriculum structuring, conduct of examinations and grading system, student and all other academic matters that arise from time to time. The Institute adopts a consistent feedback and review based approach in all its activities to maintain the highest standards. Teaching and Research are given equal importance and students, faculty and staff members are consistently motivated to scale better heights. Members of the Senate are listed in Table 4.

Meetings of the Authorities

The various committees constituted by the Ministry and the Institute govern and advise the Institute on academic, research and development activities, so that the envisioned objectives and mandate are achieved and the Institute moves in the right direction. The committees meet on a regular basis and is apprised of the important events, launch of new degree programs and future plan of work. Table 5 lists the meetings of the committees for the year under report.

Table 5 Schedule of Various Committee Meetings Held

	16.07.2012
BoG	27.09.2012
	27.12.2012
	14.02.2013
	16.07.2012
Finance Committee	27.09.2012
	27.12.2012
	12.07.2012
Building and Works Committee	17.12.2012
	12.02.2013
	27.06.2012
Senate	02.11.2012
	27.03.2013

ACADEMIC PROGRAMS

Admission to the under graduate programs offered at the Institute have so far been based on All India Rank (AIR) obtained in the AIEEE examinations. In furtherance to the recent directions of the Ministry, admissions from now on shall be based on a cut-off arrived based on qualifying examination (HSC) and JEE Main. Reservation rules as laid down by the Government of India are followed and counselling to the various UG programmes are conducted by Central Counselling Board (CCB), which shall henceforth be handled by the Central Seat Allocation Board (CSAB). Our Institute acts both as a participating Institute and a reporting centre in these admissions. Provisional offers of admissions to the various National Institute's of Technology / IITs and other institutes on the rolls of CCB were issued to students. CCB admissions 2011-12 were coordinated by NIT Surathkal and the institute's effort in the capacity of Reporting Centre was well appreciated by CCB and other stake holders.



The Institute is presently offering 4 year B.Tech programs in Mechanical Engineering (Design and Manufacturing), Computer Engineering and Electronics Engineering (Design & Manufacturing),

2 year M.Des programs in Electronic Systems Design, Communication Systems Design and Mechanical Systems Design and Ph.D programmes in interdisciplinary areas of engineering / allied sectors. UG intake for the period under report was increased from 20 to 30 and will see a phased increase in the years to come subsequent to the required infrastructure creation. The B.Tech programmes have attracted high ranking AIEEE students and have earned appreciation for the design focussed engineering curricula. The recent batch of students who passed out in 2013 recorded placements in core companies and a few were selected for higher studies in reputed universities abroad.

All the academic programmes of the Institute imbibe the principle of "Learning By Doing". The pedagogical practices followed at IIITD&M Kancheepuram employ experiential learning to produce design engineers equipped with good hands on experience in the respective engineering sector. Practice based courses are given more importance and weightage and state-of-the-art hardware, software and other facilities are introduced. The



Association for Computing Machinery (ACM) based Computer Engineering curriculum offers more electronics engineering courses, and hence will produce engineers with skills required for efficient hardware software interaction and intelligent



product design and development. Computer & Electronics Engineering (Design & Manufacturing) graduates of IIITD&M will be proficient with design and development of complex electronic systems and subsystems as a result of the exhaustive exposure to emerging areas such as embedded systems, VLSI design, human computer interaction, power electronics, control and instrumentation.



Mechanical engineering graduates will be equipped with good hands on skills in sensors, controls, electronics and automation, in addition to the conventional mechanical engineering areas. The laboratories are equipped with state of the art and modern equipments to supplement the experiential learning thrust of the curricula. The curricula involve engineering simulation courses to enhance the visualization skills and our laboratories are equipped with high end workstations and powerful simulation softwares.

NOVEL POST GRADUATE (M.DES) PROGRAMS



IIITD&M Kancheepuram functions with the mandate of excelling in design & manufacturing education and research. With a well established novel UG curricula in place, the Institute introduced innovative 2 year postgraduate programmes in 2010. M.Des (Master of Design) is currently offered in Communication Systems Design, Mechanical Systems Design and Electronic Systems Design. M.Des programmes of IIITD&M are aimed to specialize Mechanical and Electrical/Electronics Engineers with design skills required for the design and development of mechanical and electronic products. The curricula of the post graduate engineering design programs specializing in Mechanical and Electronic Systems created by experts from various design centers, reputed academic institutes such as IITs, IISc, etc. and renowned industry experts is a blend of design thinking and core engineering subjects required for innovative product design. M.Des programs promote efficient, effective, and desirable human-computer interaction; visualization and navigation through information spaces; time-based information design; and collaborative design practice among different disciplines.

M.Des engineers passing out from IIITD&M Kancheepuram will find scope and relevance in analog and digital electronics IC companies, embedded systems players, automotive design, consumer product design and manufacturing industries. The curricula of the proposed M.Des in Communication systems programme will be in line

with the 'Learning By Doing' motto of the institute and would have dedicated practice sessions as part of the core courses. The program aims to bridge the gap between communication and hardware engineers by imparting product / component design aspects for the communication industry and, hence produce next generation communication technocrats. Proposed M. Des curriculum has additional conceptual design courses focused on product design tools/issues. Product design theory and relevant lab courses supplement the core courses and incorporate the design flavor required in the curricula. Topics related to electromagnetic interference and compatibility and RF circuits are adequately highlighted through theory and practice courses. Further issues/concepts related to digital signal and random processes are also effectively covered in the curriculum. The programme would first of its kind design focused communications systems degree and meet the present day requirement of trained manpower in next generation technologies such 3G, 4G, etc.

M.Des in Communication Systems was offered from the academic session from August 2012. The incessant demand for increased transmission bandwidth has led to the rapid technological solutions/changes in the modern communication systems in recent times. The sector is exploding with job opportunities and is considered as one of the fastest growing/expanding technological area. India, having made rapid inroads in the software and information technology sector, is short of quality manpower equipped with necessary tools and technological knowledge to meet the requirements of the electronic hardware sector. The proposed M.Des in Communication Systems curriculum of IIITD&M Kancheepuram adopts a balanced approach to the industry requirements with courses on digital communication and communication networks, PCB and embedded system design are included with sufficient coverage of VLSI/FPGA design and VERILOG implementation.

With mastery in domain specific design, engineering skills and required managerial expertise, our graduates can entrepreneur organizations involved in the design and manufacture of commercially successful electronics or mechanical products.



RESEARCH PROGRAM (Ph.D)

The Institute started admitting students into the Ph.D programme in 2009. Presently 18 research scholars are working in the disciplines of computer science, mechanical and electrical & electronics engineering in pursuit of their Doctorate degrees. Interdisciplinary research programmes leading to the

award of Ph.D degree are offered in Computer, Electrical, Electronics, Mechanical engineering, Physics and Mathematics. All faculty members of the institute are doctoral degree holders from reputed institutes with good academic and research record and are involved in sponsored research and industrial consultancy. Split up of the discipline wise Ph.D scholars is given in the following Table 6.

Table 6 Number of Doctoral students on rolls

DISCIPLINE	COUNT
Computer Science	03
Electrical & Electronics	05
Mathematics	03
Mechanical	05
Physics	02
Total	18

STUDENT INTAKE 2012-13

Admissions to the Undergraduate B.Tech programmes offered by the Institute are based on All India Rank in All India Engineering Entrance Examination (AIEEE), while M.Des admissions are based on GATE / CEED score and test/interview conducted by the institute. The institute is part of the Central Counselling Board (CCB) that conducts the admissions counselling for all NITs, IITs and other institutes registered with CCB. The recent admissions in 2012 saw an increased intake of 30 students in each of the three streams of the institute, which would be enhanced in a phased manner. The number of UG& PG students on the rolls of the Institute are as given in Table 7 & 8:

Stream	2009	2010	2011	2012	Total
B.Tech Computer Engineering	19	20	24	29	92
B.Tech Electronics Engineering (D&M)	18	19	26	30	93
B.Tech Mechanical Engineering (D&M)	19	19	25	29	92
M.Des Communication Systems Design (CSD)	--	--	--	6	6
M.Des Mechanical Systems Design (MSD)	--	--	08	12	20
M.Des Electronic Systems Design (ESD)	--	--	08	12	20
Grand Total					323

The sanctioned student strength in each of the three disciplines was 20, which has now been raised to 30 with the approval of the Senate and Board of Governors (BoG). While the UG and PG admissions happen on an annual basis, Ph.D admissions are conducted twice in a year.

FINANCIAL ASSISTANCE TO STUDENTS

Scholarships

The Institute is awarding the following scholarships:

1. Merit-cum-Means Scholarship (MCM)

Merit-cum-Means Scholarships of Rs.1000/-p.m. is sanctioned to B.Tech students whose parental income is less than Rs.4.5 lakhs besides the exemption from payment of tuition fees.

2. SC/ST Scholarship

SC/ST students admitted to B.Tech programme whose parental income is less than Rs.4.5 lakhs are eligible for concession of messing charges and exempted from payment of hostel seat rent. They are granted the pocket allowance of Rs.250/-p.m. Further they are also exempted from payment of tuition fees.

3. Institute free Studentship (IFS)

Institute free studentship is sanctioned to B.Tech students whose parental income is less than Rs.4.5 lakhs with a waiver of tuition fees only.

4. Central Sector Scholarship Scheme of Top Class Education for SC B. Tech Students:

Central Sector Scholarship Scheme of Top Class Education for SC Students under Ministry of Social Justice and Empowerment has sanctioned ten slots for B.Tech students whose parental income is less than Rs.4.5 lakhs p.a.

Benefits under this scheme

Lodging & boarding charges at the rate of Rs. 2220 per month per student or the actuals whichever is less.

Books and stationery at the rate of Rs. 3000 per annum per student or the actuals whichever is less.

A latest computer system with all the necessary accessories like UPS, Printer, Multi-media etc. limited to Rs. 45000 per student for the entire course of study.

5. Central Sector Scholarship Scheme of Top Class Education for ST B. Tech.Students:

Central Sector Scholarship Scheme of Top Class Education for ST Students under Ministry of tribal Affairs has sanctioned five fresh slots for B.Tech students whose parental income is less than Rs.2 lakhs p.a.

Benefits under this scheme

Lodging & boarding charges at the rate of Rs. 2200 per month per student or the actuals whichever is less.

Books and stationery at the rate of Rs. 3000 per annum per student or the actuals whichever is less.

A latest computer system with all the necessary accessories like UPS, Printer, Multi-media etc. limited to Rs. 45000 per student for the entire course of study.

6. Other Scholarships:

Academic year wise break-up of scholarships that have been awarded so far is given in Table 7. Half Time Teaching / Research Assistance (HTTA / HTRA) is awarded to M.Des / Ph.D scholars of the institute. M.Des scholars have been provided financial assistance of Rs.8,000 /- p.m while Ph.D scholars were sanctioned HTRA of Rs.18,000/ (Engineering) or Rs,16,000 (Sciences) respectively.



Table 8 Students on Rolls at IIITDM Kancheepuram

CATEGORY	2009-10		2010-11		2011-12			2012-13			Total
	B.Tech	Ph. D	B.Tech	Ph. D	B.Tech	M.Des	Ph.D	B.Tech	M.Des	Ph.D	
OP	28	4	29	3	38	7	3	43	20	1	176
OP-PH	1							1			2
OB	15		15	1	20	7	1	23	6	2	90
OB-PH					1			1			2
SC	8	1	8	1	10	2		12	4	1	47
ST	4		4		5			6			19
SC-PH			1		1						2
ST-PH			1								1
DASA(B. Tech)								2			2
Total	56	5	58	5	75	16	4	88	30	4	341

Table 9 Scholarships (Break-up) Awarded to Students

Degree	BATCH	Student Enrolled	MCM (Rs. 1000 p.m.)	SC/ST (Rs. 250 p.m.)	Inst. free Studentship
			(25% of admitted student)		(10% of admitted student)
B.Tech	2009-10	58	14	2	6
	2010-11	58	14	9	6
	2011-12	82	21	11	8
	2012-13	90	22	3	9
	Central Sector Scholarship of Top Class Education for ST students sanctioned by Ministry of tribal Affairs, Government of India. As on 31.03.2013, 2 students benefited.				
	Central Sector Scholarship of Top Class Education for SC students sanctioned by Ministry of Social Justice & Empowerment, Government of India. As on 31.03.2013, 10 students benefited.				

+ - 10% of Students Admitted * - 25% of Students Admitted

Student Fees Details

The Institute follows the fee structure approved by the Board of Governors (BoG). The detailed fee structure for various programmes is as in Table 10.

Table 10 Fee Structure

S.No	Particulars	Semester Fee Amount		
		B.Tech	M Des	Ph.D.
A. One time Fees:				
1	Admission fee	150	150	150
2	Grade card/Thesis fee	150	150	950
3	Provisional certificate	100	100	100
4	Student welfare fund	200	200	200
5	Modernisation fee	400	600	600
6	Alumni Life Membership Fee (NS)	500	500	500
7	Publication fee (NS)	250	250	250
	Total A	1750	1950	2750
B. Semester Fees:				
1	Tuition fee+	25000	5000	2500
2	Examination fee	350	350	500
3	Registration-Enrolment fee	200	300	500
4	Gymkhana	500	500	500
5	Medical fee	500	500	500
6	Student Amenities Subs. and Lab. & Com. Facilities Fun (NS)	2000	2000	2500
	Total B	28550	8650	7000
C. Deposits (Refundable):				
1	Hostel Deposit (NS)- *	1000	1000	1000
2	Institute Deposit and Library Deposit (each Rs 1000)	2000	2000	2000
	Total C	3000	3000	3000
D. Hostel Fees & Mess Charges per semester				
1	Hostel Admission fee	100	100	100
2	Hostel Seat Rent	500	550	550
3	Fan, Elec. & Water Charges	300	300	300
4	Hostel Maintenance Charges	6200	6150	6150
6	Advance dining charges@	10000	10000	10000
	Total D	17100	17100	17100
E. Medical Insurance Premium (per annum)				
1	Medical Insurance Premium (per annum)	709	709	709
	Total E	709	709	709
Hostellers (A+B+C+D+E)		51109	31409	30559
Day Scholars [A+B +C2 +E]		33009	13309	12459

ACADEMIC / CO-CURRICULAR ACTIVITIES ORGANIZED BY THE INSTITUTE

ORIENTATION PROGRAMME ADMISSIONS 2012

The Institutes' academic year 2012 commenced, on August 22, 2012, with great *enthusiasm*. The orientation program commenced with the welcome address by the Director, who briefed the audience about the Institute's motto, goals and the importance of the different courses/academic programs being run at the Institute. Faculty coordinators / in-charge of various committees/ activities apprised the students of the numerous facilities available in the campus, rules & regulations, scholarships awarded by the Institute, and code of conduct to be followed. There was also a brief session of experience sharing by the Senior students on the academics and extra / co curricular activities and life in the campus. The Programme was followed by document verification and other administrative procedures required for registration of the students in the institute and the hostel. This served as a good platform for the first year students to get accustomed to the new environment.



INDEPENDENCE DAY CELEBRATION



The 66th Independence Day was celebrated in the Institute with renewed vigour. The event witnessed a guard of honour by the Institute Security Staff which was followed by the hoisting of the Tricolour by our Director. There were also patriotic speeches and songs by students and research scholars.

HINDI DAY CELEBRATIONS

Hindi Day was celebrated in the Institute on September 24, 2012 in a spirited manner. The programme commenced with the welcome address from the Hindi coordinator which was followed by speeches highlighting the importance of Hindi by Dr Noor Mahammad, Dr Tapas Sil and Mr. A. Chidambaram.



GUIDANCE & COUNSELING

Guidance and Counseling cell organized two lectures on *Stress Management* and *Gateway to Great way* in



the month of September for the benefit of the freshers. The Lecture on Gateway to Great way was delivered by Mr. SrinivasKrishanan, an IIT alumnus, while the other talk on Stress Management was presented by Lt. Col. (Retd.) Jaya Kumar, Registrar, IIITD&M Kancheepuram. The talks evinced enthusiastic participation and response from the audience and the students were very keen to learn more about personality development and deliver their best under demanding situations.

IEEE EXPLORE ORIENTATION PROGRAMME

Institute Library has organized a user orientation program on IEEE Xplore (online journal database) on May 23,2012. Mr. DhanuPattanashetti, IEEE client services/University partnership program manager, briefed the students, research scholars and faculty members during the interaction session and discussed insider tips on search strategy and advantages of the latest value-added features. This session also covered how to save searches, set-up alerts and use of other personalization features and



new search engine, including advanced search options,improved search tools refine and drill down into searches by multiple criteria in IEEE Xplore.

GRADUAND LUNCH

A graduand lunch for the final year outgoing B. Tech. and M.Des.students was organized by the Institute on May 18, 2012. Students shared their views and memories about the various events and activities



during their stay at IIITD&M. Their pouring expressions of gratitude filled the environment with joyful sentiments and everybody relished and cherished the lunch with hearts' contents.

HOSTEL DAY

Inmates of the Boys Hostel (Banyan) and Girls Hostel (Lotus) celebrated the first hostel day in a grand manner. Various events for boys and girls including



sports activities were conducted during the fest and culminated with a grand feast for the inmates and other participants including members of the faculty and staff. This marks a new beginning in the history of IITD&M Kancheepuram, given they are the trendsetter batch as far as the hostel is concerned. This is a good beginning and would grow, further to complete residential accommodation infrastructure creation.

MARG-DARSHAN

The institute newsletter MARDARSHAN has completed two years of being in circulation with four issues launched for the period under report. The



magazine serves as an excellent platform for information exchange among peer institutions / organization in India and has evoked good feedback and response from stakeholders concerned. We are confident of enhancing its reach and hopeful of increased issues in the years to come given the expansion of activities in the institute.

INDUSTRIAL VISITS & GUEST LECTURES ORGANIZED

The institute organizes industrial visits and guest lectures by subject experts from the industry and academia for the benefit of the student, staff and faculty community on a periodic basis.

INDUSTRIAL VISITS

1. M/s Danfoss Refrigeration, Chennai (26 December 2012)

The students were exposed to many manufacturing process in products such as Filter-Dryers, Pressure cut off switches, Solenoid valves, etc, which are used in refrigeration and air-conditioning industries were highlight. Learning of automated mass brazing, testing procedures of switches and rating of air-conditioning systems in psychrometric rooms, chemical and mechanical failure testing of components were also explained to the students.

2. M/s Delphi TVS, Mannur (12 March 2012)

The visit helped students exposed to many manufacturing process involved in production of fuel injection pumps. The complete assembly of few selected type of fuel injection pumps were demonstrated. The role of clean rooms on micro machining of injection nozzles was felt by the students. Many automated manufacturing process was also explained.

3. **Neyveli Lignite Corporation
(30 March 2012)**

A visit to Mines and thermal plant of Neyveli Lignite Corporation was arranged. The students in batches were taken into the open mine and operations of mining equipment were explained. Further, the various process involved in power production and the energy conservation techniques were practically explained. The students had an opportunity to view relative large scale excavators, boilers, cooling units, turbines etc.

The period under report saw the following external experts deliver invited lectures at IIITD&M Kancheepuram campus.

1) **Mr. Alagusundaram, Program Manager, Amazon. com** delivered a guest lecture on OO Paradigms in Software Development& OO Paradigms

on 11 September 2012. Audience included computer engineering students and the lecture was well received. Students were also briefed on skill expectations of the industry for internship and placement.

2) **Mr. Balaji from M/s Geek Technology** delivered a lecture on Robotics on 06 November 2012. He was the man behind the humanoid robot used in the film Mugamoodi. The lecture was attended by computer, electronics and mechanical engineering students, given the inter-disciplinary nature of the area.

3) **Mr Shankar Raman, Adjunct Faculty at BITS,** delivered a talk on Software Engineering - Industry Perspective on 18 April 2013 to our computer engineering students.



STUDENT ACHIEVEMENTS & ACTIVITIES

SAMGATHA, the annual cultural and technical fest of the Institute saw its second edition conducted in a grand manner during March 2013. An intra institute event till last year, Samgatha 2013 evoked good response from the student community this year with large number of registrations for the various technical and cultural events. A few of the technical events that were conducted include Enginerd, IgNobel, Live Wire, Coding, Robotics, etc. and Collage, Debate, Photography, Shades of Grey, Short Film making, etc. constituted the events in the cultural category. The number of events saw an increase in this year's edition and the event was a grand success.

SPORTS ACTIVITIES

The institute sports contingent actively takes part in the various inter and intra institute level sports fests and competitions. The institute participated in the annual sports meet **TWARAN** conducted by IITM Gwalior. This year **TWARAN** was opened for



participation from NITs and other engineering colleges as well. The institute performed exceedingly well and achieved an overall 2nd position in the Medals tally with a haul of 6 gold, 4 silver and 2 bronze medals. Four of our students listed below also

were adjudged the best player of the tournament in their respective games.

- | | | | |
|----|---------------|----------------------|--------------|
| 1. | AadhityaVyas | 1 st year | Tennis |
| 2. | Saravanakumar | 4 th year | Athletics |
| 3. | Sravan | 2 nd year | Table Tennis |
| 4. | Anil kumar | 3 rd year | Volleyball |





A detailed listing of the various medals secured at TWARAN is given below:

- I. Volleyball (Men) - Winners
- II. Table tennis (Men) - Runners Up
- III. Chess (Men) - Winners
- IV. Carrom (Men) - Winner
- V. Squash (Men) - Winner
- VI. Carrom (Women) - Runners Up
- VII. ATHLETICS (Men)
 - 1. 100 Mts - Gold
 - 2. 400 Mts - Gold
 - 3. 4x100mts Relay - Gold
 - 4. 4x400 Mts Relay - Gold
 - 5. Marathon - Gold
- VIII. ATHLETICS (Women)
 - 1. 100 Mts - Silver
 - 2. 400 Mts - Silver
 - 3. 4x100 Mts Relay - Bronze
 - 4. 4x400 Mts Relay - Silver
 - 5. Marathon - Bronze



The Institute also participated in the TNPESU (Tamil Nadu Physical Education and Sports University) sports meet in the following categories of Cricket, VolleyBall, Football and reached the quarter finals in most events. As part of SAMGATHA 2013, a marathon was organized by the institute which evoked good



response from the institute students and TNPESU. Around 200 participants in all took part in the 5km marathon from Institute Hostel (Jasmine) to TNPESU and back. There were also intra institute tournaments on Cricket and Basketball under the banner of IIITDM Premium Leagues, which were a



major hit among the student community and contributed a lot towards the institute sports team.

Social Service Group (SSG) Activities

A free eye check up camp was organized in the institute premises, in association with M/s. VASAN Eye Care, Chennai. The event saw active participants from the institute staff, faculty and student community and neighbouring residents.



As a part of community contribution from IIIT D&M, Environment Conscious Group (ECG) volunteers de-trashed the ARIGNAR ANNA Zoological Park, Vandalur on 10 November 2012. Volunteers worked with great enthusiasm and a lot of plastics which pose a great danger to the free ranging animals were removed by the volunteers. This spirit of service and enthusiasm of volunteers was greatly appreciated by the biologist of Vandalur zoo, Dr. Mani Mudi.

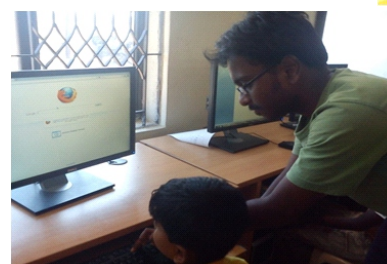
ECG group participated as volunteers in Pulse Polio drops programme in five villages on 23 February 2013 and vaccinated children from villages in and around kandigai including Kodambakkam, Melaikottayur, Keerapakkam.



A free medical camp was conducted on 6th April 2013 by both Teaching and ECG volunteers in collaboration with Tagore Medical College

and Hospital. Specialists from various departments including General medicine, Gynecology, Ophthalmology were available for consultation. A dispensary was setup in the camp and the medicines prescribed were distributed free of cost.

SSG teaching activities kick started with tuitions in the A.G Church Kandigai and this program was continued for two semesters successfully. Computer classes were organized for students between 5th and 12th class. These classes were organized in Systems and Programming lab on every Sunday from 4 PM to 6 PM. The children who attended these classes learnt how to operate computer, MS word, Paint and MS office. We received the tremendous response from the students who came from the nearby village kandigai. The period under report also the institution of the Students Body with representatives from the student community to assist the cultural, technical, academic and hostel activities that happen in the institute. A student constitution was framed and approved by the Senate of the Institute. Subsequently elections to various posts namely General Secretary, Academic Affairs, Hostel Affairs, Cultural Affairs were held on 26.09.2012 between 3 to 6 pm. An election officer (faculty member) was entrusted the responsibility of smooth, free and fair conduct of the elections and he was assisted by a team of faculty and staff members. This was a new beginning in the institute and the entire process was successfully conducted in a democratic manner. Subsequent year saw the introduction of online polling system to reduce the time and effort required for the conduct of student elections. The various elected representatives are contributing to the institute's cause in the cultural and technical festivals organized.



PLACEMENTS / INTERNSHIPS

2012 Batch of Mechanical Engineering & Electronics Engineering (Design & Manufacturing) recorded around 80% placement in core engineering companies specializing in design and manufacturing while 20% students secured admissions in reputed universities abroad for further studies. The period under report saw 11 companies visit the campus for recruitment. Of the eligible students, around 80% students have been placed so far and a sizeable lot have also applied for admissions into PG and Ph.D programmes offered in India and abroad. Detailed split up of the number of offers made by the various companies who have visited our campus and the placement statistics are given in the following Table. A few more companies are likely to visit for the period further to this report.

Table 12 Details of 2012 - 13 passed out students

S.No	Company Name	# Offers
01	Bally Technologies	08
02	Tata Consultancy Services (Engg. Services)	11
03	Turbo Energy	03
04	Mu Sigma	04
05	Flextronics	02
06	SVP Lasers	01
07	HHV Pumps	01
08	Larsen & Turbo	06
09	Pricol	07
10	InfoTech	01
11	Wipro (off campus)	01

Higher studies Abroad	Higher Studies in India (M. Tech / Ph.D)
Georgia Tech University	IIT Bombay
Illinois, North Eastern	IIM Tiruchirapalli
University of Texas at Dallas	ISB Hyderabad
Purdue University	IIT Hydrebad
Arizona State University	IIITD&M Kancheepuram
Columbia University	IIT Kharagpur
Georgia tech, Irvine	Young India
Fellowship	
University of Minnesota, Twin cities	
University of Arizona (Tucson)	
Arizona state university	
University of Southern California	
University of Florida	

INDUSTRY INSTITUTE INTERACTION

The Institute promotes extensive interaction with the various relevant industry stakeholders. Our institute is also in collaboration with various industries listed below, relating to student internships / summer projects. Students under the guidance of Faculty members undertake project work during their summer vacation, which is mandatory as part of the curricula requirements. This helps the students gain sound on-the-floor experience and mastery of the concepts gained from their curricula.

GUIDANCE & COUNSELING CELL (GCC)

The Guidance & Counseling Cell of the Institute coordinated by Faculty, Staff and Student members is very active in carrying out counseling for students relating to both academic and non academic issues. The cell assigns faculty advisors for a group of students to look after the academic and personal issues faced by students during their stay at IIITD&M Kancheepuram. The cell also conducts orientation programmes to have a formal introduction of the freshers to other students and addresses issues faced by first year students on a day to day basis. Faculty and Staff members of the cell interact with parents/students and suggest measures for betterment of the student's academic and overall performance. Student members of the cell help in noticing issues among students from close quarters and bring it to the notice of the Cell for effective counseling. This helps in guiding students who might otherwise not interact with the



IIITD&M FACULTY & STAFF

The Institute has on its rolls 1 Professor, 19 Assistant Professors in the disciplines of computer engineering, electrical, electronics engineering, mathematics, mechanical engineering and physics. IIITD&M Kancheepuram follows faculty recruitment process similar to IITs. Doctoral degree holders with excellent research background and proven teaching capability are recruited. Since the Institute's inception in 2007, there have been three rounds of faculty recruitment drive, first in November 2008 and the next one in June 2009. Recruitment for the period under report saw four faculty members joining the IIITD&M family. A brief profile of the newly joined faculty members for the period under report is given below. The discipline specific faculty profile is given in Table 12. Table 13 lists the administrative and technical staff members of the Institute. The Institute has also recruited technical staff to assist the laboratories, academic and administrative activities of the Institute in the disciplines of mechanical and electronics engineering.

Table 12 IIITD&M Faculty Details

Sl.No	Name	Designation	Specialization
01	Prof. R. Gnanamoorthy	Director & Professor	Mechanical Engg.
02	Dr. Arivazhagan A	Asst Professor	Mechanical Engg.
03	Dr. Binsu J Kailath	Asst Professor	Electronics Engg.
04	Dr. Damodaran P	Asst Professor	Electrical Engg.
05	Dr. Jayavel S	Asst Professor	Mechanical Engg.
06	Dr. Karthikeyan S S	Asst Professor	Electronics Engg.
07	Dr. Masilamani	Asst Professor	Computer Science & Engg.
08	Dr. Naveen Kumar	Asst Professor	Physics
09	Dr. Noor Mahammad S	Asst Professor	Computer Science & Engg.
10	Dr. Pandithevan P	Asst Professor	Mechanical Engg.
11	Dr. Raja B	Asst Professor	Mechanical Engg.
12	Dr. Ramya	Asst Professor	Electronics Engg.
13	Dr. Sadagopan N	Asst Professor	Computer Science & Engg.
14	Dr. Selvajyothi K	Asst Professor	Electrical Engg.
15	Dr. Selvaraj M D	Asst Professor	Electronics Engg.
16	Dr. Shahul Hamid Khan B	Asst Professor	Mechanical Engg.
17	Dr. Shalu M A	Asst Professor	Mathematics
18	Dr. Sivaselvan B	Asst Professor	Computer Science & Engg.
19	Dr. Sreekumar M	Asst Professor	Mechanical Engg.
20	Dr. Tapas Sil	Asst Professor	Physics
21	Dr. Vijayakumar S	Asst Professor	Mathematics

Table 13 Institute Administration and Technical Team

Sl.No	Name	Designation
a) Administration Staff		
1.	Prof.R.Gnanamoorthy	Director
2.	Mr. A. Chidambaram	Deputy Registrar
3.	Mr.P. Rajkumar	Sr. Library Asst.
4.	Mr. S.Pandian	Junior Engineer
5.	Mr.N.Aghilan	Junior Assistant
6.	Ms.S.Rajalakshmi	-do-
7.	Mr.S. Saravanan	-do-
8.	Ms.G.Subashini	-do-
b) Technical Staff		
1.	Mr.C. Gurunathan	Technical Officer Grade I
2.	Mr. P M Sri ramBhaskar	Junior Tech. Supdt.
3.	Ms.K.Manimegalai	Junior Technician
4.	Mr.G.Manigandan	-do-
5.	Mr.M. Balaji Raja	-do-
6.	Mr.A.Vigneshwaran	-do-

New Members of the IIITD&M Kancheepuram Family



Dr. Sadagopan Narasimhan joined the Institute as an Assistant Professor in the discipline of Computer Engineering on August 3, 2012. He holds a Ph.D degree in Computer Science & Engineering from IIT Madras and his areas of research interest include combinatorics, data structures, graph theory, and graph algorithms. He was previously associated with IISc as a post doctoral fellow and SVCE, Chennai as Assistant Professor.

Dr. M. D. Selvaraj joined the Institute as Assistant Professor in the discipline of Electronics Engineering on August 22, 2012. He holds Ph. D. degree in Electronics Engineering from IIT Delhi and prior to joining us, he was working as an Assistant Professor in IIT Kharagpur. His area of research includes Wireless/ Mobile Communications.



Shri. G. Ravi Kumar joined the IIITD&M family as Assistant Registrar on August 14, 2012. Prior to joining the Institute, he was affiliated with Indian Air Force for 27 years.

Shri. S Venkateswaran joined the IIITD&M family as Assistant Registrar on September 27, 2012. Prior to joining the Institute, he has worked in various capacities in different GOI organizations for 18 years.



Shri. Y Tejovadan has joined the IIITD&M Family as Jr Superintendent on 01 October 2012. Prior to joining the Institute, he has worked as teacher with Delhi Public School Surat & Mahindra World School and as Asst Manager, Andhra Bank.

Mr. Mahendra Kunku has joined IIITD&M Kancheepuram on 26 November 2012 as Assistant Registrar. He has 8 years of experience in Banking, Financial Services Accounting, Taxation, Audit, Stores & Material Management, Project Management and Budgeting at various levels in public and private organizations.



**Table 11 Technical / Administrative Staff
Members recruited during 2012 - 13**

Staff Name	Designation
Mr. P. Alaguraj	Physical Training Instructor
Mr. M. Sangeeth	Junior Engineer
Mr. Prabhu S	Junior Technician
Mr. M. Aswin Raj	Junior Technician
Mr. R. Parthasarathy	Junior Accountant
Mr. S. Karthikeyan	Junior Assistant
Mr. R. Balaji	Junior Attendant

Appointments to faculty positions are done similar to other institutes of national importance based on the recommendations of a Selection Committee comprising of eminent academicians from reputed institutes in India and on the approval of the Board. Technical and Supporting staff positions recruitment is based on the performance of the candidates in written tests and /or interview by a Selection committee constituted by the Director as described in MoA and with the approval of the Board wherever required. The institute has called for applications for faculty positions, technical and administrative staff positions and the recruitment process is in progress and further details shall be included in the next report.



Faculty members of the Institute in addition to their academic work are engaged in research and development, serve on the program

committees of reputed conferences and journals as referees and collaborate with other institutes of national and regional importance by delivering invited lectures. The detailed list of publications in national and international conferences, journals, workshops attended and organized and contribution in other academic activities for the year under report is listed below.

Research Publications

A summarized view of the journals and conferences publications authored/co-authored by the faculty members of the Institute is given in Table 14. A detailed listing of them follows the table.

Table 14 Research Publications (2012-13)

Sl.No	Publication Type	Count
01	International Journals	12
02	International Conferences	16
	Total	28

Journals

- ❖ R. Karthik, R. Harish Nagarajan, B. Raja and P. Damodharan, Thermal Conductivity of CuO-DI Water Nanofluids using 3- ω Measurement Technique in a Suspended Micro-wire, Experimental Thermal and Fluid Science, Vol. 40, pp. 1-9, July 2012.
- ❖ R. Karthik, N. Harish, B. Raja and P. Damodharan, Measurement of thermal conductivity of fluids using 3- ω method in a suspended micro wire, Journal of Engineering Thermophysics (Springer Publication), Vol. 21, No. 1, pp. 60-68, March 2012.
- ❖ V.Masilamani, A.S. Prasanna and D.G. Thomas, Sticker P System, International Journal of Natural Computing Research (IJNCR) Vol 3, Issue 1, 2012.
- ❖ M. R. Anders, S. Shlomo, Tapas Sil, D. H. Youngblood, Y.-W. Lui, and Krishichayan, Giant resonances in ^{40}Ca and ^{48}Ca , Phys. Rev. C 87, 024303, 2013, IF:3.068
- ❖ P. K. Bera and Tapas Sil, Exact solutions of Feinberg-Horodecki equation for time-dependent anharmonic oscillator, Pramana 80 (31), 2013, IF:0.575
- ❖ P. K. Bera and Tapas Sil, Homotopy perturbation method in quantum mechanical problems, Appl. Math. Comput 219, 3272, 2012, IF:1.373

- ❖ Naveen Kumar, G. Vishwanath, Anurag Gupta, An exergy based unified test protocol for solar cookers of different geometries, *Renewable Energy*, 44, 457-462, 2012, IF: 3.2
- ❖ Naveen Kumar, G. Vishwanath and Anurag Gupta, Effect of load variations on exergy performance of solar box type cooker, *Journal of Renewable and Sustainable Energy*, 4, 053125, American Institute of Physics (AIP), 2012, IF:1.214
- ❖ Naveen Kumar, K. Ramachandran, A Mach-Zehnder interferometer concatenated fiber loop mirror based gain equalization filter for an EDFA, *Optics Communications*, 289, 92-96, 2012. IF: 1.486
- ❖ S Usha and M Sreekumar, Elastic Behaviour of DEAP Film in the Development of Actuators, *Journal of Procedia Engineering*, 41 (2012) 1154 - 1161.
- ❖ KVSSD Prasanth, M Sreekumar, Design of a New Biomimetic Flow Pump using SMA Actuators, *Applied Mechanics and Materials*, Vol. 110-116, pp. 2903-2910, 2012,.
- ❖ B Madhevan, M Sreekumar, Structures and Characteristics in Reconfigurable Modular Robots, Book Chapter: *Advances in Reconfigurable Mechanisms and Robots I*, 525-534, Springer-Verlag London, ISBN-13: 978-1447141402, 2012.
- ❖ Kanjar De. , V. Masilamani, A new no-reference image quality measure to determine the quality of the given image using object separability, In the Pro. of International IEEE- conference on Machine Vision and Image Processing, Coimbatore, India. pp. 92-95, Dec. 2012.
- ❖ Kanjar De. , V. Masilamani, An object separability based no-reference image quality measure using statistical properties of objects”, In the Proc. of Second International - conference on Intelligent Interactive Technologies and Multimedia, Allahabad, India. Mar. 2013.
- ❖ Sowmya Jain and B Sivaselvan, HCI Perspective in the Design of CAPTCHAs, 2012 IEEE Intl. Conference on Computational Intelligence, Tamilnadu College of Engineering, Coimbatore, Dec 2012.
- ❖ Naveen Kumar, K. Ramachandran, Sagnac and Mach-Zehnder interferometer based gain flattening of an EDFA, International Conference on Fiber Optics and Photonics (PHOTONICS 2012), Dec. 10-12, 2012, TPO.17, IIT Madras.
- ❖ Naveen Kumar, Sanket Patil, Solar-Day Lighting Using Optical Fibers, International Conference on Fiber Optics and Photonics (PHOTONICS 2012), Dec 10-12, 2013, W3A.6, IIT Madras.
- ❖ S. Usha, M. Sreekumar, Elastic Behaviour of DEAP Film in the Development of Actuators, Proc of 2012 International Symposium on Robotics and Intelligent Sensors, 4-6 Sep 2012, Kuching, Malaysia.
- ❖ Madhevan B, Sreekumar M, Investigation of Structures and Characteristics in Self-Reconfigurable Robots, The Second ASME/IFTOMM International Conference on Reconfigurable Mechanisms and Robots (ReMAR2012), 9-11 July 2012, China.
- ❖ Swaminathan R, Rajarshi Roy, M.D. Selvaraj, Performance Analysis of Triple Correlated Selection Combining for Cooperative Diversity Systems, in the proceedings of IEEE ICC, Budapest, Hungary, 2013.

Conferences

- ❖ V. Masilamani, D.K. Sheena Christy, D.G. Thomas, Double Splicing on Iso-Arrays, In the Pro. of International Conference in Image Processing, Venice, Italy April . 2012.
- ❖ D.K. Sheena Christy, V. Masilamani, D.G. Thomas, Iso-Array Slicing grammar System, *Advances in Intelligent Systems and Computing*, Springer 2013, pp.157-167.

- ❖ Swaminathan R, M.D. Selvaraj, Rajarshi Roy, Error Analysis of NC-BFSK for Cooperative Diversity with Correlated Links, in the proceedings of Fourth Nordic Workshop on System and Network Optimization for Wireless, Finland, 2013.
- ❖ Swaminathan R, M.D. Selvaraj, Rajarshi Roy, Performance Analysis of Double Correlated Selection Combining for Cooperative Diversity Systems, in the proceedings of IEEE NCC, IIT Delhi, 2013.
- ❖ ManasaGangothriTirunagari, Sumitha P K, SrinivasaMoorthy S A, Dr. Selvajyothi K , Dr. Noor Mahammad S K "Design of Compact Controller and Power Module for Corrosion and Marine Growth Prevention", in the proceedings of Proceedings of Seventh International conference on Industrial and Information Systems, ICIS 2012, August 6-8, IIT Madras, Chennai, India, 2012
- ❖ Rajin M. Linus, P. Damodharan, Maximum power point tracking and grid feeding of permanent magnet synchronous generator based wind energy conversion system using modified hill climb searching algorithm, in Proc. of IEEE 5th India International Conference on Power Electronics (IICPE) , New Delhi, pp. 1-6, Dec 2012.
- ❖ K. V. Phani Kumar and S. S. Karthikeyan, A compact and high performance band-stop filter using open complementary split ring resonator, in the proceedings of NCC-2013, IIT Delhi, Delhi, 2013
- ❖ M.Arulvani, S. S. Karthikeyan and N. Neelima, Investigation of process variation on regisiter files in 65nm technology, in the proceedings of ICEVENT-2013, Tiruvannamalai, 2013
- Keynote speech on Computed Tomography in the national conference on VLSI and Image Processing, held on 19th March 2013 in Velammal Engineering college, Chennai
- Guest Lecture on Algorithm Design on 23rd Feb, 2013 in Apollo Engineering College, Chennai
- Dr.M. Sreekumar delivered a Lecture on Smart Materials and Actuators, on STTP organized
- by the Dept of Instrumentation and Control Engg., NIT Trichy, 15 June 2012.
- Lecture on Robotics and Smart Materials, Apollo Engg College, Chennai, 15 Sep 2012.
- Lecture on Role of Smart Actuators in the Design of Robots, 14 Jan 2013, One Week (14-18 Jan 2013) STTP on "Robotics: Mechanics, Control, Sensing, Vision, and Intelligence", organized by Dept of Mechanical Engineering, IIT Madras.
- Lecture on "Smart Materials" at SA Engineering College, Chennai, 24 Jan 2013.
- Dr M.D Selvaraj delivered a guest lecture on "Design on Wire and Aperture Antennas" at Agni College of Technology, Chennai, in December 2012.
- Guest lecture on "HIPERLAN & IEEE 802.11" at Agni College of Technology, Chennai, in March 2013.
- Invited talk titled "Cooperative Diversity" in the workshop on "Advances in wireless communications" at SSN Engineering College, Chennai, in March 2013.
- Keynote address titled "Wireless Communications: Research Perspective" at an International Conference on Communication and Signal Processing (ICCSP 2013), April 2013.
- Dr.S.Karthikeyan delivered guest lecture(s) on Microwave IC at AbdhurRehman University, Chennai

Invited Lectures

- Dr V. Masilamani delivered a Keynote speech on Image quality measures in the national conference on research trends in computer science held on 1st March 2013 in RMK Engineering college, Chennai

Novel Courses Introduced

- ✓ Quantum Mechanics
- ✓ Statistical Mechanics
- ✓ Nuclear Physics
- ✓ Advanced Geometric Modeling and CAD
- ✓ Wireless Communications
- ✓ Digital Image Processing
- ✓ Software based training for Graphic Arts Practice course
- ✓ RF and Microwave Circuit Design
- ✓ Signal Processing and RF Practice

Other Recognitions

- Dr M Sreekumar acted as the Publicity Chair-India, 2nd ASME/IEEE International Conf. on Reconfigurable Mechanisms and Robots, 9-11 July 2012, Tianjin, China
- Dr M Sreekumar served as Visiting Professor, EMARO (European Master on Advanced Robotics), University of Genova, Italy, in May 2012.

List of Funded Projects

Sl. No.	Principal Investigator	Project Title	Period (Yrs)	Amount
1	Dr. Raja B	Development of a Nanofluid Coolant for high heat flux devices with Mini-channel heat Exchanger.	3	Rs. 12,89,000
2	Dr. Arivazhagan A	5 axis STEP-NC (AP-238) Machining of Free Form / Irregular Contoured Surfaces	3	Rs. 13,80,000
3	Dr. Naveen Kumar	Design, development and characterization of all fiber interferometer for wavelength interleaving and temperature sensing applications	2	Rs. 16,92,000
4	Dr.S. Jayavel	Design, development and performance evaluation of enhanced air-cooling in electronic systems	2	Rs. 15,05,000
5	Dr. M.D. Selvaraj	Rural and Remote Ubiquitous Broadband Wireless Access	2	40000 UK Pounds

List of projects sanctioned by Institute Research Initiation grant

Sl. No.	Investigator	Project Title	Period (Yrs)	Amount
1	Dr. Raja B	Performance analysis and design modification of a freeze dryer: theoretical and experimental investigation	2	500000
2	Dr. Sreekumar. M	Design, development and control of SMA actuated miniature gripper	2	500000

RESEARCH AND LABORATORY INFRASTRUCTURE

Further to the transition to the permanent campus, the various disciplines of the institute have been seen a steady increase in the number of laboratories. The various laboratories housed in the Laboratory Complex are as follows: Human Computer Interaction Lab, Systems Programming Lab, Digital Prototyping Lab (DPL), Mechanical Sciences Lab, Power Electronics and Drives Lab, Circuits and Systems Lab, e-Design Lab, Waves and Electromagnetics Lab. A brief description about the focus areas of the laboratories mentioned above and students at work during the practice sessions follows:



(I) Human Computer Interaction Lab: Part of the Computer Engineering discipline, this laboratory is used to conduct practice courses namely Computational Engineering, Object Oriented Programming, Scripting Languages, Software Engineering. This laboratory is used to offer courses focussing on computer engineering topics that aid in the design and development of efficient and usable software. Human Computer Interaction focusses on techniques that enable the design of efficient, usable and learnable software. This laboratory houses 21 computer systems including high end DELL workstations and desktop systems. Institute Network infrastructure such as the ISDN equipment, Network Distribution Switches, Fire Wall, Redundant Wireless Access Controller and a FUJITSU Windows Server, IBM Debian Linux Server to

cater to the computing needs of the institute / practice courses. Recently the institute has procured a personalized super computing facility namely CUDA (Compute Unified Device Architecture) to run the advanced courses on computer architecture, advanced data structures / algorithms, data base management / knowledge engineering, image processing.



(I) The Systems Programming lab under the Computer Engineering discipline runs practice courses on Computer Organization & Microprocessors, Computer Architecture, VLSI Design, Data Structures & Algorithms, Operating Systems, Compiler Design, Computer Networks, Embedded Systems etc. The thrust area of this laboratory is the design and development of software systems that interact with the hardware. The laboratory houses hardware design & modeling softwares such as XILINX Integrated Simulated Environment (ISE), XILINX Embedded Development Kit (EDK), CADENCE Electronic Design Automation (EDA) complete suite. XILINX SPARTAN 3E kits, 8051/8086 microprocessor kits, interfacing kits, MSP 430 Embedded Systems kits. The laboratory houses 21 high end workstations running enterprise linux to support the various simulation softwares mentioned above. This laboratory also houses a powerful image processing workstation with Intel X5690 6 core 3.47 GHz processor, 32 GB and 500 GB Memory / Storage, NVIDIA Quadro 5000 2.5 GB Dualmonitor support. The system is used for the research project on computer aided semen analysis and shall be utilized for surveillance, computational intensive tasks.

(iii) Waves & Electromagnetics Lab



Experiments on various optical phenomena are done in the waves and electromagnetic laboratory. Interaction of the optical waves are studied by experiments on different types of interference and diffraction such as Fresnel bi-prism, laser grating etc. Propagation of wave through a wave guide is studied with several experiments on optical fiber.



There are experiments to study small oscillations and associated mechanical properties. Experiments on some electrical and magnetic properties of materials (such as dielectric, resistivity, magnetic susceptibility etc) are studied in the PHY106P course. Experiment on Lissajous figures are employed to know about the superposition of two electrical pulses. Some experiments are here on quantum mechanics which give an idea about the energy quantization and the particle nature of light.

(iv) The Mechanical Sciences Lab provides basic and advanced practice related to workshop science and manufacturing, thermal engineering, mechanics, metrology etc. Apart from practice in conventional machines for manufacturing such as manual lathe, drilling milling etc, the students are exposed to CNC lathe, milling etc. During the practice sessions the students are also exposed to CMM, 3D printers, high end roughness tester, digital microscope, hardness tester etc. Students practice various aspects of statics and dynamics using many



real time experiments. Presence of the Instron tensile testing machines, SMC pneumatics, robotic kits enhances the knowledge of the students in mechanics. Students gain knowledge in thermal engineering practice using many custom made test rigs. The various thermal equipments like heat exchangers, engines, Refrigeration, blowers, fans, heat sinks and other essential components in a fluid flow, are analyzed practically.

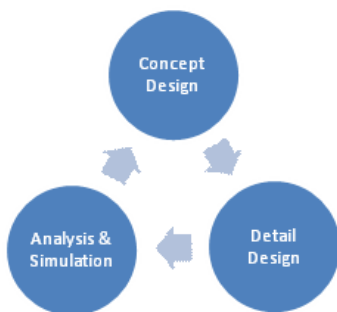


(v) **Digital Prototyping Laboratory:** The objective of Digital Prototyping Lab (DPL) is to provide all necessary facility and develop skills for seamless integration of distinct design phases namely concept design, detail design and analysis. DPL houses 45 no. of high-end workstations to support various drafting, modeling, and simulation software. In addition to



workstations, DPL has 20 Wacom Intuos® graphic tablet which will aid the designer for sketching the conceptual designs. The workstation is powered by Intel Core 2 Duo Processors and nvidiaQuadro FX 1700 graphics card. The existing configuration of workstations and graphic tablets in DPL provide sufficient infrastructure to conduct many UG and PG course broadly categorized as under. Courses on Graphics Art, Product Conceptualization and Visualization, Engineering Drawing, Machine Drawing, Simulations are offered in this laboratory.

DPL is equipped with Sketch Book Pro, Sketch Book Designer, Corel Draw, AutoCAD, Double CAD XT, Inventor, Pro Egeiner, Creo, Adams, MATLAB, Algor, ANSYS, MAYA, 3D Max software. Students sharpen their design skills and learnt practical application of simulation software in engineering design through the execution of mini projects. Till May 2012, 19 modeling mini projects, 46 kinematic & dynamic simulation projects, 51 Finite element analysis projects were performed by the students in DPL as a part of various course activity.



(vi) **Research Laboratory:** The institute houses a dedicated research lab that is common for students and scholars, which provides an uninterrupted access. The lab provides the facility and supports the research problems and innovative projects in basic and advanced engineering. Facilities like Universal



testing machines, hardness tester, Scanning electron microscope, microscope imager, Coordinate measuring machine, sputter coater are present. The students are permitted to log their usage in a ledger and use the machines. The lab also houses equipment related to funded projects. Using the grant-in-aid provided by the funding agencies, the faculties have brought in the facilities directly pertaining to their research area. Few to mention are Optical Spectrum analyzer, Splice machine, All fiber characterization facility, cold baths, flow boiling in mini channel facility, thermo-physical property facility, etc.



INSTITUTE LIBRARY

The institute library despite being an young one supports state of the art open source version of RFID software KOHA. The software aids in efficient



management of day to day transactions such as book issue, return, user account management and is robust over conventional database applications in the hardware integration via the software (RFID with software). The library also houses a large collection of engineering and allied areas titles such as Programming Languages, Machine Design, Electronic Circuits, Electrical Machines, etc. to name a few. The Library uses an automated (Library and Information Management) software KOHA with Integrated RFID Technology. All the registered users can access the Institute library anywhere within the campus



through LAN/WiFi. The Library has an excellent collection of books, printed journals, magazines, leading newspapers, e-Journals., and softcopy of NPTEL course materials and video contents. The Library maintains a separate collection of reference books. The Library follows the Machine Readable Catalogue (MARC 21) standard for cataloguing and **Universal Decimal Classification (UDC)** scheme for classification of Library documents.



Institute is one of the core members of Indian National Digital Library in Engineering Sciences and Technology (INDEST) consortium and has subscribed nearly 600 e-journals, conference proceedings, standards, viz IEL (IEEE & IEE) and Elsevier Science Direct Links. A detailed list of the volumes and titles available / supported by the institute library is given in Table 15.

Table 15 Library Title(s) Statistics

Resources	Numbers
<i>Total No of Books</i>	2908
Total No of books has been purchased last one year (01 st Apr 2012 to 30 th Mar 2013)	749
Journals/Magazines (print version)	27
News Papers	05
CD-ROM/DVDs	182
Theses and Dissertation	56
E-Journals - Subscribed through INDEST consortium (Elsevier science direct 175 + IEEE Xplore 415)	590
Gratis	21

INFRASTRUCTURE DEVELOPMENT

Permanent campus is under development and construction activities are undertaken in a phased manner with higher priority for academic and student residential zone buildings. The master plan comprises of the Administration Block, Lab Complex,



Lecture Hall Complex, Cafeteria, Guest House, Transit Hostel, Shopping Centre, Medical Inspection Room, Boys Hostel, Girls Hostel, Faculty and Staff Housing, Auditorium, Indoor Sports Complex with Swimming Pool, Outdoor play fields, water treatment plant, sewage treatment plant, substations, road, horticultural-works, etc. has been finalized. In total there will be 1, 42,000 m² built-up area in Phase-I construction activities. The construction works for the Administrative Block, and Boys and Girls Hostels are already in rapid progress and expected to be completed in a few months. Work related to building of lecture halls and laboratory complex has already started on ground and the foundation is in progress. The remaining works are in various stages of planning and are expected to be started on ground in the subsequent months.



The Administration Block houses the institute office, Director, Dean and Registrar offices. A senate hall equipped with the audio video facilities and backup power is also housed in the admin block. All the classrooms housed in the Lecture Hall Complex are equipped with projectors to facilitate both multimedia learning and conventional chalk and talk method. Projection facilities are so arranged that



they facilitate simultaneous use of both the black board and the projection equipment. Lecture Halls with different seating capacity in the range of 60 to 200 are accommodated in the Lecture Hall Complex.

Office, Faculty Rooms, Laboratories and Lecture Halls are powered via a centralized UPS line with backup generator supply. A Seminar Hall with a seating capacity of around 120 to conduct guest lectures, technical fests, etc. is housed in the amenities wing.



A shopping complex to cater to the day to day needs of the students such as stationeries, cafeteria, gymnasium and hobby workshop are accommodated in this wing. Institute's financial transactions are done with Indian Bank and an ATM has been commissioned at the entrance of the institute for the benefit of the IIITD&M fraternity and for the local population. Since the transition to the permanent



campus in 2011, infrastructure creation has been undertaken in a phased manner. The permanent campus houses academic and residential facilities to

meet the needs of the students and the scholars. Three hostels namely Ashoka, Lotus and Jasmine are functional and house approximately 500 students. First year students are currently provided shared accommodation and individual rooms are provided for senior batch students. Common rooms supporting television set, indoor games and reading area are also provided in each of the hostels. An institute mess handles the messing requirements of the hostel inmates. Given the sporting culture amongst the students of IIITD&M Kancheepuram, full fledged Basket Ball, Badminton courts, Football and Cricket grounds with Concrete pitch for net practice facilities are supported in the permanent campus.



The year under report saw the induction of a full time physical training instructor to train the students in various sporting disciplines. Two guest houses, Warden room(s) and Hostel Office are housed in the hostel block. Emergency medical needs of the students and employees community are handled by an Emergency Medical Aid centre while the institute has entered into a tie up with M/s. Chettinad Health Care, Kelambakkam which is a trusted name in health care services. An ambulance is available round the clock to address any emergency situation.

Academic, Administration and Student residential zone permanent constructions are in full swing and part of Phase I infrastructure is likely be handed over to the institute by the end of this calendar year. Infrastructure supporting administration offices, faculty rooms, class rooms, laboratories are included in this phase. With an increased intake of B.Tech, M.Des students from the academic year 2013



onwards, infrastructure under construction would cater to the needs of the students, staff and faculty members.

The permanent campus at IIITD&M Kancheepuram currently houses Ashoka, Banyan and Lotus Hostels to accommodate the Boys and Girls students respectively.

Construction activities encompassing the Administration, Academic and Hostel Zones are in full swing and it is expected to have the entire student strength accommodated in IIITD&M hostels in next few years. Banyan hostel presently can accommodate around 100, while the girls hostel currently accommodates 55 students. Both the hostels are equipped with Common Room (Reading / Recreation zone), Warden Room, Guest Room with AC and a large dining area of 345 sq.m with a seating capacity of around 100 are available in these hostels. Medical care needs of the inmates of the hostels are handled by the team from reputed medical college Hospital comprising of duty doctors and nurses. A separate Emergency Medical Care (EMC) unit is made available in the hostels. Two concrete badminton courts are made available in each of the hostels to cater to the sporting interests of the hostel inmates. Keeping in mind the extra-curricular, sports activities / interest of the students in mind, hostellers are also granted access to the Seminar Hall and other infrastructure in the campus after office hours for conduct of cultural / technical competitions.

ACKNOWLEDGEMENTS

At the outset I thank our Chairman, Board of Governors and other Members of the Board for sparing their time and effort and guiding us in the right direction. It is the Board's constructive suggestions and criticisms that have largely contributed to the growth of this institute. New areas of diversification for the institute and evolution of conventional technologies to suit the needs of the modern day society have been the motto of the institute and this is primarily due to the contribution of the Board members. I whole heartedly thank the Senate members comprising of faculty members of the institute, IIT Madras, IIT Guwahati, industry experts and other reputed institutes of national importance for their role in the shaping up of the academic programmes of the institute. The innovative programmes and novel courses on offer at the institute are a result of the deliberations and discussions by the Senate members. Members of the Faculty of IIT Madras and other IITs deserve special note of thanks for having extended their fullest cooperation in relation to academic matters and activities of the institute. The third batch of students would have passed out by the time this report is final and I am confident of the fact that our alma matter

shall establish themselves as a niche brand and meet the objective and vision of the Government of India in producing next generation technocrats equipped with IT and IT enabled design and manufacturing skills. I should extend my sincere and heartfelt thanks to the Central Public Works Department (CPWD) team incharge of IIITD&M Kancheepuram construction. I would also like to place on record my sincere thanks to the student, staff and faculty community of the institute. Last but not the least, I wish to thank all the contractors and their workers handling the security, catering, construction and housekeeping for their excellent service rendered during the initial formative phases at the permanent campus. Thank you All on Behalf of the Entire Institute. The year gone by has been a momentous one with various important activities / milestones and I am confident of the fact that we shall scale even greater heights in the years to come. Given that the initial scratch as far as the permanent campus development is concerned is done, I wish to address the following year with lot more achievements and events that would take forward the vision of the institute.

Jai Hind!

