ANNUAL REPORT
2016-17

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, DESIGN AND MANUFACTURING, KANCHEEPURAM

CONTENTS

Director's Message

I am honoured to share with you the phenomenal growth of IIITDM Kancheepuram since its modest beginnings in 2007. From a small student batch of thirty students, the institute has made phenomenal strides over the years in terms of raising infrastructure and IT enabled Design and Manufacturing focused education, pedagogy and research. The institute's permanent campus on the outskirts of Chennai has witnessed extraordinary growth since its operationalization in August 2011. During this brief period of five years, major infrastructure related to academic, research, administrative, student hostels and various other facilities have been constructed. The period under report witnessed the inauguration of a major section of the laboratory complex possessing laboratory spaces for all the streams and faculty offices. The institute has been structured in such a way to ensure the compliance of green norms in terms of infrastructure, and the first phase of solar rooftop power generation unit with a capacity of 50 kW has been connected to the grid and is smoothly functional. The complex is home to the Teaching Learning Centre, Design Innovation Centre, and faculty cabins, Library and various UG and PG Laboratories.

It gives me immense satisfaction to illustrate the fact that right from its initiation, the institute has been unfaltering in offering the innovative IT enabled Design and Manufacturing programmes in the core disciplines of computer, electronics and mechanical engineering. This five year also saw the revision of existing B.Tech curricula and Dual Degree programmes curricula with impetus on design and manufacturing solutions. Fresh design courses such as Intelligent Product Design, Concepts of Engineering Design, Design Realization, Design for Sociology, etc. instill the kind of design-oriented thinking essential for an engineering graduate in today's world. The institute has a dynamic interplay with industry counterparts whose suggestions are taken on board during the creation of new programme initiation/curricula evolution. A cutting-edge course called B.Tech Mechanical Smart Manufacturing programme is offered from 2016. The pioneering batch of this demand driven B. Tech programme has inducted 15% female students specializing in modern manufacturing sector. A PG course called Smart Manufacturing Programme has been structured to create a graduate talent pool in the area of Smart Manufacturing. Such Design and Manufacturing focused programmes will realize the glorious goals of the Make in India, Make for India and Startup India campaigns of the government. The programme under design has a perfect combination of advanced manufacturing and ICT courses needed to cater to the dynamic customer demands of the modern industry.

The Fourth Convocation of the institute was celebrated with great fanfare during the period reported. The institute awarded 132 degrees – 86 B.Tech and 42 M.Des and 4 Ph. D. IIITDM is also privileged to be part of the Special Project awarded by Japanese Ministry of Education, Culture, Sports, Science and Technology under "Reinventing Japan Project" to Nagaoka University of Technology to enable increased international interaction between India and Japan. To realize this scheme, two Japanese students visited the institute for a five month internship and a few of Ph.D research scholars of our institute visited Japan. One of our M.Des scholars has also pursued internship at HITACHI Japan (HIAS).

The institute is delighted to welcome eleven new faculty members across various disciplines in the reporting period. The new faculty members collectively possess decades of teaching and research experience in reputed academia or served in renowned industry/research organizations. The blend of expertise in academia and industry among the faculty helps the students to gain good understanding of basic principles/fundamentals and to apply the skills acquired for product design and development. Our young and dynamic faculty published their original research work in world-class journals and received grants for carrying out research work and setting up of Centres of Excellence.

I am also excited to state that the Institute played host to the first edition of the Inter IIIT Sports Meet during Dec 2016. The Institute's sports contingent has also distinguished themselves at the IIIT Sports Meet 2016 and in various sport fests conducted by Saveetha University, Hindustan University, and IIT Madras. The Social Service Group (SSG) and VIDHAI have organized various activities in and around the campus.

Finally, since I have had the pleasure and privilege of being associated with the institute right from its inception, it gives me enormous satisfaction to realize that we are actively putting into practice the mandate for which the institute was established. We are offering pioneering and state-of-the-art engineering programmes with enthusiastic acceptance from industry stakeholders, students, parents and the community as a whole. Given the sustained and conscientious efforts of the students, staff and faculty, I am confident that we shall continue to progress by leaps and bounds in the coming years to reach even greater heights in terms of academic and research success.

Prof R Gnanamoorthy

Director

I - General Information

Vision

To become a premier institution of excellence in Design and Manufacturing that would create and develop a new generation of engineers and technologists with the ability and mindset to lead Indian industries in globally competitive economic environment.

Mission

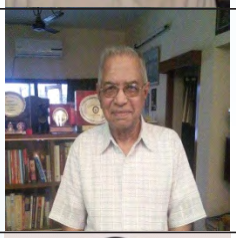
To be a world class apex centre of excellence in education, research, development and training in Design and Manufacturing.

Charter

- To provide education and training, at both undergraduate and postgraduate levels, to persons of outstanding abilities who would provide leadership to Indian industry in globally competitive economic environment.
- To carry out advanced research and development activities in design and manufacturing technologies, both on its own and on sponsorship basis for the industry.
- To provide distance learning and continuing education programmes for faculty / scholars from other institutions and industry personnel.
- To organize conferences, seminars, workshops and such other activities for the dissemination of knowledge to industry.

Institute Administration

Board of Governors

Title		Name	Affiliation
Chairman		Prof M S Ananth	Former Director IIT Madras
Members		Shri BS Raghavan	Former Advisor to UN, Author & Educationist Former Chief Secretary
		Shri T K Ramachandran	Secretary to Government Dept of Information Technology, Govt. of TN
		Smt Rina Sonowal Kouli	Director (ICR) Dept of Higher Education, MHRD, Govt. of India
		Prof Bhaskar Ramamurthi	Director IIT Madras
		Shri Sanjiv Mittal	Joint Secretary (HRD), Ministry of Electronics and Information Technology, Govt. of India
		Shri B Santhanam	President – Flat Glass, South Asia, Egypt, Managing Director, Saint Gobain Glass

Title		Name	Affiliation
Members		Shri Krishna GV Giri	Former Managing Director & Vice Chairman, Accenture
		Prof David Koilpillai	Dean (Planning) IIT Madras
		Prof S Narayanan	Emeritus Professor IIITDM Kancheepuram
Member & Secretary i/c		Prof R Gnanamoorthy	Director & Registrar i/c IIITDM Kancheepuram

Finance Committee

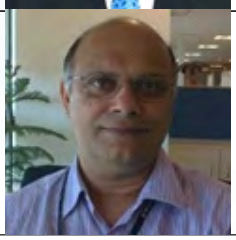
Title		Name	Affiliation
Chairman		Prof M S Ananth	Chairman, BoG
Members		Prof R Gnanamoorthy	Director, IIITDM Kancheepuram
		Dr S Murugiah	Former Principal Acct General, TN
		Smt Tripti Gurha	Director (IIITs), MHRD, GoI
		Shri Ashok Maheshwari	Director (Finance), MHRD, GoI
		Prof S Narayanan	Emeritus Professor IIITDM Kancheepuram
Secretary		Mr A Chidambaram	Deputy Registrar (Accounts), IIITDM Kancheepuram

Building and Works Committee

Title		Name	Affiliation
Chairman		Prof R Gnanamoorthy	Director, IIITDM Kancheepuram
Members		Prof S Narayanan	Emeritus Professor, IIITDM Kancheepuram
		Prof P Alagusundar moorthy	Professor, Dept of Civil Engineering, IIT Madras
		Shri K Muthu	Supt Engineer, TNEB- TANGEDCO Chengai
		Shri R Arumugam	Supt Engineer, IIT Madras
Secretary		Shri A Manickavasagam	Consultant Engineer (Civil), IIITDM Kancheepuram

Senate

Title		Name	Affiliation
Chairman		Prof R Gnanamoorthy	Director, IIITDM Kancheepuram
Members		Prof P Chandramouli	Professor, Dept of Mech Engg, IIT Madras
		Prof V Jagadeesh Kumar	Professor, Dept of Electrical Engg, IIT Madras
		Prof Krishnamoorthy Sivalingam	Professor, Dept of Computer Engg, IIT Madras
		Dr V Masilamani	Asst Professor, Computer Sci & Engg, IIITDM Kancheepuram
		Dr P Damodharan	Asst Professor, Electronics Engg, IIITDM Kancheepuram

Title		Name	Affiliation
Members		Dr B Shahul Hamid Khan	Asst Professor, Mechanical Engg, IIITDM Kancheepuram
		Dr M Sathya Prasad	M/s Ashok Leyland, Chennai
		Dr G Venkatesh	M/s Sasken Communication Tech Ltd
		Dr Anand Lakshmanan	M/s Ericsson India Global Services

Institute Administration

	Prof R Gnanamoorthy Director
	Dr S Rajasekara Pandian Dean (Planning)
	Dr Sudir Varadharajan Dean (Design, Innovation and Incubation)
	Dr Sivaselvan B Associate Dean (Students)
	Dr Tapas Sil Associate Dean (Academics)

Co-Oridnators for the Academic Year 2016 -17

PORTFOLIO	COORDINATOR	CO-COORDINATOR
Academics	Dr Tapas Sil	Dr Vijayakumar S, Dr Timmaraju, Dr Satya Sekhar, Dr Bingi
Anti Ragging and Student Body	Dr Masilamani V	Dr Jayavel , Dr Eswaramoorthy
Cultural Activities	Dr Karthikeyan S S	Dr Priyanka Kokil, Dr Malathi
Design Innovation Centre	Dr Naveenkumar Vats	Dr S R Pandian
Designers Club	Dr S R Pandian	Dr Naveenkumar Vats
Disciplinary Committee (Hostel)	Prof Ganesan (Chairman)	Members: Dr Sadagopan, Dr Jayavel, Dr Umarani, Dr Malathi
Disciplinary Committee (Academics)	Prof Ganesan (Chairman)	Members: Dr Eswaramoorthy , Dr Sreekumar, Dr Malathi, Dr. Selvajothi
Guidance and Counseling	Dr Jayabal K	Dr Swathi, Dr Raghunathan
Institute Mail Administration	Dr Nargis	Dr Srinivasa Rao
Library	Dr Selvaraj M D	Dr Damodaran, Dr Eswaramoorthy
Networking	Dr Noor Mahammad Sk	Dr Masilamani V
New Letter (Margdarshan)	Dr Premkumar K	Dr Divya
Placements Co-ordinator	Dr Senthilkumaran K	Dr Karthick
Research Co-ordinator	Dr Premkumar K	Dr Shalu MA
Scholarship/Weaker Section / Hindi Section	Dr Naveen Kumar Vats	Dr Damodaran P, Dr Sreenivasa Rao
Social Service Group	Dr Raja B	Dr Timmaraju VM
Sports	Dr Sivaselvan B	Dr A Sunilkumar
Stores and Purchase (Chairman)	Dr Shahul Hamid Khan B	Members: Dr Vijayakumar S, Dr Pandithevan P
TBI Centre & Industry Interaction	Dr Sudhir	Dr Vijayarangan
Warden	Dr Noor Mahammad Sk, Dr Sadagopan N, Dr Umarani, Dr Malathi	
Web Page	Dr Senthilkumaran K	Dr Swathi T G
Woman welfare	Dr Umarani	Dr Binsu J. Kailath

Administrative Staff

Shri A Chidambaram
Joint Registrar

Shri R Gunasekaran
DR (Administration)

Shri A Manickavasagam
Consulting Engineer

Shri G Ravi Kumar
Assistant Registrar

Shri P N Srinivasan
Manager

Shri K Chandrasekaran
Internal Audit Officer

Shri M V R Seshagiri
Corp Relation Officer

Shri Y Tejovadan
Junior Superintendent

Shri S Saravanan
Junior Superintendent

Smt S Rajalakshmi
Junior Superintendent

Kum G Subashini
Junior Superintendent

Shri S Pandiyan
Junior Engineer (Civil)

Shri Ramkumar R
Junior Engineer

Shri P Alaguraj
Physical Training Instructor

Shri G Perumal
Senior Lib Info Asst

Shri R Parthasarathy
Junior Accountant

Shri S Karthikeyan
Junior Assistant

Shri G Venkatesh
Junior Assistant

Smt P Kavitha
Junior Assistant

Shri K Dinesh Kumar
Junior Assistant

Shri R Balaji
Junior Attendant

Shri A VijayaBharathi
Junior Attendant

Technical Staff

Shri. C. Gurunathan
Technical Officer

Shri. P. M. Sriram Bhaskar
Jr. Tech. Suptd.

Shri. K. Saravana Kumar
Jr. Tech. Suptd.

Shri. A. Vigneshwaran
Jr. Tech. Suptd.

Smt. K. Manimegalai
Junior Technician

Shri. G. Manigandan
Junior Technician

Shri. M. Ashwinraj
JuniorTechnician

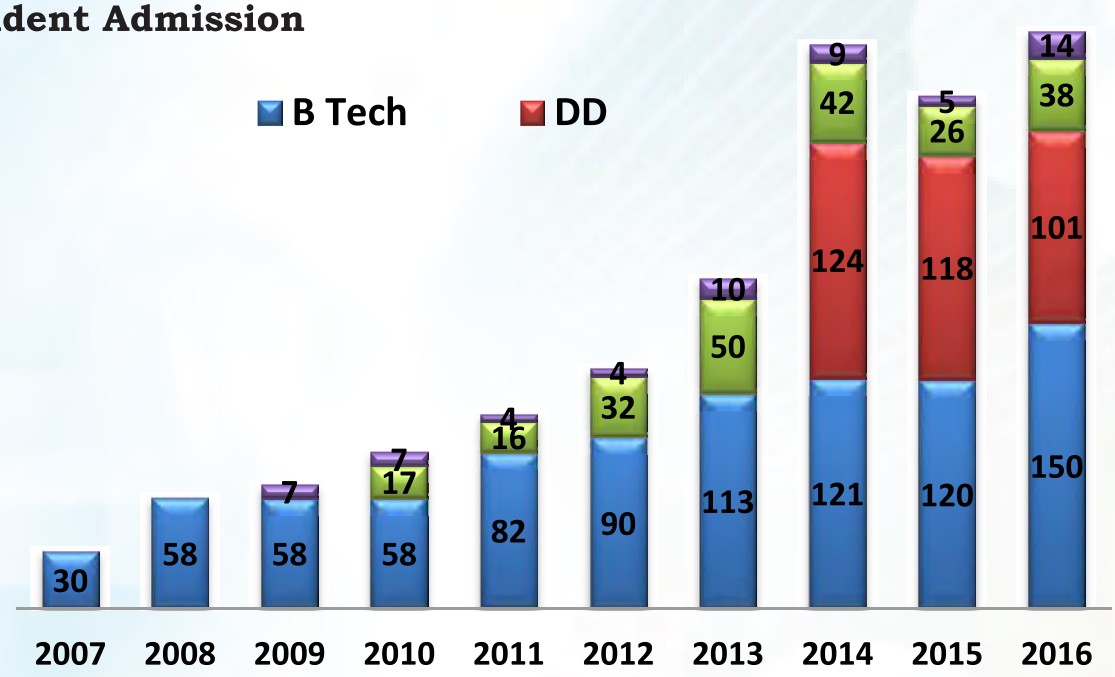
Kum. P. Pavithra
Junior Technician

Shri. R. Dharmarasu
Junior Technician

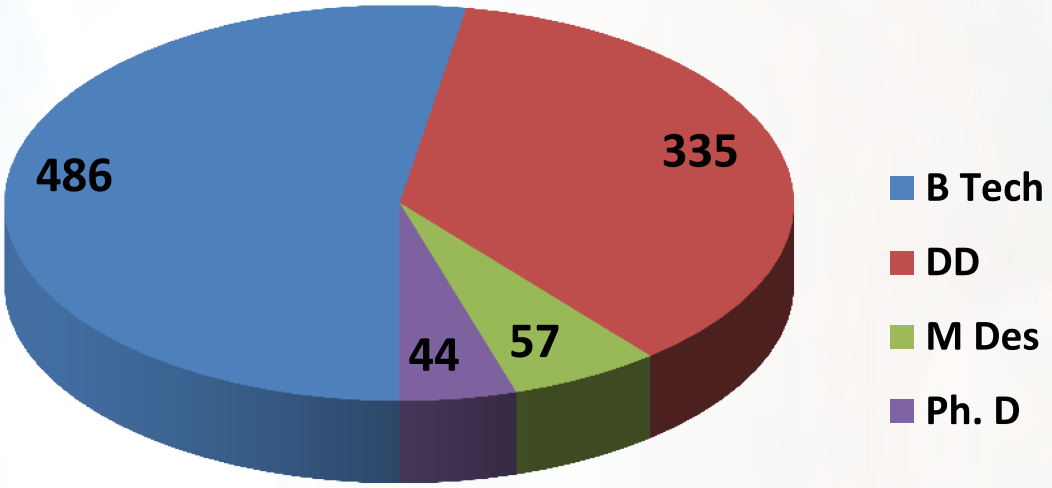
Shri. K. Kanagaram
Junior Technician

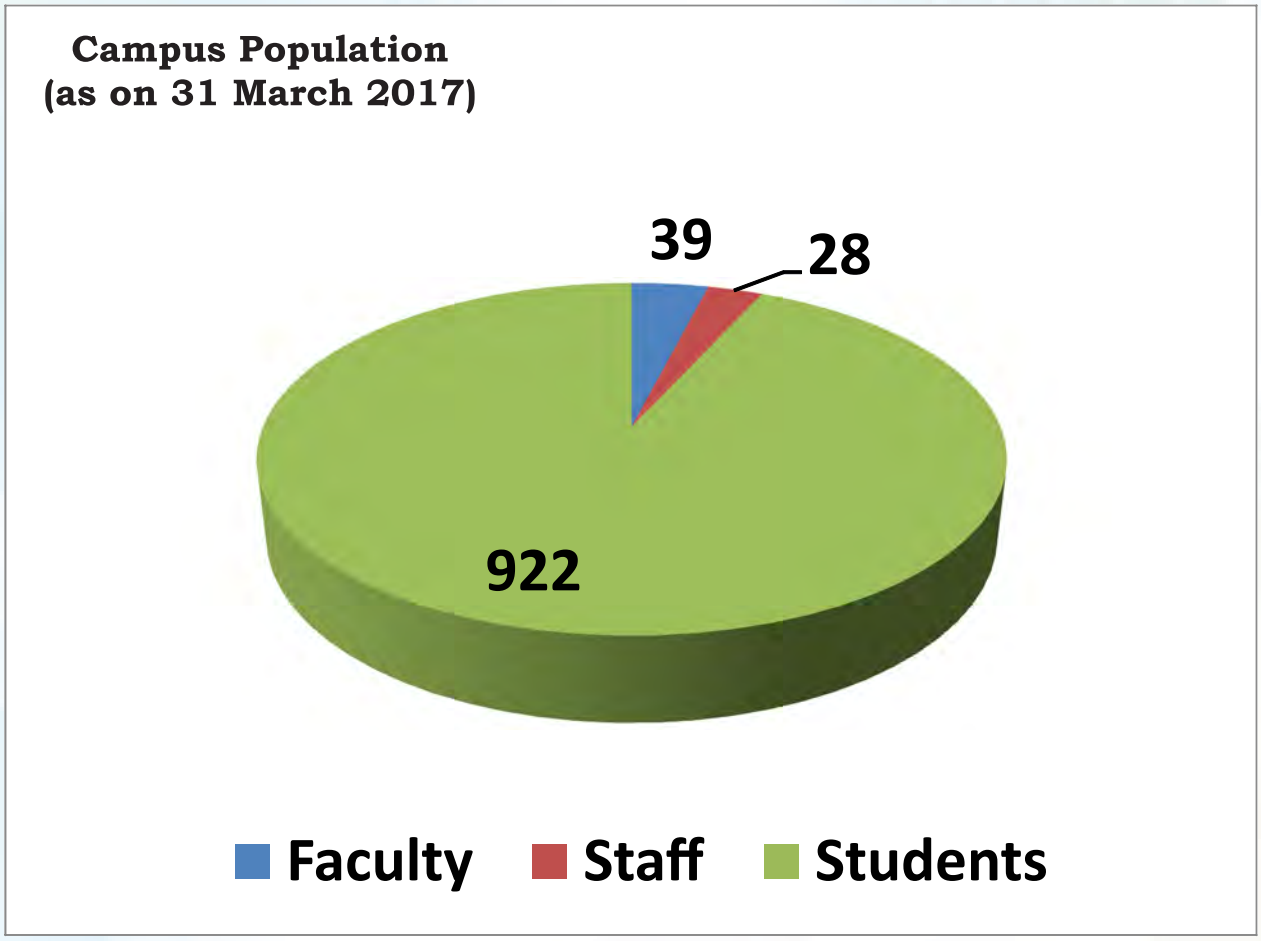
Campus Demography

Student Admission



Student Strength
(as on 31st March 2017)

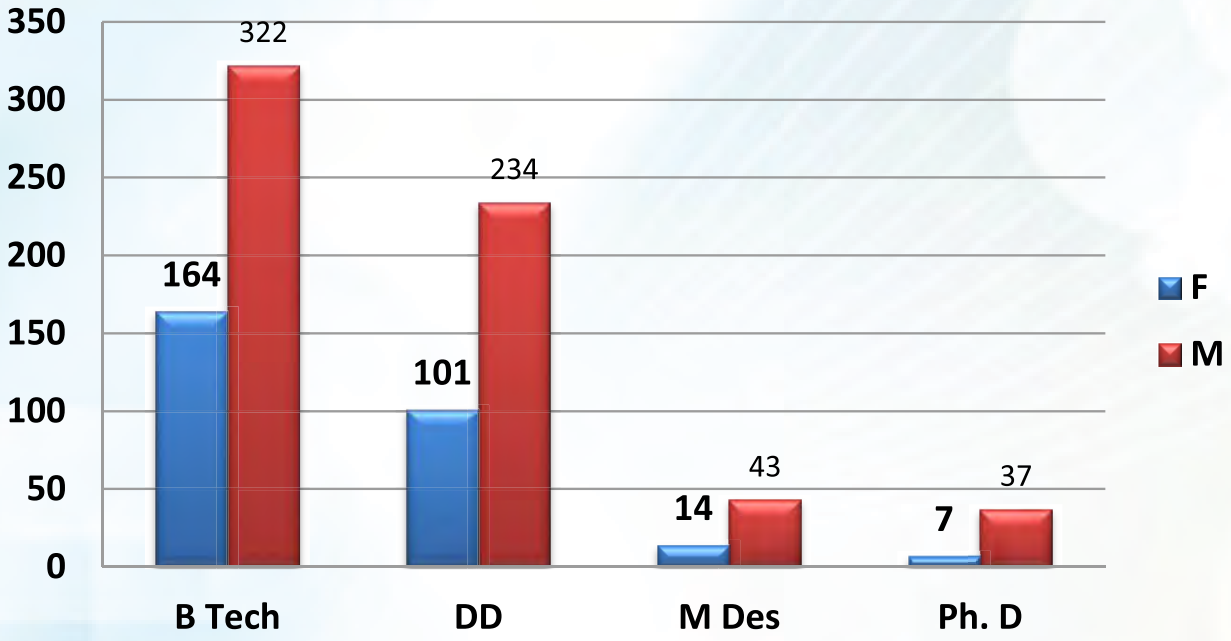




Category wise Distribution (as on 31 March 2017)

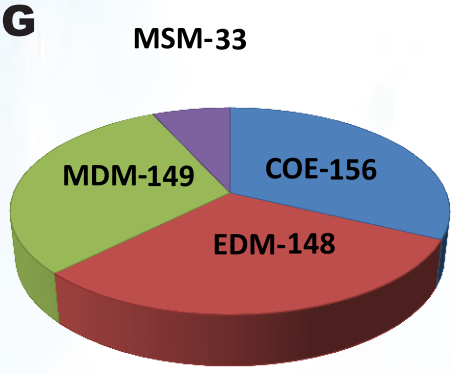
CATEGORY	B. Tech	Dual Degree	M. Des	Ph. D	Total
OP	233	151	31	22	437
OP-PH	7	5	-	-	12
OB	132	88	18	16	254
OB-PH	3	1	-	-	4
SC	68	49	7	6	130
SC-PH	-	-	-	-	-
ST	37	26	1	-	64
ST-PH	-	-	-	-	-
DASA	5	16	-	-	21
Total	**485**	**336**	**57**	**44**	**922**

Students Data - Gender Wise

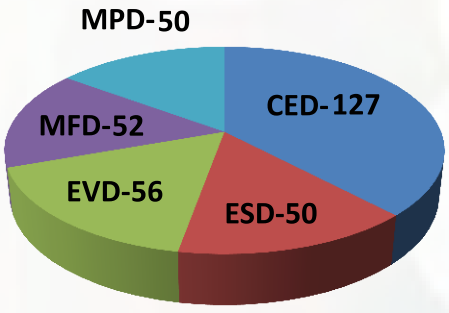


Specialization Wise Student Distribution

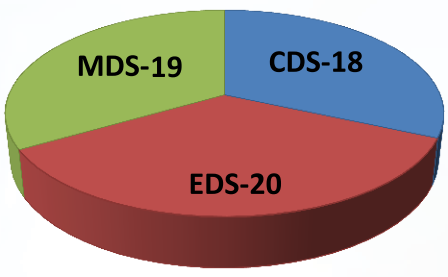
UG



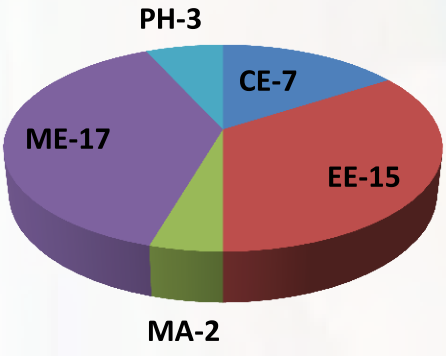
DD



PG

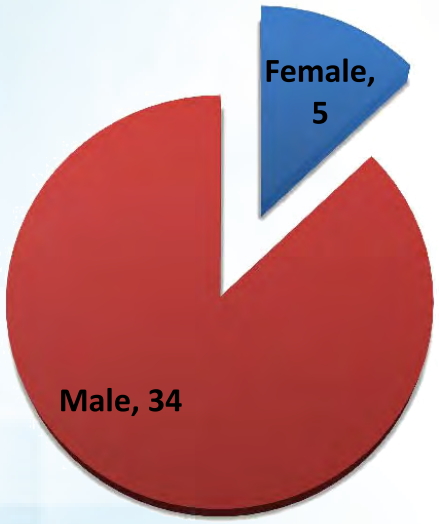


Ph D

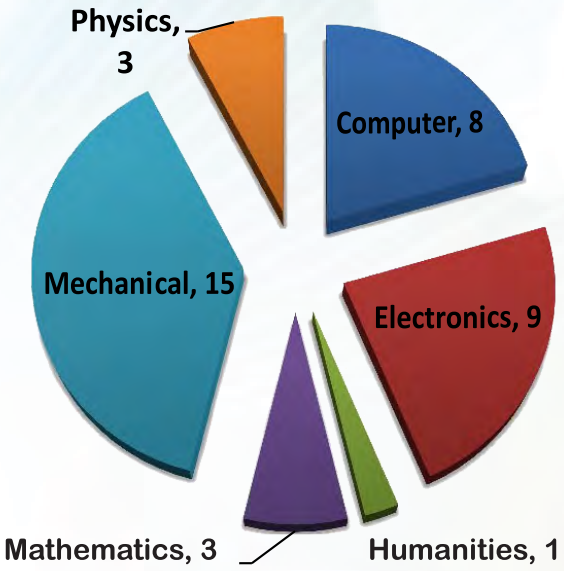


Faculty Information

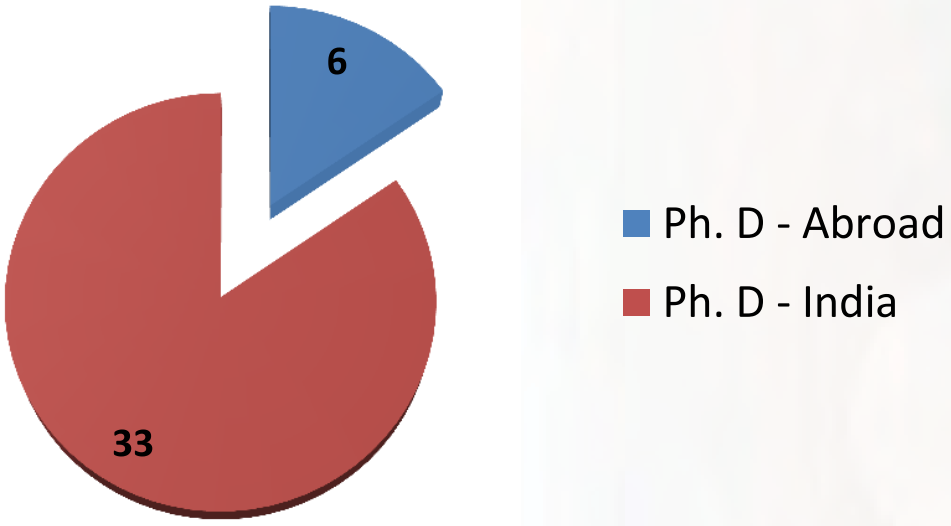
Gender Wise Distribution of Faculty



Department Wise Distribution of Faculty



Doctoral of Faculty

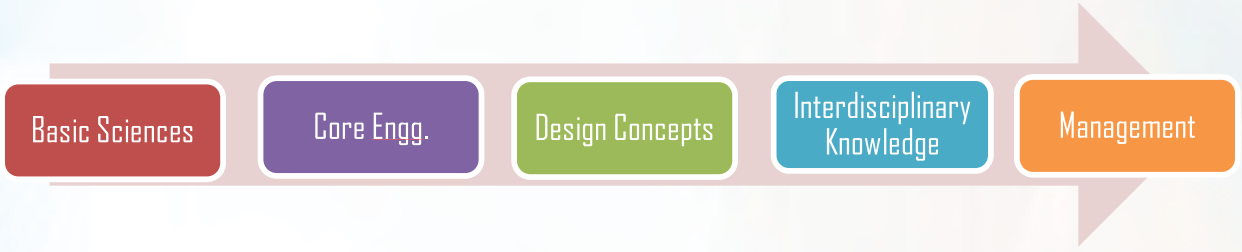


II ACADEMICS

Design-Centric Academic Programme

At IIITDM Kancheepuram the academic programmes were crafted after a series of brainstorming sessions with industry experts and renowned academicians from different regions and expertise in various fields to bridge the gap between the academia and industry. In these modern times, many young engineers graduating from educational institutions possess fundamental knowledge but find it difficult to apply their knowledge to solve real-world problems. The innovative design centric academic programme introduced at IIITDM Kancheepuram has courses in design and management that will help them to be more innovative and industry ready. Programmes focusing on Design and Manufacturing are the preferred choice by individuals who wish to fulfil the role of a design and manufacturing engineer. Design, Manufacturing, and Product Development are an integral part of each programme in the institute, and they satisfy two key criteria: they have significant societal impacts, and they offer important intellectual challenges:

- Societal impact - Engineering's primary value to society is its ability to deliver products and solutions that improve quality of life. Their benefits may include enhanced comfort, safety, convenience, cost-effectiveness, usability, functionality, and marketability. The curriculum is enriched with courses which are a blend of management and environmental science, etc. In addition, students have to design and develop a product/prototype as a part of their course.
- Intellectual challenges – For any product to be competitive technically, it must incorporate appropriate new technologies and be refined using leading-edge modelling, simulation, and experimental methods. The curriculum imparts strong fundamental knowledge in basic sciences and engineering to the students so that the students can tackle complex design problems.



Academic Programmes Offered

The motto of the institute is "Learning by Doing". It is put into practice in IIITDM Kancheepuram in terms of its teaching. The institute gives significant amount of emphasis for practice courses and theory concepts are explored along with the relevant laboratory course. All the programs are highly interdisciplinary and students are free to choose their specializations. The institute also follows its vision of developing engineers with design and manufacturing skills.

BTech

- Computer Engineering (COE)
- Electronics and Communication Engineering (Design & Manufacturing) (EDM)
- Mechanical Engineering (Design & Manufacturing) (MDM)
- Mechanical-Smart Manufacturing (MSM)

Dual Degree (B Tech + M Tech)

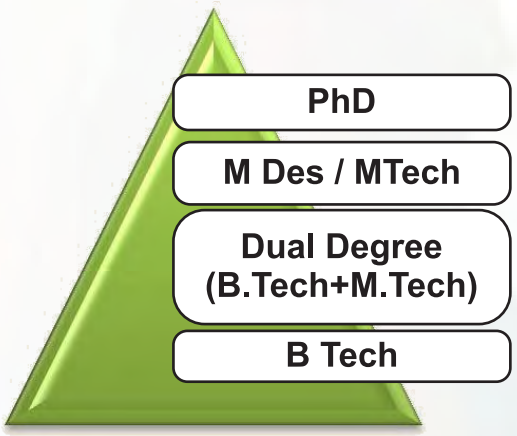
- Computer Engineering (CED)
- Electronics and Communication Engineering (Design & Manufacturing) + Signal Processing & Communication System Design (ESD)
- Electronics and Communication Engineering(Design & Manufacturing) + VLSI and Electronic System Design (EVD)
- Mechanical Engineering (Design & Manufacturing) + Product Design (MPD)
- Mechanical Engineering (Design & Manufacturing) + Advanced Manufacturing (MFD)

MDes

- Communication Systems (CDS)
- Electronic systems (EDS)
- Mechanical Systems (MDS)

PhD

Basic Science & Engineering



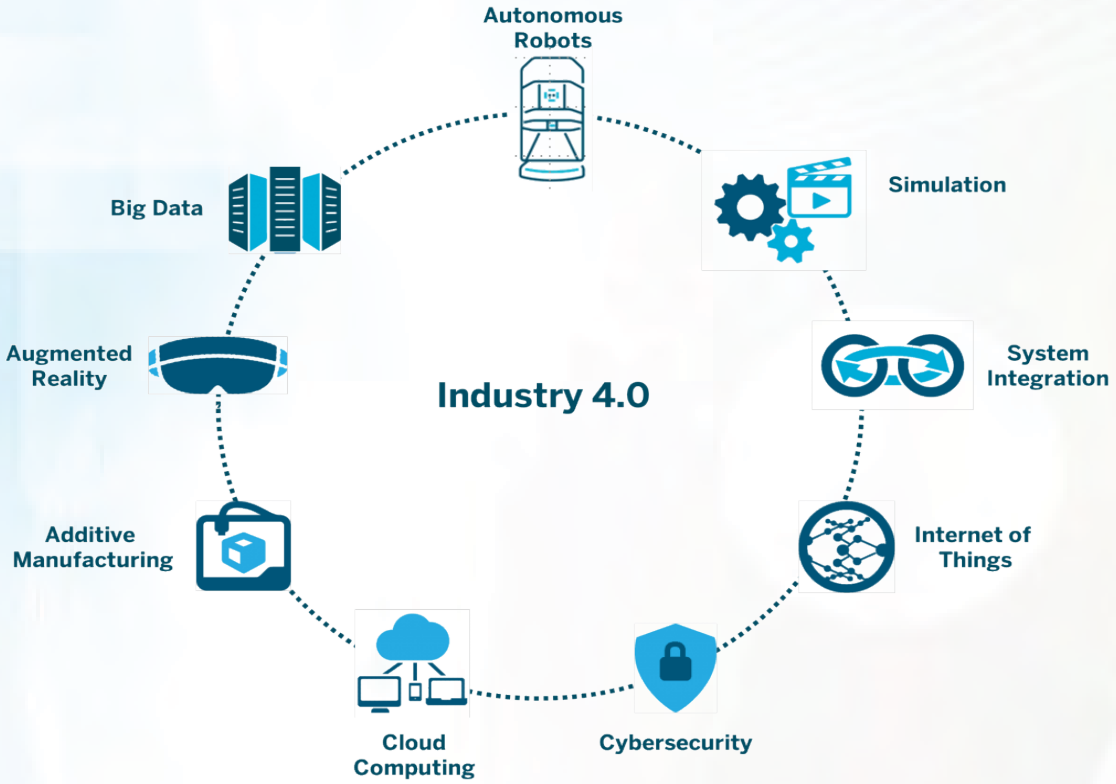
Academic Milestones

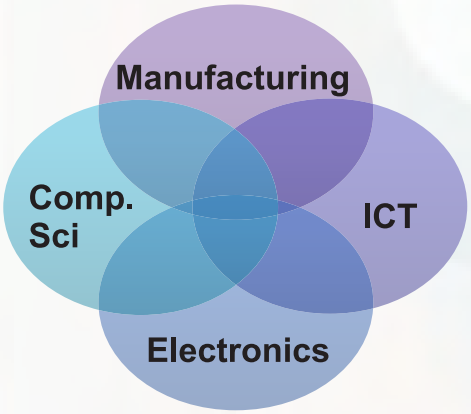
New manufacturing oriented academic programs introduced in 2016

B. Tech
- Mechanical – Smart Manufacturing

M. Tech
- Smart Manufacturing

To meet the demands of industry 4.0





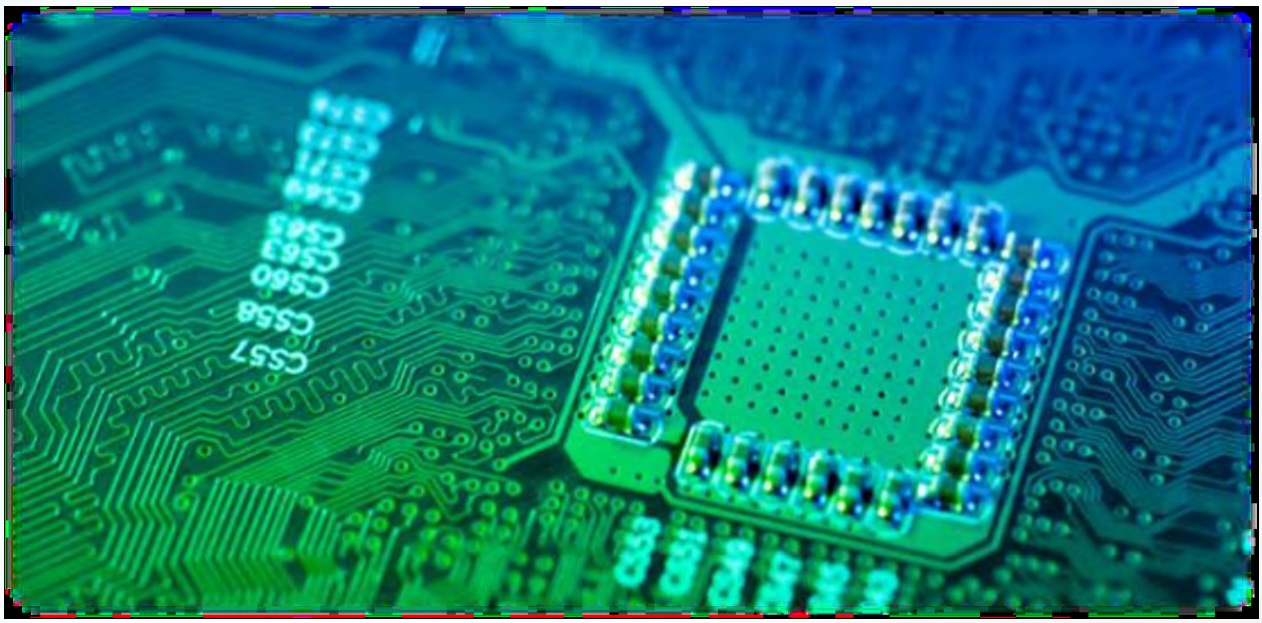
Fee Structure

S.No	Particulars	Semester Fee Amount		
		B.Tech	M Des	Ph.D.
I. Institute Fees				
A. One time Fees:				
1	Admission Fee	200	200	200
2	Certificate/Thesis Fee	400	400	1500
3	Student welfare fund	500	500	500
4	Infrastructure Development Fee	600	600	600
5	Alumni Life Membership Fee	500	500	500
6	Publication Fee / Library Fee	300	300	300
	Total (A)	**2500**	**2500**	**3600**
B. Semester Fees:				
1	Tuition fee	44000	20000	17000
2	Examination fee	500	500	500
3	Registration	300	500	500
4	Sports Fee	1000	1000	1000
5	Medical Fee	1000	1000	1000
6	Student Amenities	2000	2000	3000
	Total (B)	**48800**	**25000**	**23000**
C. Deposits (Refundable):				
1	Institute &Library Deposit	2500	2500	2500
	Total (C)	**2500**	**2500**	**2500**
D. Medical Insurance Premium (per annum)				
1	Medical Insurance premium p.a.	575	575	575
	Total (D)	**575**	**575**	**575**
	Grand Total [A+B+C+D]	**54375**	**30575**	**29675**
II. Hostel Fees				
A. Deposits (Refundable)				
1	Hostel Deposit (NS)	2000	2000	2000
	Total (A)	**2000**	**2000**	**2000**
B. Hostel Fees & Mess Charges per semester				
1	Hostel Admission fee	200	200	200
2	Hostel Seat Rent	1500	1500	1500
3	Hostel Maintenance Charges	6500	6500	6500
4	Advance dining charges	14000	14000	14000
5	Establishment B Charges	500	500	500
	Total (B)	**22700**	**22700**	**22700**
Grand Total (A+B)		**24700**	**24700**	**24700**

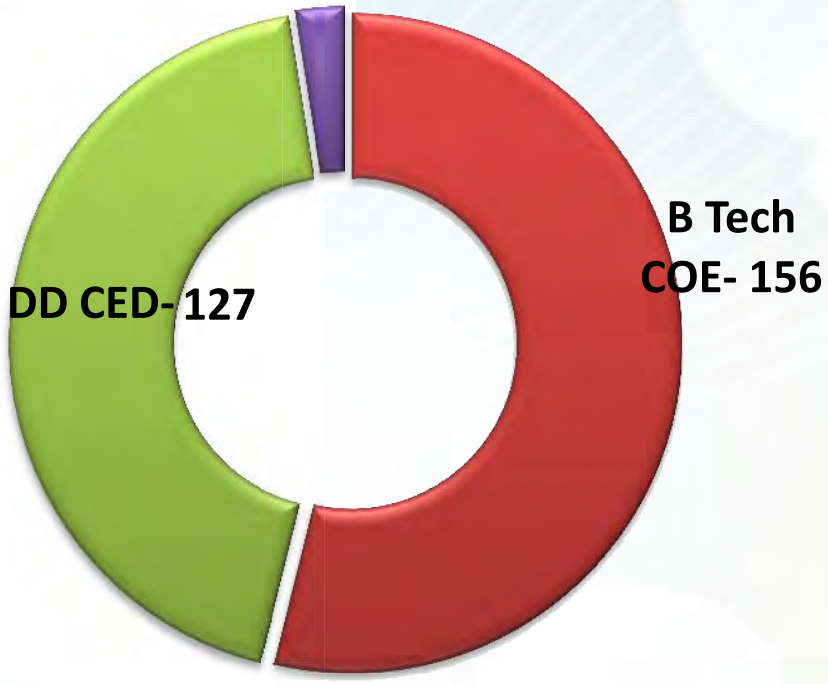
Academic Streams
Computer Engineering

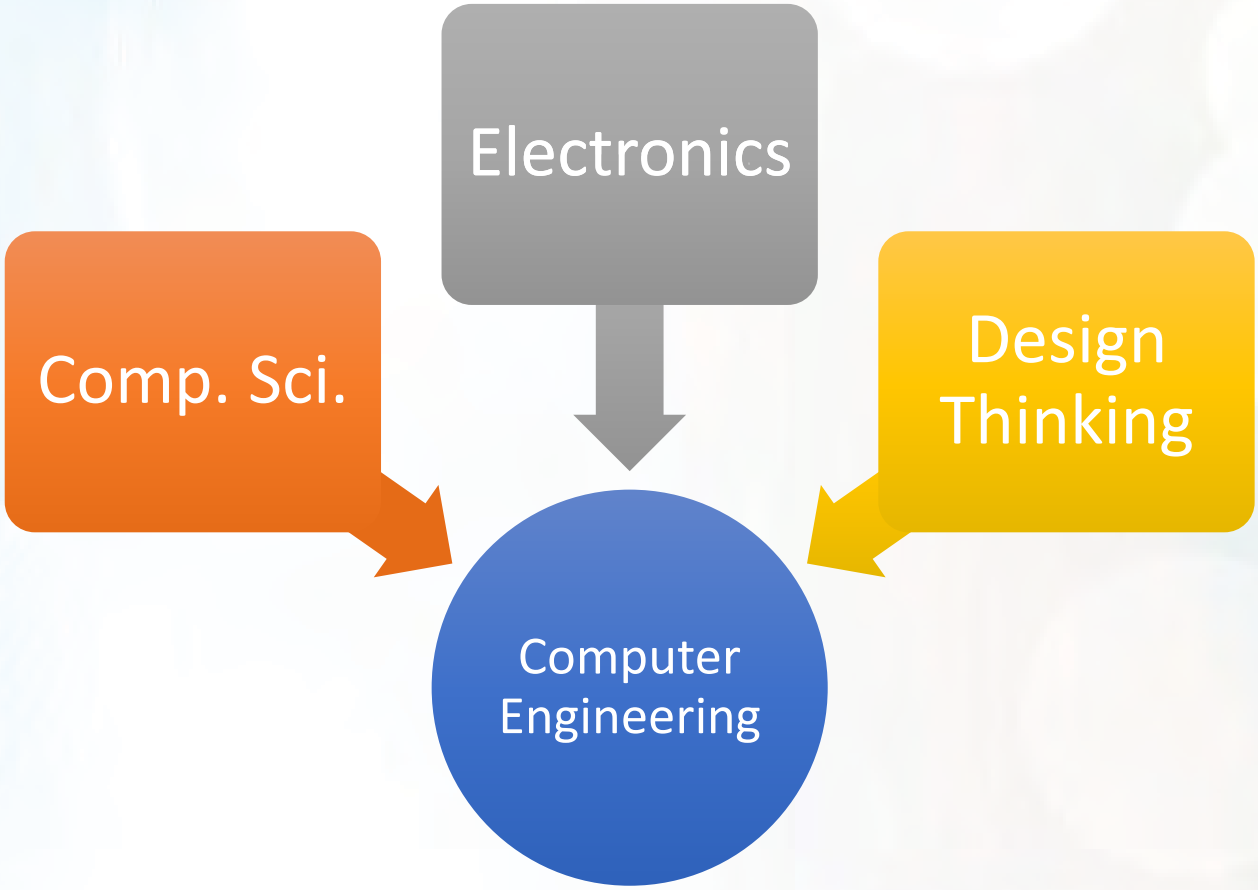
The first of its kind engineering program offered in India with a right blend of courses from computer and electronics streams, the B.Tech and Dual Degree Computer Engineering curriculum at IIITDM Kancheepuram is modelled on the ACM (Association for Computing Machinery) recommendations. This program is aimed at producing engineers equipped with skills required for efficient hardware-software interaction. In addition to courses offered by the conventional Computer Science curriculum, this novel program offers core courses such as Embedded Systems, Human Computer Interaction, Simulation & Modelling. Signals & Systems, Product Design etc., that equip the students with both computing and electronics engineering skills are very much required for the successful creation of products requiring hardware-software interactions.

B Tech (4 Years)	• Computer Engineering
Dual Degree (5Years)	• B.Tech - Computer Engineering + M.Tech - Computer Engineering



STUDENT STRENGTH - CE





Computer Engineering Faculty

	**Masilamani V.** PhD (IIT Madras) **Research Interests:** Image Processing, Computer Vision, Data Structures and Algorithms		**Sadagopan N.** PhD (IIT Madras) **Research Interests:** Graph Theory and Combinatorics, Data Structures and Algorithms, Computer Networks, Database Systems
	**Noor Mahammad S. K.** PhD (IIT Madras) **Research Interests:** Software for VLSI Design, Evolvable Hardware, Open Flow Networks, Network-on-Chip (NoC)		**Sivaselvan B.** PhD (NIT Trichy) **Research Interests:** Knowledge and Data Engineering, Usability Engineering, Human Computer Interaction
	**Suresh Varadarajan** Ph.D(Marquette University) **Research Interests:** Industrial Internet of things (IIoT) Supply Chain Planning and Optimization Information systems for Manufacturing		**Swathi T Gurumani** Ph.D (Univof Alabama in Huntsville, USA) **Research Interests:** Reconfigurable Computing hardware/software co-design high-level synthesis
	**Umarani J.** PhD (IIT Kanpur) **Research Interests:** Biometrics, Pattern Recognition, Computer Vision and Digital Image Processing		**Shankar Raman M J** PhD (IIT Madras) **Research Interests:** Computer networks, network security

Research Scholars	Topic of Research
Ayesha SK	Hardware Implementation of Image Security Algorithms
Manikandan V.M	Digital Image Security Through Watermarking
Oswald C	Frequent Pattern Mining(FPM) perspective of Data Compression
Renjith P.	Hamiltonian Problem and Generalization
Shanmugakumar M	Programmable Network System Design For High Speed Packet Classification
Veeramani S	High Speed IP Lookup For Software Defined Networks
Vegesna S.M. Srinivasavarma	High Performance VLSI Architectures and Algorithms for Multimatch Packet Classification for Network Intrusion Detection Systems

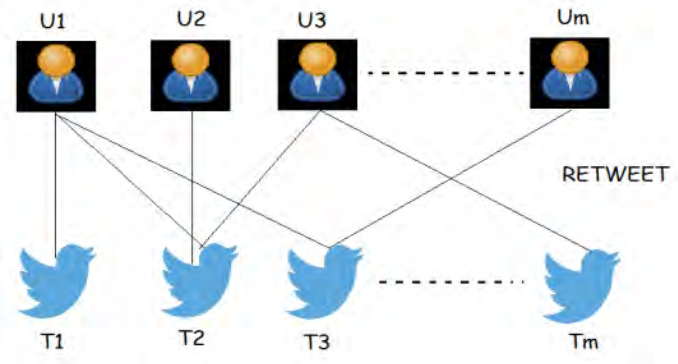
Practical courses

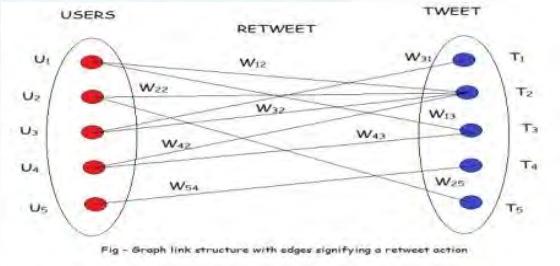
- Digital and Analog Circuits Design
- Object Oriented Algorithm Design and Analysis
- Database Systems
- Computer Organization and Design
- Computer Networking
- Operating Systems
- VLSI System Design
- Computer Architecture
- Embedded Systems
- Data Structures and Algorithms

PUBLICATIONS

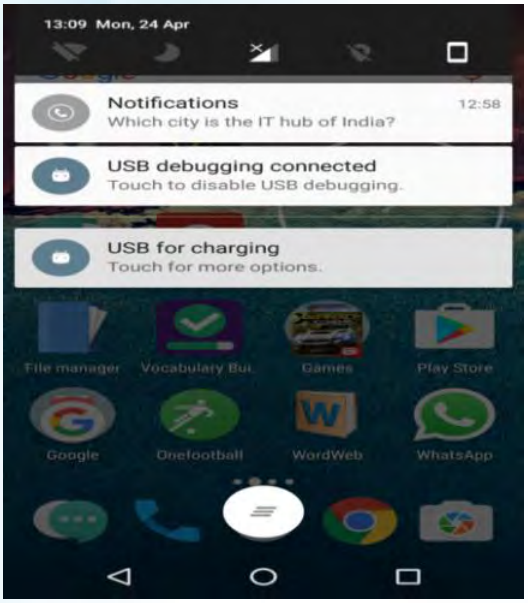
Some Ongoing Projects (COE)

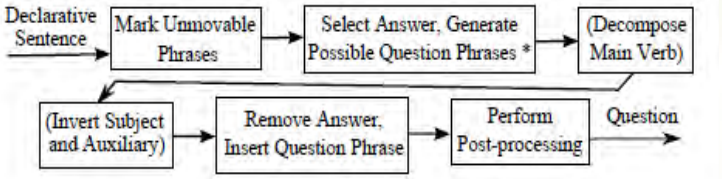
Novel ranking approach for tweets - based on Bipartite graph modeling of user tweet data Pagerank & other algos for conventional web pages



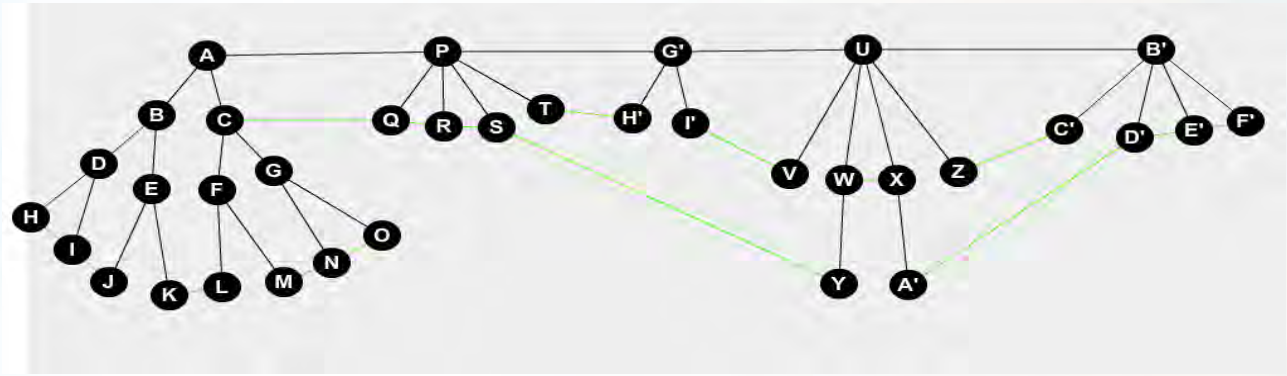


Mobile App Design based on Gamification principles in HCI
Focus domain of Recommender Systems – Collaborative filtering approach
Automatic Question Generator – Increased usability for all users





Steiner tree and path in threshold graphs
~ structural and algorithmic results



Electronics and Communication Engineering Stream

In today's competitive scenario electronic product design and development requires the skillful blend of expert hardware and software engineering knowledge with a spirit of creativity and innovation, tempered by the practical concerns of manufacturability, cost consciousness and reliability. The Undergraduate (B.Tech), Dual Degree (B.Tech + M. Tech) and Postgraduate (M.Des) programs offered are designed to provide advanced theoretical and practical knowledge on all aspects relevant to design, development and production of modern electronic systems. The innovative programs offered supplement the conventional core curriculum courses with specialized design courses required for practicing designers both from product design and domain areas.

B Tech

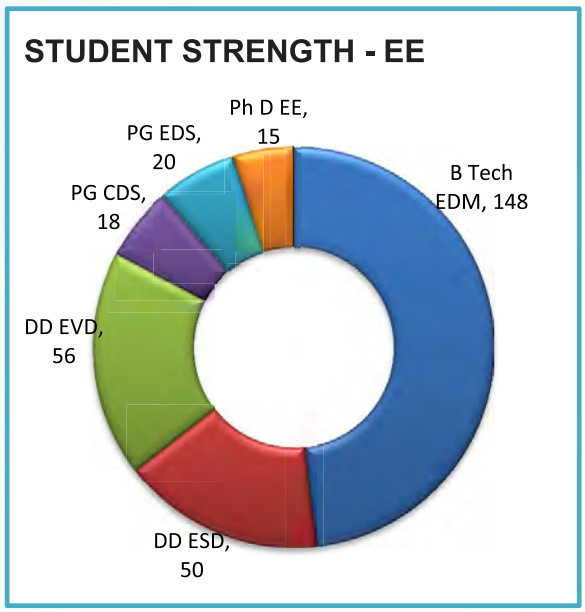
- Electronics Engineering and Communication Engineering (Design and Manufacturing) (EDM)

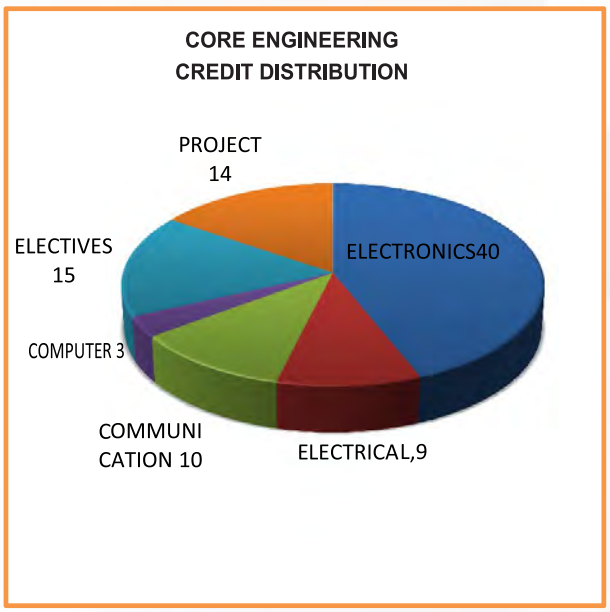
Dual Degree

- EDM + VLSI & Electronic System Design (EVD)
- EDM + Signal Processing & Comm. System Design (ESD)

M Des

- Communication System Design (CDS)
- Electronics System Design (EDS)





Electronics and Communication Engineering Stream

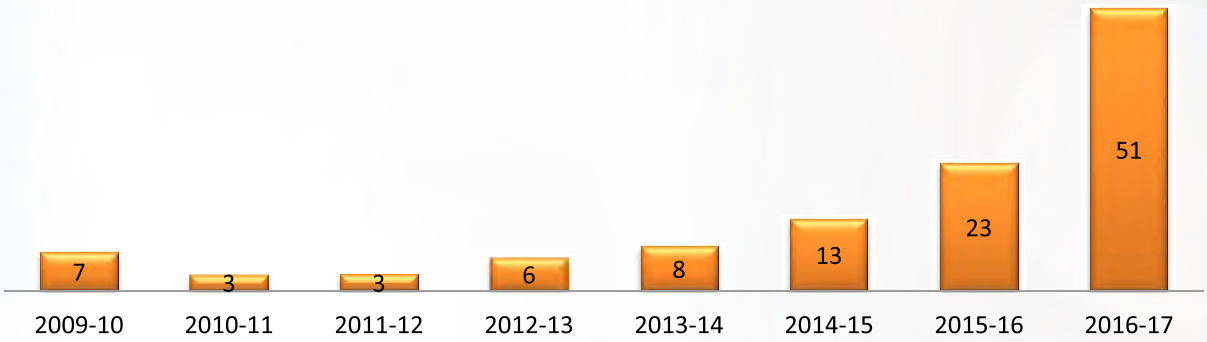
	**Binsu J. Kailath** PhD (IIT Madras) **Research Interests:** VLSI Design, MOS Device Modeling and Technology, MEMS		**Priyanka Kokil** PhD (NIT Allahabad) **Research Interests:** Nonlinear System, Delayed System, Multidimensional System
	**Damodharan P.** PhD (IIT Madras) **Research Interests:** Power Electronics and Drives, Permanent Magnet Brushless DC and AC Drives		**Selvajyothi K.** PhD (IIT Madras) **Research Interests:** Power Electronics, Drives and Control, DSP Realization of Control Algorithms in Power Electronics, FPGA/DSP Hardware
	**Karthikeyan S. S.** PhD (IIT Guwahati) **Research Interests:** Microwave Passive Devices, Microstrip Antennas, Metamaterials		**Selvaraj M. D.** PhD (IIT Delhi) **Research Interests:** Wireless Communications, Cooperative Diversity, Mobile Communications
	**Premkumar K.** PhD (IISc Bangalore) **Research Interests:** Scheduling in Networks, Social Networks, Cognitive Radio, Internet of Things, Big Data Analytics		**S. R. Pandian** PhD (IIT Delhi) **Research Interests:** Autonomous Underwater Robots, Robot Design, Electromechanical Systems
	**Jegannathan S** Ph.D (IIT Madras) **Research Interests:** RF & Microwave Engineering, Electromagnetic fields and waves, Circuits, Signals and Networks		

Research Scholar	Topic of Research
AnanthA	Cooperative Perspective of Spatial Modulation
ArunK	Estimation and Control of Grid Parameters under Harmonically Distorted Environment
Chandu D S	Design And Development of Ultra wideband Microstrip Antenn as
DineshG	Switched Capacitor based Sigma Delta ADC Design
Dony J Muttath	Content Filtering in Social Networks
Maheswaran P	Investigations on the Performance of Spatial Modulation and Cooperative Communication Systems
PapanasamE	Fabrication and chara cterization of SiC MIS capacitor with high-K dielectric
Rusan Kumar Barik	Design of multi-band RF/Microwave components
Xavier arockiaraj S	Elimination of overflow oscillations in fixed point digital filters with disturbances
Santhosh Kumar M	Resource Allocation in Cognitive Radio Networks
Vijay Prabhu J	Development of High Step up DC-DC converter for Renewable Energy Applications.
Skandha DeepsitaS	Approximate Computing Hardware Architectures for Real Time Image/Video Processing
Dhayalakumar M	High Performance VLSI Architectures for High Efficiency Video Coding (HEVC)
Parthipan C G	Design, Development and Control of Unmanned Aerial Vehicles with Multilink Manipulators
Srinivasulu Jogi	Analysis and Design of Discrete-Time State Delayed Systems

Practical courses

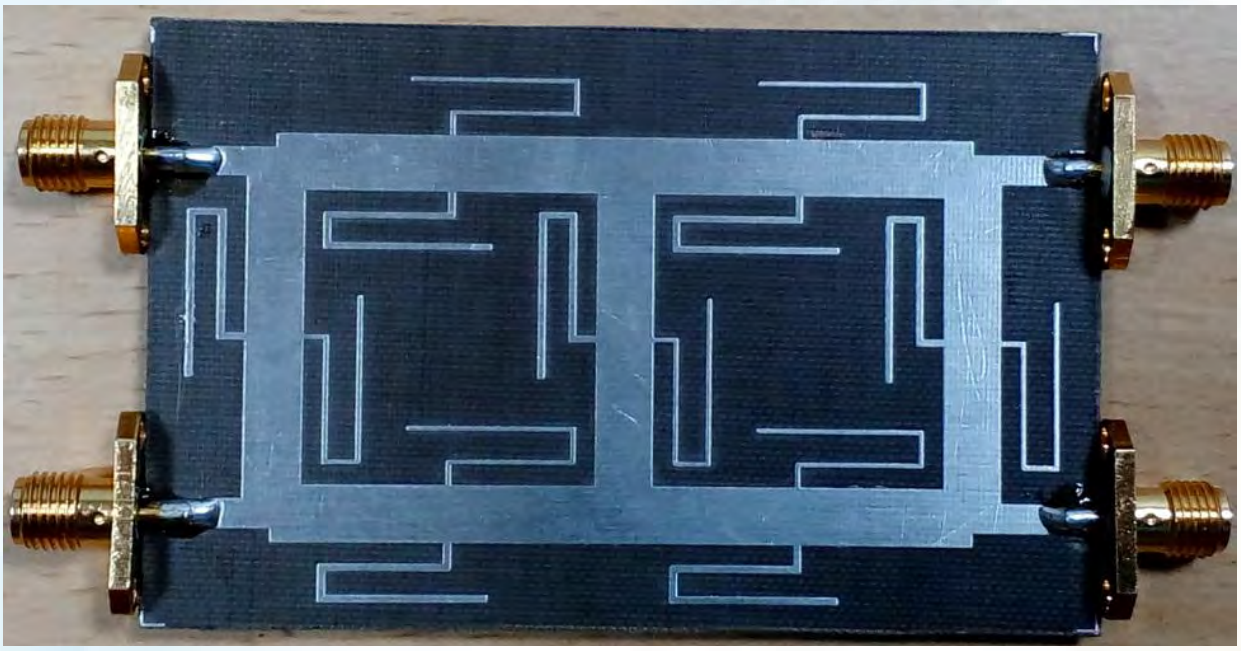
- Electrical Drives
- Analog Circuits
- Digital Signal Processing
- Sensor and Instrumentation
- Digital Logic Design
- Microprocessors and Microcontrollers
- Communication Systems
- PCB Design
- VLSI Design
- Embedded Systems

PUBLICATIONS

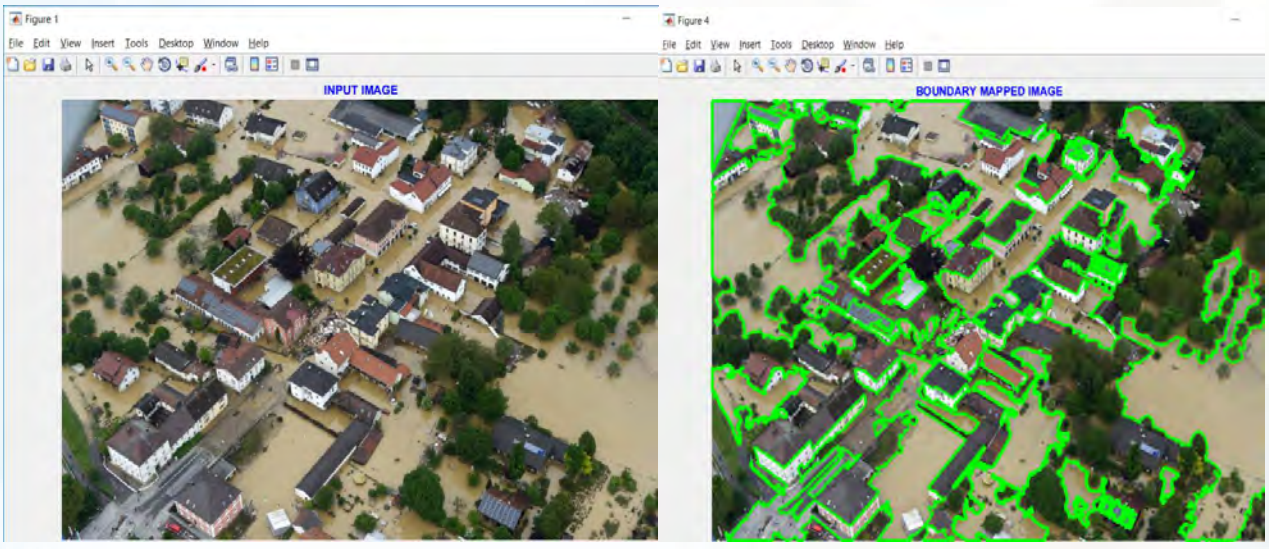


Some Ongoing Projects (EDM)

Design of Dual-Band Crossovers with Flexible Frequency Ratio



Urban Flood Mapping Based On UAV (Unmanned Aerial Vehicle) Remote Sensing



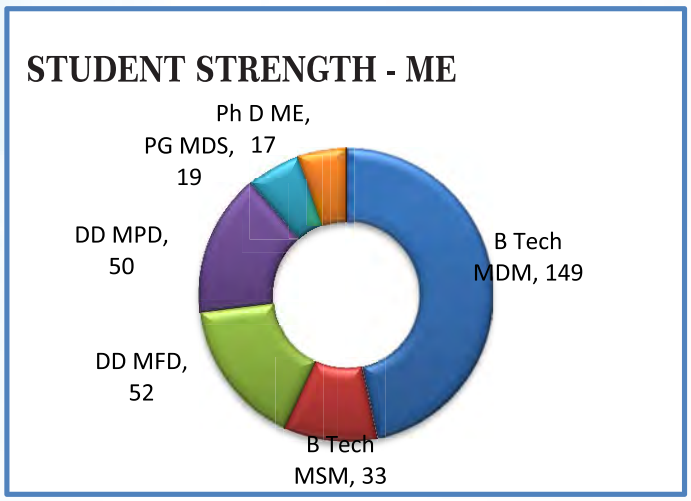
Mechanical Engineering Stream

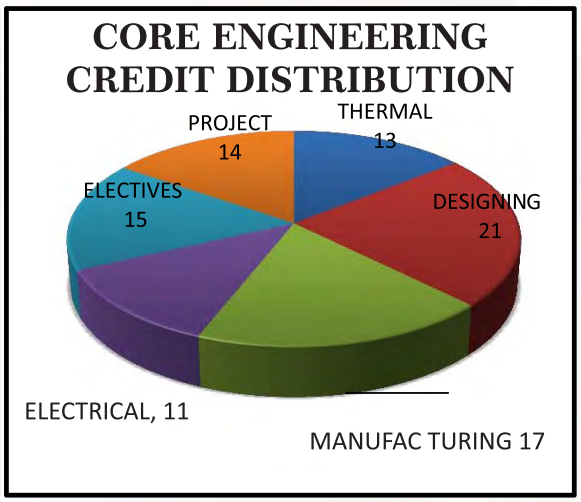
Equipped with well-structured instruction and learning resources and research facilities, the institute aims to disseminate education in the inter-disciplinary areas of mechanical design and manufacturing engineering. The UG, Dual Degree, PG, PhD programs offered by the Mechanical Engineering stream augment the existing Mechanical Engineering curricula offered by IITs with design courses on conceptualization, visualization and engineering simulations. Design visualization imparted through graphic art practice and product design practice enables students to conceptualize, design, simulate and develop tangible products.

B Tech (4 Years)
- Mechanical Engineering (D&M) (MDM)

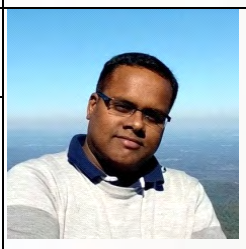
Dual Degree (5 Years)
- Mechanical Engineering + Product Design (MPD)
- Mechanical Engineering + Advanced Manufacturing (MFD)

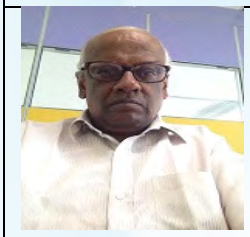
M Des (2 Years)
- Mechanical System (MDS)





Mechanical Engineering Faculty

	**Chandrasekaran C,** PhD (IIT Madras) **Research Interests:** Product Development, Process Planning, Quality Control and Quality Assurance		**Narayanan, S,** PhD (IIT Kanpur) **Research Interests:** Vibrations and Acoustics, Dynamical Systems, Smart Structures.
	**Gnanamoorthy R,** Dr. Eng. (NUT, Japan) **Research Interests:** Mechanical Design with Advanced Materials, Novel Manufacturing Process Development.		**Pandithevan P.** PhD (IIT Guwahati) **Research Interests:** Medical Image based Reconstruction, Bio-mimetic Design & Tissue Engineering.
	**Jayabal K.** PhD (IIT Madras) **Research Interests:** Computational Mechanics, Finite Element Methods, Material Modelling		**Raja B.** PhD (Anna University, Chennai) **Research Interests:** Nanofluids, Enhanced Heat Transfer, Electronic Cooling Systems
	**Jayavel S,** PhD (IIT Madras) **Research Interests:** Computational Fluid Dynamics, Fluid and Thermal Sciences, Heat Transfer		**Senthilkumaran K.** PhD (IIT Delhi) **Research Interests:** Additive Manufg, Sustainable & Smart Manufg, Design Manufg Integration,
	**Shahul Hamid Khan** PhD (NIT Trichy) **Research Interests:** Multi Objective Optimisation, Supply Chain Management, Metaheuristics		**SudhirVaradarajan,** PhD (IIT Madras) **Research Interests:** Complex responsive processes in design and innovation, Product/service innovation, Conceptual design

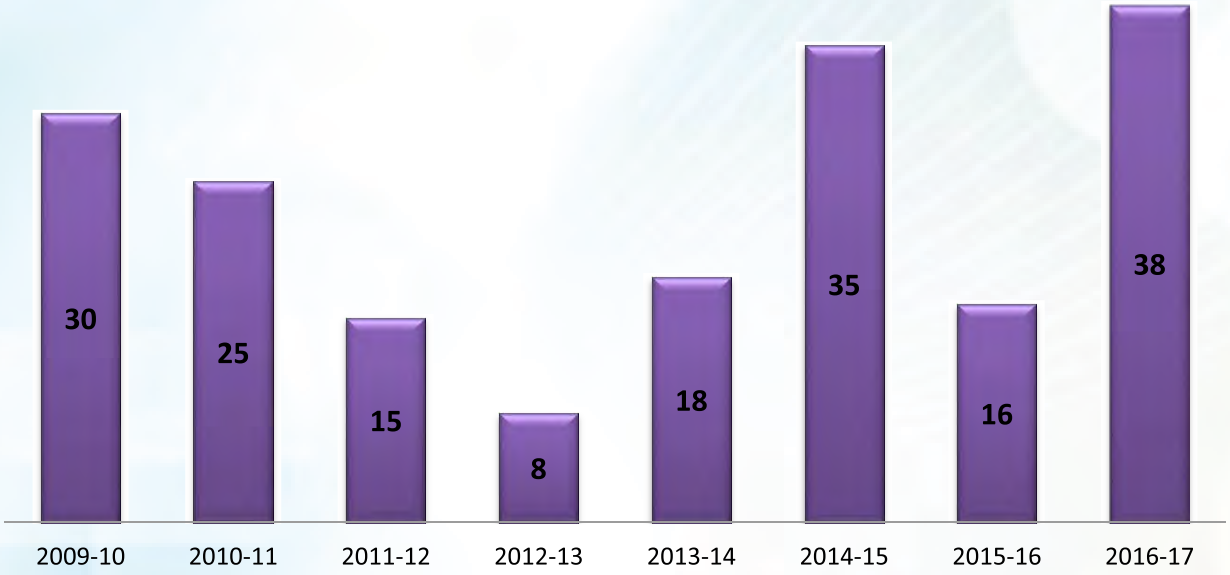
<table>
<tr>
<td>  </td>
<td>Sreekumar M.
PhD (IIT Madras)
Research Interests:
Robotics,
Serial and Parallel Mechanisms,
Compliant Mechanisms</td>
<td>  </td>
<td>Venkata Timmaraju MallinaPh.D(IIT Madras)
Research Interests:
Modeling of Materials Behavior, Fatigue and Fracture,
Design with Polymers and Composites</td>
</tr>
<tr>
<td>  </td>
<td>Karthic Narayanan
PhD (NTU, Singapore)
Research Interests:
Manufacturing Process
Mechanical behavior of nano materials
Solar PV stress analysis</td>
<td>  </td>
<td>Subramanian Swaminathan
Research Interests:
Manufacturing,
Mechanical hardware Design, Manufacturing,</td>
</tr>
<tr>
<td>  </td>
<td>Venkateshan S P
PhD(IISc)
Research Interests:
Space Heat Transfer,
Inverse Methods in Heat Transfer, Cooling of Electronic Components,
Instrumentation</td>
<td colspan="2"></td>
</tr>
</table>

Research Scholars	Topic of Research
Balaji K	Singularity identification and avoidance in parallel mechanisms
Badri Narayanan K B	A Multi-Agent Approach with Swarm Intelligence in Smart Manufacturing
C Gurunathan	Surface modification for polymer material for improved tribo performance
Deepakkumar.R	Numerical Investigation On Performance Of Finned - Tube Heat Exchanger With Hybrid Rows Of Tubes
Hemnath A K	Experimental analysis on the properties of the products made from metal deposition technique.
Madhanagopal M	Additive Manufacturing
Mathusuthanan M	Thermo-mechanical Investigation of Solar PV
PParthiban	Fatigue behavior of multiscale thermoplastic composites
Prasanna Venkadesan V	Total Hip Arthroplasty -Surgery
Rajasekar K	Heat and Mass Transfer
Santhosh S	Modeling and Optimizing Closed-Loop Green Supply Chain Network Design with Disassembly Line Balancing
Sathish Kumar.R	Development and Application of Material Models for Magnetostrictive Materials
Senthil Kumar.R	Numerical and Experimental Study of Heat Transfer Enhancement in Electronic Systems
Siddharth Ramachandran	Solar thermal applications
Srinivasan. G	Mathematical Modelling and Experimental Study on Spin Freeze and Drying Process
Usha S	Robot Mechanisms / Smart Materials
Vinayaga Muruga Pandy.N	Development Of A Computer-Assisted, Pre-Operative Surgical Methodology for Orthopaedic Applications

Practical courses

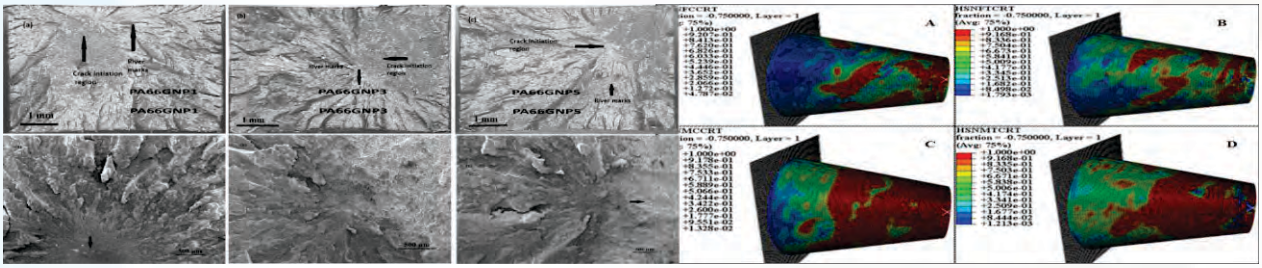
- Mechanical Design
- Quality Inspection and Product Validation
- Fluid Mechanics and Heat Transfer
- Thermal Engineering
- Sensors and Controls
- Manufacturing Automation
- Mechanical Design Simulation
- Product Design
- Product Realization
- Machine Drawing and Manufacturability Analysis

PUBLICATIONS

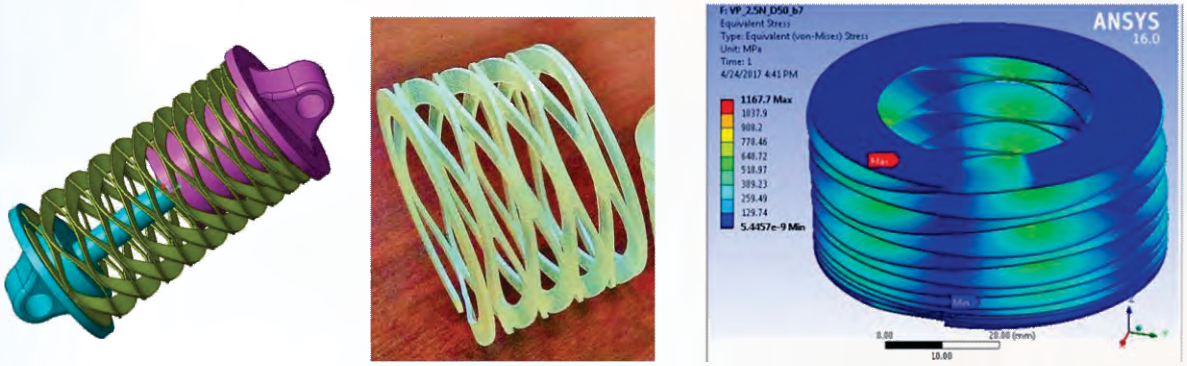


Some Ongoing Projects (MDM)

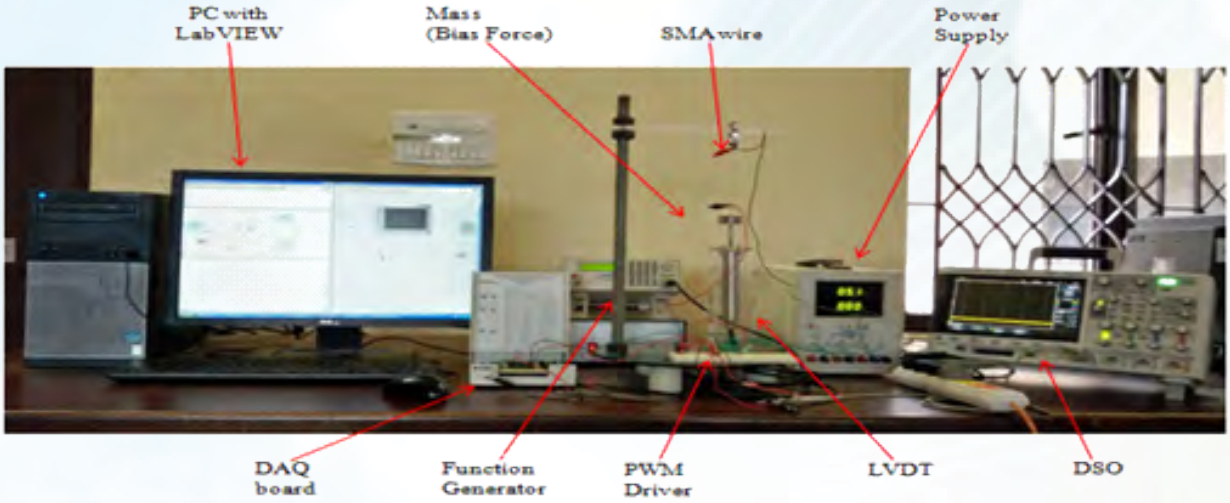
Mechanical Behavior of Polyamide66/Graphene Nanocomposite



Design, Development and Analysis of Wave Springs for automotive applications



Implementation of a Simplified Modeling Scheme for the Control of SMA Actuators



Basic Sciences & Humanities

Faculty

Ganesan P
Ph.D (IIT Bombay))

Research Interests:
Fluid Dynamics

Anumula Sunil Kumar
Ph.D (Politecnico Di Milano, Italy)

Research Interests:
Non linear optics
Atomic and molecular spectroscopy

Shalu M. A.
PhD (IIT Madras)

Research Interests:
Graph Theory,
Algorithms,
Metabolic Networks

Naveen Kumar
PhD (IIT Delhi)

Research Interests:
Fiber Optics, Solar Thermal Energy Applications, Renewable Energy Applications

Vijayakumar S.
PhD (IIT Madras)

Research Interests:
Algorithms,
Combinatorial Optimization,
Computational Complexity

Tapas Sil
PhD (VisvaBharati Univ)

Research Interests:
Giant Resonances of Nuclei, Relativistic Mean Field Theory in Nuclear Structure, Properties of Hot Nuclei

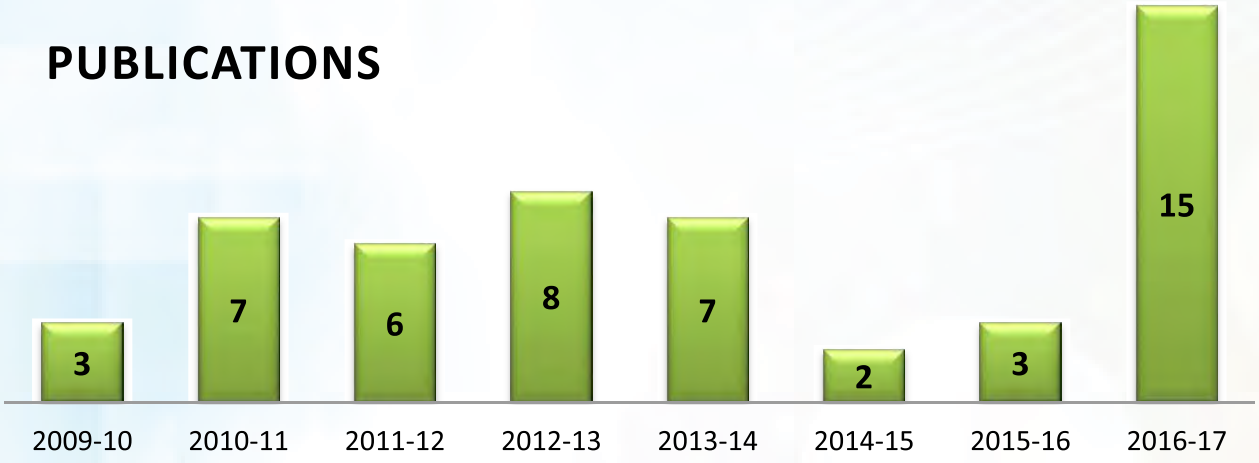
Divya A
PhD (NTU, Singapore)

Research Interests:
Nineteenth-Century English Novel,
Early Modern English Drama,
Narrative Design,
Urban and Spatial studies,
Art and Design

Research Scholar	Topic of Research
Ashish Kumar	Optical Fiber Micro-Wire and Nano-Wire Based Sensors/Devices For Communication and Sensing Applications
Cyriac Antony	Graph Theory and Algorithms
Dhanalakshmi S	Study of Vertex Separators, Connectivity Augmentation and Constrained Vertex Separators
Manimegalai K	Study of properties of nuclei away from the line of stability and nuclei in the environment of neutron star
Sandhya T P	Color domination and star coloring
N N Subhashree Ojha	Fiber Optic Interferometric Sensor

Practical Courses

- Mechanics and Wave
- Electromagnetics & Quantum Mechanics
- Basic Materials and Mechanics
- Measurements and Data Analysis



4th CONVOCATION

The fourth convocation of the Institute was held on 30.07.2016. The event was presided over by the Chairman Prof. M. S. Ananth with Shri. V. K. Viswanathan, Chairman, Bosch Ltd. Bengaluru as the Chief Guest. The event saw the graduating class of 2016 receive the degrees and was a great success. The Chief Guest's address to graduates was well received and this is an inspirational quote from the speech: "Just as iron has to be heated to red hot temperature before it can be forged into something useful so also you will have to undergo many experiences. This will enable you to draw appropriate lessons for the future challenges. I have no doubt, you will face the challenges successfully and will convert your knowledge, your skills and your dreams into action".

Degree	Discipline	No. of Students
B. Tech	Computer Engineering	28
	Electronics Engineering (Design & Manufacturing)	27
	Mechanical Engineering (Design & Manufacturing)	31
M. Des	Communication Systems	14
	Electronic Systems	15
	Mechanical Systems	13
Ph. D		4
Total		132

Details of Prize Winners (UG)

Institute Merit Prize	Best Outgoing Student	BEST PROJECT AWARDS		
		COE	**EDM**	**MDM**
 JUBIN ANTONY J MDM12B011	 **G SAI HEMANTH COE12B005**	 **ROOPESH REDDY K COE12B025**	 **GIRIDHARAN K EDM12B012**	 **JUBIN ANTONY J MDM12B011**

STUDENTS WHO RECEIVED THE DEGREE WITH DISTINCTION (UG – B. Tech)

Roll No	Name	Branch
COE12B007	Iniyai T	**COE**
COE12B008	Junoothula Rashmitha Reddy	
COE12B009	Kadimisetty Avinash	
COE12B025	Roopesh Reddy K	
EDM12B012	Giridharan K	**EDM**
EDM12B015	Kaviya R	
MDM12B007	Ganesh S	**MDM**
MDM12B011	Jubin Antony J	
MDM12B024	Shreya K	
MDM12B025	Vikas Tiwari	

Academic Year	No. of First year students admitted in the year	Completed Year	No. of students graduated in the minimum stipulated time	No. of students placed through campus placement	Median salary of the placed graduates (Amount in Rs.)	Median salary of the placed graduates (Amount in words.)	No. of students selected for higher studies
2012-13	90	2015-16	80	44	4.47	Four lakhs forty seven thousand only	30

Details of Prize Winners (PG)

INSTITUTE MERIT PRIZE	BEST PROJECT AWARDS		
	CDS	EDS	MDS
			
VIDYALAXMI DANI CDS14M014	REHANA SIDDIQUI CDS14M008	KARTHIKEYAN S EDS14M007	JAGANATHAN A MDS14M007

STUDENTS WHO RECEIVED THE DEGREE WITH DISTINCTION (PG – M. Des)

Roll No	Name	Branch
CDS14M014	Vidyalaxmi Dani	CDS
EDS14M007	Karthikeyan S	EDS
EDS14M008	Kiran Chandrashekar P	
MDS14M008	Jayaraj. M	MDS

Academic Year	No. of First year students admitted in the year	Completed Year	No. of students graduated in the minimum stipulated time	No. of students placed through campus placement	Median salary of the placed graduates (Amount in Rs.)	Median salary of the placed graduates (Amount in words.)	No. of students selected for higher studies
2014-15	42	2015-16	42	38	4.47	Four lakhs forty seven thousand only	3

Library

In August 2016, the institute's library moved to its permanent place on the campus in the building called Knowledge Plaza and occupied its fully air-conditioned Ground floor, Mezzanine floor, and the first and second floors.

The Institute Library has a good collection of books, printed journals, magazines, e-books, e-journals, Book CDs, leading newspapers and softcopy of NPTEL course materials and video contents and is committed to support the institute's mission. The Library is one among the few in the world to lend Kindle, the electronic book reader, to needy students and plenty of classical literature and technical books are available in the reader to the students.

The Library uses an automated Library and Information Management software KOHA with Integrated RFID Technology. All the registered users can access the institute Library from anywhere within the campus through LAN/WiFi. Payment of library fine is handled through POS machine that accepts both credit and debit cards and the payment directly goes to institute's bank account.

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.

Resources	Total Numbers	Newly Added (Apr' 16 – Mar' 17)
Books	5170	239
Journals/Magazines (print version)	47	01
News Papers	04	-
CD-ROM/DVDs	662	100
Theses and Dissertation	383	129
E-Books	23	1
E-Journals Elsevier Science Direct – 632 IEEE Xplore IEL Online – 498	1130	-
Gratis	309	77

Online Resources

The e-Journals of IEEE & Elsevier subscriptions were renewed and the total subscribed e-journals are around 1130. Moreover there are 23 e-books subscribed already and additionally one more e-book has been added with this collection. This year, we have joined with e-ShodhSindhu. It is a Consortium for Higher Education e-Resources which will provide selected e-Journal package based on the courses offered by our institute.

Extended Working Hours

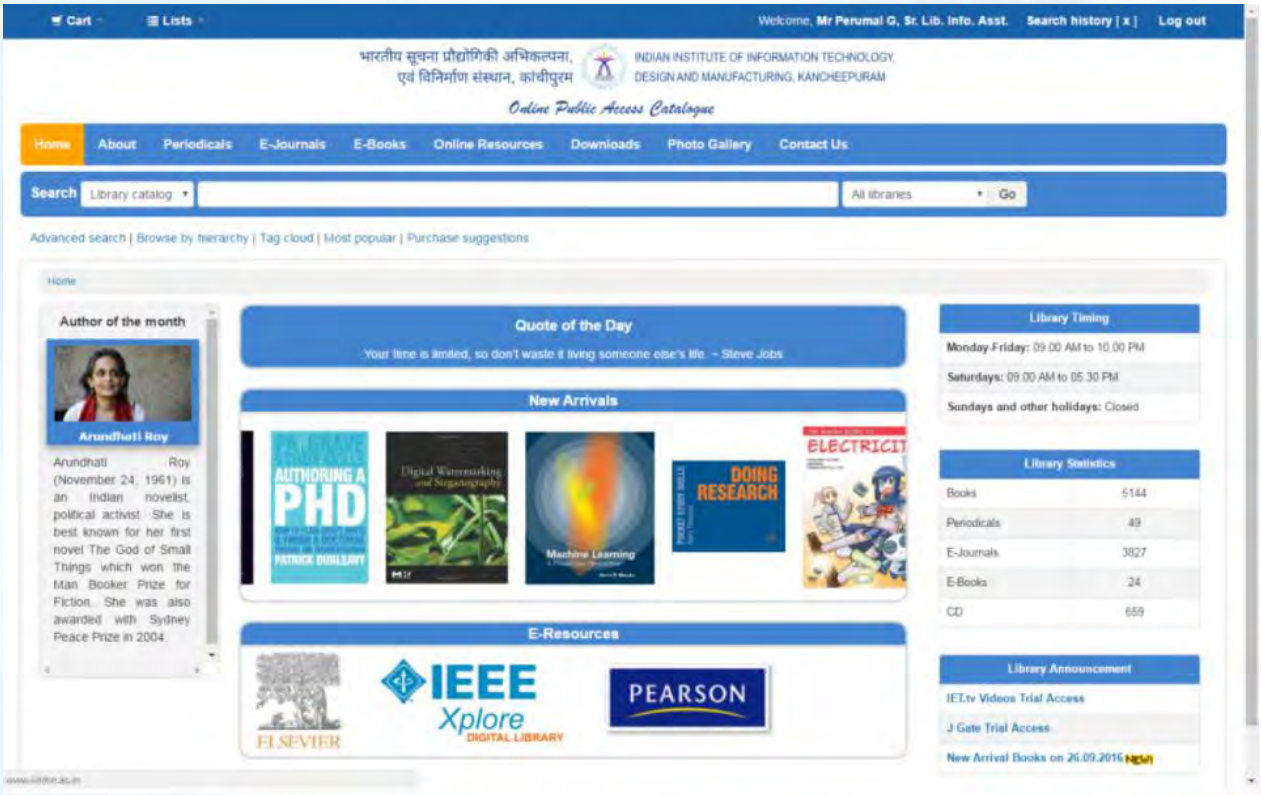
The working hours of the library have been from 09.00 AM to 10.00 PM on weekdays and 09.00 AM to 05.30 PM on Saturdays.

Book Fair 2016

In order to encourage students to procure text books and other books for professional development, a Book Fair was organized during 11-12th of August, 2016. In this Book fair, there were eight vendors/suppliers who participated and displayed their books. A large number of students and faculty members of IIITDM academic community visited and procured books, and faculty members recommended books for purchase for the library.

Updated Library Intranet

Library Intranet has been updated with fully interactive design. It provides information like subscribed e-Books, e-Journals, Periodicals, various online resources and newly procured book lists etc. Also it includes the Author of the month, Quote of the day, Library statistics and Library announcements.



Orientation Programme

The Library has organized Elsevier Science Direct user orientation programme on August 30, 2016. Dr. Shubhra Dutta (Customer consultant–Elsevier) delivered the lecture to faculty, students and scholars. She explained about insider tips, search strategy and advantages of the latest value-added features and so on.

Trial Access database

IIITDM Library has obtained a trial access for J-Gate database. It has a collection of over thousands of full-text e-Journals in engineering and technology

Koha for IIITDM Kurnool

The institute's library has created separate database account for IIITDM Kurnool students in library management software Koha. Also, the library has procured around 400 books for IIITDM student community and those books are also catalogued in the IIITDM Kurnool library group in Koha software. Apart from this, the library has processed the following library materials like Accession register, Bill register, Due date slip, Seals etc.

III RESEARCH AND INNOVATION

Science is a way of life. Science is a perspective. Science is the process that takes us from confusion to understanding in a manner that is precise, predictive and reliable - a transformation, for those lucky enough to experience it, that is empowering and emotional.

- Brian Greene

Publications 2016-17

Books:

1. Divya. “”One Hundred and Five, North Tower”: Writing the City as a prison-home narrative in Charles Dickens's A Tale of Two Cities (1859)”. Dickens and the Virtual City: Urban Perception and the Production of Social Space. Ed. Sara Thornton. Palgrave. Forthcoming August 2017.

2. Divya. “”Good pictures …. are always another poem”: Mapping spatialities in Alfred Load Tennyson's “The Lady of Shalott” (1842) and Elizabeth Siddall's The Lady of Shalott (1853)”. Poetry and Painting: The Lyrical Voice of Pre-Raphaelite Paintings. Ed. Sophia Andres and Brian Donnelly. Peter Lang. Forthcoming 2017

3. B Madhevan, M Sreekumar, Analysis of communication delay and packet loss during localization among mobile robots, Book Chapter: Intelligent Systems Technologies and Applications, Springer-Verlag London, Vol. 385 (2), DOI: 10.1007/978-3-319-23258-4_1, ISBN 978-3-319-23258-4, 2016, pp. 3-12.

Journal Publications:

1. Koh, Keng Huat; M. Sreekumar; S.G., Ponnambalam, “Hybrid electrostatic and elastomer adhesion mechanism for wall climbing robot with biomimetic tail design", Mechatronics”, 35(2016) 122–135.

2. S. Usha, M. Sreekumar, “A study on the effect of surface topography on the actuation performance of stacked-rolled dielectric electro active poly mer actuator, Functional Materials Letters”, June 2016, Vol. 9(3), 1650042 (1-5).

3. M Sreekumar, A Robot Manipulator with Adaptive Fuzzy Controller in Obstacle Avoidance, Journal of the Institution of Engineers (India): Series C-Springer, July 2016, Vol. 97(3); pp 469-478

4. Sreekumar M& Rezia Molfino, “Student-Supervisor Relationship in the Process of Managing PhD: an Engineering Perspective”, ASCE Journal of Professional Issues in Engg Education and Practice, 02517001-1-7

5. B Madhevan& M Sreekumar, “Systematic Approach for Role Assignment in Multi Robots using Leader Follower Approach: Experimental Observations”, International Journal of Robotics & Automation, Paper ID: 206-4578 Version 4. ACCEPTED

6. B Madhevan& M Sreekumar, “Implementation of Role Assignment and Fault Tree Analysis for Multi Robot Interaction, International Journal of Robotics & Automation”, Paper ID: 206-4448 Version 3. ACCEPTED.

7. Abhinav Kumar Sharma, S Santhosh & B. Shahul Hamid Khan (2016). "A Multi-Objective Optimization of Multi-Period Multi-Product Closed-Loop Supply Chain", Analytics in Operations\Supply Chain Management, Chapter: 38, Publisher: I.K. International Publishing House Pvt. Ltd., pp.539-548. ISBN: 978-93-84588-94-6.

8. R. Akhil Abhilash & B. Shahul Hamid Khan (2016). “A Mixed Integer Linear Programming Model for a Multi-Product Single Period Supply Chain Network”, Analytics in Operations\Supply Chain Management, Chapter: 38, Publisher: I.K. International Publishing House Pvt. Ltd., pp.549-559. ISBN: 978-93-84588-94-6.

9. K. Karthick & B. Shahul Hamid Khan (2016). “ Optimization for Efficient Closed-Loop Supply chain Network Design using non-traditional algorithms”, Analytics in Operations\Supply Chain Management, Chapter: 38, Publisher: I.K. International Publishing House Pvt. Ltd., 571-587. ISBN: 978-93-84588- 94-6.

10. Santhosh Srinivasan, Abhinav Kumar Sharma &Shahul Hamid Khan (2016). "Modelling and Optimization of Defective Goods Supply Chain Network with Heuristics", International Journal of Operations and Quantitative Management, 22(2), 177-187

11. Santhosh Srinivasan and Shahul Hamid Khan (2016). "Environmentally Conscious Optimization of Closed Loop Supply Chain Network with Vehicle Routing", International Journal of Advances in Theoretical and Applied Mathematics, 11(3),223-243

12. Rajendran Senthil kumar, S. Jayavel, Influence of flow shedding frequency on convection heat transfer from bank of circular tubes in heat exchangers under cross flow, International Journal of Heat and Mass Transfer, 105, 376–393, 2017.

13. R. Deepakkumar, S. Jayavel and Shaligram Tiwari, Cross flow past circular cylinder with waviness in confining walls near the cylinder, Journal of Applied Fluid Mechanics, 10, 2017.

14. Ganesan Vishwanath, Marta Vivar, Naveen Kumar, Raja Balakrishnan, A simple procedure to study the performance of individual solar cells in a linear concentrating photovoltaic/thermal integrated system, Int. J. Renewable Energy Technology, 7, 4 (2016), 309–335.

15. Pandithevn P & Joshi, M. “Investigation of temperature and stress distribution on high-speed machining of Ti-6Al-4V and steel 316L biomaterials using explicit dynamic analysis”. Materials Science Forum 2017; 889: 84-89.

16. Shin, Seung-Jun, Jungyub Woo, Duck Bong Kim, Senthilkumaran Kumaraguru, & Sudarsan Rachuri. "Developing a virtual machining model to generate MTConnect machine-monitoring data from STEP-NC." International Journal of Production Research (2016): Vol. 54. No. 15. pp. 1-19.

17. Kibira, Deogratias, Katherine C. Morris, & Senthilkumaran Kumaraguru. “Methods and Tools for Performance Assurance of Smart Manufacturing Systems”. Journal of Research of the National Institute of Standards and Technology, 121. 2016.

18. V.A. Handara , I. Radchenko , S.K. Tippabhotla , Karthic. R.Narayanan , G. Illya , M. Kunz , N. Tamura & A.S. Budiman “Probing stress and fracture mechanism in encapsulated thin silicon solar cells by synchrotron X-ray microdiffraction”, Solar Energy Materials and Solar Cells, 162, 2017, 30-40.

19. S. Barai, D. S. Sunil, S. R. Kumar, &S. R. Pandian, 2016, "Virtual Reality-based Human Energy Harvesting", Int. J. Engg Sciences & Research Technology, 5(5), 547-557.

20. S. R. Pandian, 2016, "Affordable robotics for innovative education and outreach”, CSI Communications, 40(4), pp. 7-11.

21. E. Papanasam& Binsu J Kailath, “Effect of Post Deposition Annealing and Post Metallization Annealing on Electrical and Structural Characteristics of Pd/Al2O3/6H-SiC MIS Capacitors”, Accepted for Publication in Microelectronics International

22. Abdul Majeed K. K., & Binsu J. Kailath, “Nonlinear PFD free of glitches and blind zone for a fast locking PLL with reduced reference spur,” IEICE Electronics Express, Volume 13, number 10, page: 20160328 (2016)

23. K. Arun& K. Selvajyothi, "Variable Sampling Composite Observer Based Frequency Locked Loop and its Application in Grid Connected System," Advances in Electrical and Computer Engineering, vol.16, no.2, pp.33-42, 2016, doi:10.4316/AECE.2016.02005.

24. K. Arun, &K. Selvajyothi, “Single Phase Variable Sampling Phase Locked Loop using Composite Observer”, TELKOMNIKA Indonesian Journal of Electrical Engineering, vol 2, no 1, pp. 49-60, 2016.

25. K. Arun& K. Selvajyothi, "Cascaded Delayed Signal Cancellation based Variable Sampling SRF PLL", Mediterranean Journal of Measurement and Control, vol. 12, no. 1, pp. 511-520, 2016.

26. Chandu D S and S S Karthikeyan, “A Novel Broadband Dual Circularly Polarized Microstrip-Fed Monopole Antenna”, in IEEE Transactions on Antennas and Propagation, Vol. 65, no. 3, pp. 1410 - 1415, 2017.

27. K.V. Phanikumar & S. S. Karthikeyan, “Miniaturized quadrature hybrid coupler using modified T-shaped transmission line for wide-range harmonic suppression”, in IET Microwaves, Antennas & Propagation Vol. 10, no. 14, pp. 1522-1527, 2016.

28. Rusan Kumar Barik, K.V. Phanikumar & S. S. Karthikeyan, “Design of a Quad-Band Branch Line Balun Using Extended Pi-Shaped Coupled Lines”, IEEE Microwave and Wireless Components Letters, Vol. 26, no. 10, pp. 771-773, 2016.

29. Rusan Kumar Barik, K.V. Phanikumar & S. S. Karthikeyan, “A compact wideband harmonic suppressed 10 dB branch line coupler using cascaded symmetric PI sections”, Microwave and Optical Technology Letters, Vol. 58, no. 7, pp. 1610-1613, 2016.

30. K.V. Phanikumar & S. S. Karthikeyan, “A novel two section branch line coupler employing different transmission line techniques”, International Journal of Electronics and Communication, Vol. 70, no. 5, pp. 738-734, 2016.

31. P. Maheswaran and M. D. Selvaraj, “Performance analysis of feedback-based dynamic SSK-BPSK system,” IEEE Wireless Communications Letters, vol. 5, no. 1, pp. 96–99, Feb. 2016.

32. R. Swaminathan, R. Roy, & M. D. Selvaraj, “Performance comparison of selection combining with full CSI and switch- and-examine combining with and without post-selection,” IEEE Transactions on Vehicular Technology, vol. 65, no. 5, pp. 3217–3230, May 2016.

33. P. Kokil& X Arockiaraj S, and H. Kar, “Criterion for the limit cycle free state-space digital filters with external disturbances and generalized overflow nonlinearities”, Transactions of the Institute of Measurement and Control.

34. P. Kokil, “An improved criterion for the global asymptotic stability of 2-D discrete state-delayed systems with saturation nonlinearities, Circuits, Systems & Signal Processing”, doi: 10.1007/s00034-016-0397-1.

35. P. Rani, P. Kokil & H Kar, “l2 - l∞ suppression of limit cycles in interfered digital filters with generalized overflow nonlinearities, Circuits, Systems & Signal Processing”.

36. M. Kumar, P. Kokil & H Kar, A new realizability condition for fixed-point statespace interfered digital filters using any combination of overflow and quantization nonlinearities, Circuits, Systems & Signal Processing.

37. P. Kokil & S.S. Shinde, “A note on the induced l∞ stability of fixed-point digital filters without overflow oscillations and instability due to finite wordlength effects, Circuits, Systems & Signal Processing”

38. Xavier Arockiaraj S & P. Kokil, “New criteria for output strict and input strict passivity for interfered digital filters for biomedical applications”, Journal of Medical Imaging and Health Informatics,

39. P. Kokil& X. Arockiaraj S., “An improved criterion for induced l∞ stability of fixedpoint digital filters with saturation arithmetic, Indonesian Journal of Electrical Engineering and Computer Science”, 4(1), 2016.

40. Diksha, P. Kokil & H. Kar, “Criterion for the limit cycle free state-space digital filters with external disturbances and quantization/overflow nonlinearities”, Engineering Computations, 33, 64 – 73, 2016.

41. De, Kanjar, & V. Masilamani. "No-reference image contrast measure using image statistics and random forest." in Multimedia Tools and Applications.

42. Mohamed Asan Basiri M & Noor Mahammad Sk, “Quadruple Throughput Fixed Point Quarter Precision Multiply Accumulate Circuit", IET Computers and Digital Techniques, 11-3, April 2017.

43. Mohamed Asan Basiri M & Noor Mahammad Sk, “An Efficient VLSI Architecture for Lifting based 1D/2D Discrete Wavelet Transform", Microprocessors and Microsystems, 47(B), 404-418, November 2016.

44. Mohamed Asan Basiri M & Noor Mahammad Sk, High Speed Multiplexer Design using Tree based Decomposition Algorithm", Microelectronics Journal, 51, 99-111, May 2016.

45. Mohamed Asan Basiri M & Noor Mahammad Sk, “Multi-mode Parallel and Folded VLSI Architectures for 1D-Fast Fourier Transform", Integration, the VLSI Journal, 55, 43-56, September 2016.

46. S.Dhanalakshmi, V.Manogna & N.Sadagopan: "On 2k2 free graphs, International Journal of Pure and Applied Mathematics", 2016.

47. S.Dhanalakshmi, N.Sadagopan& D.Sunil Kumar: "Tri-connectivity Augmentation in Trees, Electronic notes in Discrete Mathematics", 53, 57-72, 2016.

48. Narendran G., Ramachandran K& Naveen Kumar, "An inline sensing of coolant temperature inside a micro-channel for applications in ultra dense packed high power electronics," OPTIK 127(2016) 875-875

49. Vishvanath G., Martha Vivar, Naveen Kumar& Raja B., "A simple procedure to study the performance of individual solar cells in a linear concentrating photovoltaic/thermal integrated system," Int. J. Renewable Energy Technology, 7(2016), 309-335

50. M. A. Shalu& S. Devi Yamini, "A generalization of join and an algorithmic recognition problem, Fundamenta Informaticae" 145 (2016), 81-91.

51. M. A. Shalu& T. P. Sandhya, "Star coloring of graphs with girth at least five, Graphs and Combinatorics" 32 (2016), 2121-2134

52. M. A. Shalu, S. Devi Yamini, "Tent and a subclass of P_5-free graphs, Electronic Notes in Discrete Mathematics" 53 (2016), 73-82.

53. M. A. Shalu& T. P. Sandhya, "The cd-coloring of graphs, Algorithms and Discrete Applied Mathematics, LNCS, Springer", 9602 (2016), 337-348.

54. M. A. Shalu& S. Devi Yamini, "Counting the maximal independent sets in power set graphs, Journal of Combinatorial Mathematics and Combinatorial Computing" 96 (2016), 283-291.

55. M. A. Shalu& S. Devi Yamini, "One-three join: A graph operation and its consequences, Discussiones Mathematicae Graph Theory" .

56. Divya. A. The "secret of the bedstead"" : Unraveling the domestic machinery in Willkie Collins "A Terribly Strange Bed"(1852), The Confidential Clerk (ISSN 2454-6100). Paper Accepter.

Conference Publications:

1. S.N. Keerthi Sagar, Cristiano Nattero, Dimiter Zlatanov, Matteo Zoppi& Sreekumar M, "Path Planning of a Material Handling Agent with Novel Locomotion", Proc.

ASME 2016 International Design Engineering Technical Conferences and Computers and Information in Engineering Conference, August 21-24, 2016, Charlotte, NC, USA, Paper ID: IDETC2016-60054.

2. Shashank Jain& Sreekumar M, "The Preliminary Design of a Collision Energy Absorption System", Proc. 6th International & 27th All India Manufacturing Technology, Design and Research (AIMTDR) Conference, 16-18 December 2016, Pune, India, Paper ID: AIMTDR2016-1250.

3. Deepak Ranjan Padhi, R Adeline Mellita& M Sreekumar, "A novel Frame Work of Design Realization Course " at IIITDM Kancheepuram: Critical Evaluation, Proc. 6th International Conference on Research into Design (ICorD'17), 9-11 January 2017, IIT Guwahati

4. Santhosh Srinivasan & Shahul Hamid Khan. "Integrated Location-Allocation Planning in a Multiproducts Multi-period Closed Loop Supply Chain Network", in SIBR 2016 Conference on Interdisciplinary Business and Economic Research held in Bangkok Thailand, June 2-3, 2016.

5. Santhosh Srinivasan& Shahul Hamid Khan, "Environmentally Conscious Optimization of Closed Loop Supply Chain Network with Vehicle Routing using Genetic Algorithm " in 4rd International Conference on Business Analytics and Intelligence (2016), Indian Institute of Science (IISc) Bangalore, on December 19-21, 2016.

6. Santhosh Srinivasan, Dhanalakshmi Sankaralingam, Rohit Raj& Shahul Hamid Khan, "Modelling and Optimization of Manufacturing/Remanufacturing systems with applications to the printer cartridge industry using Heuristics" in 4rd International Conference on Business Analytics and Intelligence(2016), Indian Institute of Science (IISc) Bangalore, Karnataka, India on December 19th - 21st, 2016.

7. Jubin Antony &Jayabal K, "Rollover Dynamics of a Narrow Tilting Three-Wheeled Vehicle, International Conference on Mechanical, Manufacturing, Modeling and Mechatronics," IC4M 2016, Feb 27-29, 2016, Kuala Lumber, M

9. G V Balakrishna, Sathish Kumar R &K Jayabal, "Micromechanically motivated uniaxial model for PZT", International Conference on Design and Manufacturing, conducted by IIITDM Kancheepuram, Chennai, December 16-17, 2017, 296-300

10. J. Manogna & S. Jayavel, "Improvement in thermal performance of pin-fin heat sink by varying the geometric parameters", Proceedings of International Conference on Design and Manufacturing (IConDM 2016), IIITDM Kancheepuram, December 16-17, 2016.

11. R. S. Sampath Kumar & S. Jayavel, "Study of flow characteristics past a cylinder with a pitching airfoil in the wake", Proceedings of ISTAM 2016, 61st Congress of the Indian Society of Theoretical and Applied Mechanics, IIT Kharagpur, VIT University, December 11-14, 2016.

12. R. Deepakkumar, M. Balasundar & S. Jayavel, "Comparison of solution algorithms for unsteady problem of flow past circular cylinder", Proceedings of ISTAM 2016, 61st Congress of the Indian Society of Theoretical and Applied Mechanics, IIT Kharagpur, VIT University, December 11-14, 2016.

13. J. Manogna, R. Deepakkumar & S. Jayavel, "Computational analysis of flow and thermal characteristics of pin-fin heat sink" , Proceedings of Sixth International Congress on Computational Mechanics and Simulation (ICCMS2016), 308, IIT Bombay, June 27- July 1, 2016.

14. A. Jaganathan, R. Deepakkumar & S. Jayavel, "Numerical study on effect of airfoil pin-fin location in tube fin heat exchanger", Proceedings of Sixth International Congress on Computational Mechanics and Simulation (ICCMS2016), 335, IIT Bombay, June 27- July 1, 2016.

15. R. Deepakkumar & S. Jayavel, "A comparative study of cross confinement effect on flow past circular cylinder due to plain and wavy walls", Proceedings of the 6th International and 43rd National Conference on Fluid Mechanics and Fluid Power, MNNITA, Allahabad, December 15-17, 2016.

16. Pandithevan P & Vinayaga Muruga Pandy N. "Modelling and analysis of a metal drilling process using experimental study and finite element method". In Proceedings of the Sixth International Congress on Computational Mechanics and Simulation 2016, IIT Bombay, India, June 27-July 1.

17. Amit Kumar B & Pandithevan P. "Modelling and analysis of biological joints of a

human arm in different movements". In Proceedings of the XIV International Symposium on 3D Analysis of Human Movement 2016, Taipei, Taiwan, July 18-21.

18. Amit Kumar B & Pandithevan P. "A CT image based finite element analysis to predict the mechanical behaviour of a human arm. In: Proceedings of the International Conference on Biomedical Systems, Signals and Images 2016, IIT Madras, India, February 24-26 .

19. Panda D & Timmaraju M V, "Study of thermal behavior of brake disc materials", Proceedings of Sixth International congress on computational mechanics and simulation, 27th June-1st July 2016, Bombay, India, 1315-1318.

20. V. S. Harini, M. Dharani, K. P. Balaji, & S. R. Pandian, 2016, "Robots for the Bottom of the Pyramid: Mobile Robot Racing over the Internet", Proc. IEEE TENCON Int. Conf. on Technologies for Smart Nation, Singapore.

21. K. Giridharan, C. Soni & S. R. Pandian, 2016, "Design of a Compact and Economical Remotely Operated Vehicle for Aquatic Monitoring", Proc. IEEE TENCON Int. Conf. on Technologies for Smart Nation, Singapore.

22. K. Pattanashetty, K. P. Balaji, &S. R. Pandian, 2016, "Educational Outdoor Mobile Robot for Trash Pickup", Proc. IEEE Global Humanitarian Technology Conf., Seattle, WA, USA, pp. 342-347.

23. S. R. Pandian, 2016, "Building a Smart Mosquito Trap – Intelligent Mechatronics for Mosquito Control Research", Keynote Speaker, First Int. Conf. on Engineering, Technology and Science, Punalkulam, Thanjavur.

24. S. Barai, S. Deo Sudhanwa, S. R. Kumar & S.R Pandian, 2016, "Virtual Gaming-Based Human Energy Harvesting", Proc. Int. Conclave on Renewable Energy Systems, Chennai.

25. K. Pattanashetty & S. R. Pandian, 2016, "Web-Based Physics Experiments in Dynamics Using Image Processing", Proc. Int. Conf. on Advances in Computing and Wireless Technologies, Chennai, 310-314.

26. Binsu J. Kailath& G. Dinesh, "QSCsim — Charge Based Switched Capacitor Simulator", Special Session in 2016 IEEE International Symposium on Nanoelectronic and Information Systems (iNIS), 19-21 Dec. 2016, 2016, 284

27. E.Papanasam& Binsu J Kailath, "Effect of Post Metallization Annealing on the Electrical Characteristics of Pd/HfO2/6H-SiC MIS Capacitors and Extraction of Conduction Mechanisms," IEEE 3rd International Conference on Emerging Electronics (ICEE), Dec 2016, IIT Bombay

28. Majeed K. K. & Binsu J. Kailath, “Analysis and Design of Low Power Nonlinear PFD architectures for a Fast Locking PLL,'' IEEE TECHSYM 2016, IIT Kharagpur, 27th Sep 2nd Oct 2016 (Won the Industry Ready Technology Award)

29. Sriramprasath, Sudha Natarajan & Binsu J Kailath, “Accelerating Occupancy Grid Map Computation with GPU for Real-Time Obstacle Detection, 22ndannual International Conference on Advanced Computing and Communications (ADCOM 2016) at Bangalore during 8th -10thSeptember 2016.

30. Karthikeyan Saravanan, G.Dinesh & Binsu J Kailath, “Improved Alias Rejection Using Interleaved CIC Decimation Filter,” presented in IEEE 14th International NEWCAS Conference in Vancouver, Canada, June 26-29, 2016.

31. E.Papanasam& Binsu J Kailath, "Effect of Annealing on the Structural and Electrical Characteristics of SiC MIS Capacitors with High-κ Gate Dielectrics," National Symposium on Nano Science and Technology (NSNST) 2016, IISc Bangalore 29-30 June 2016

32. Muralidhar Gadamsetty, G.Dinesh & Binsu J Kailath, "Switched Capacitor Circuit Simulator in Q-V Domain including Non Idealities“, presented in 20th VLSI Design and Test Symposium (VDAT-2016), IIT Guwahati, May 24-27, 2016.

33. E.Papanasam & Binsu J Kailath, "Electrical Characteristics of Pd/Al2O3/6H-SiC MIS Capacitors," National Conference on Semiconductor Materials and Devices (NCSMD) 2016, IIT Jodhpur 4-6 March 2016

34. Ramkumar Y & Selvajyothi K, “Transformer Monitoring System Using IOT”, Proceedings of International Conference on Design And Manufacturing IConDM, India, 16-17 Dec. 2016.

35. Tekumatla Shivakumar, Manne Sai Sravan & K. Selvajyothi, "Python Based 3-Axis CNC Plotter," Proceedings of 6th IEEE International Conference on Power and Energy (PECON 2016), Melaka, Malaysia, 28-29 Nov. 2016.

36. A. Vinayachandran & K. Selvajyothi, "Modeling and simulation of a novel three phase discrete observer based on recurrence formula," Proceedings of 2nd International Conference on Control, Instrumentation, Energy & Communication (CIEC), Kolkata, India, Jan. 28-30, 2016, pp. 20-24. doi: 10.1109/ CIEC. 2016. 7513750. (Won best paper for Technical session 1.1).

37. Adeline Melita, Chandu DS & S. S. Karthikeyan , "A Compact Dual-band Frequency Selective Surface for Gain Enhancement of a Dual-band Antenna", in Proc. Of International Conference on Optical & Wireless Technologies, MNIT Jaipur, 2017.

38. Adeline Melita, Chandu DS & S. S. Karthikeyan, "Gain Enhancement of a Microstrip Patch Antenna Using a Novel Frequency Selective Surface," in Proc. of NCC-2017, IIT Madras.

39. Idury Satya Krishna, Rusan Kumar Barik, & S. S. Karthikeyan, "'A Miniaturized Wideband Bandpass Filter Based on 3λ/4 Resonator Loaded with Stepped Impedance," ," in Proc. of NCC-2017, IIT Madras.

40. K.V.Phani Kumar, Rusan Kumar Barik, Idury Satya Krishna & S. S. Karthikeyan, "'Design of Compact 1800 Hybrid Coupler for Unequal Power Division Ratio Using a High Slow Wave Structure," in Proc. of NCC-2017, IIT Madras.

41. Chandu DS, S. Pradhan & S. S. Karthikeyan, "A wideband substrate integrated waveguide slotted array antenna with multimode and multidirectional characteristics", in Proc. Annual IEEE INDICON, IISc Bangalore, 2016

42. Rusan Kumar Barik, R Siddiqui, K.V.Phani Kumar & S. S. Karthikeyan, "Design of a novel dual-band low noise amplifier incorporating dual-band impedance transformer", in Proc. International Conference on Signal Processing and Communication (SPCOM), IISc Bangalore, 2016.

43. Chandu DS, S. Pradhan and S. S. Karthikeyan, "SIW Based Modified Slotted Array Antenna with Circular Polarization for X, Ku and K Band Communications", in Proc. European Microwave Conference (EuMC), London, 2016.

44. P. Maheswaran & M. D. Selvaraj, "On the transmit diversity of time successive SSK-BPSK system," in Proc. Twenty Second National Conf. Communication (NCC), Mar. 2016, 1–5.

45. Ananth A & M. D. Selvaraj, “Performance Analysis of SSK in Decode and Forward Cooperative Relaying using Min-Max Selection Combining” in the Proc. of 13th INDICON 2016, Dec. 2016,1-5.

46. Xavier Arockiaraj S. & P. Kokil, MR brain tumor classification and segmentation using wavelets and kernel support vector machine, accepted for IConDM 2016.

47. P. Kokil, P. Mahesh & G S Asritha, e-Governance in Tamil Nadu: A SAP LAP analysis, Enhanced Technologies and Recent Trends in ICT – 2016 Symposium, organized by College of Applied Sciences –Salalah and technically sponsored by IEEE-Oman Chapter, 2016.

48. Xavier Arockiaraj S. and P. Kokil, LMI Based Passivity analysis of digital filters, International Conference on Wireless Communications, Signal Processing and Networking (WiSPNET) 2017, Chennai, 2017. [Scopus Indexed]

49. V. M. ManikandanV.& Masilamani, “A Context Dependent Fragile Watermarking Scheme for Tamper Detection from Demosaicked Color Images", in the proceedings of Indian Conference on Computer Vision, Graphics and Image Processing (ICVGIP)-2016, No.61, pp. 1-8, ACM Digital Library, 2016.

50. V. M. Manikandan& V. Masilamani, “An Efficient Visually Meaningful Image Encryption Using ArnoldTransform", to appear in the proceedings of IEEE Students' Technology Symposium, IEEE, 2016.

51. V. M. Manikandan& V. Masilamani, Real-time Scene Change Detection and Entropy Based Semi-fragile Watermarking Scheme For Surveillance Video Authentication", in 3rd International Symposium on Big Data and Cloud Computing Challenges-2016, Pages: 101-110, Springer International Publishing, 2016.

52. De, K., & V. Masilamani. "Discrete Orthogonal Moments Based Framework for Assessing Blurriness of Camera Captured Document Images." In Proceedings of the 3rd International Symposium on Big Data and Cloud Computing Challenges (ISBCC–16'), 2016, pp. 227-236, Springer International Publishing.

53. Kanjar De & Masilamani V.”Fast no-reference Image Sharpness Measure for Blurred Images in Discrete Cosine Transform”, to appear in the proceedings of IEEE Students' Technology Symposium, IEEE, 2016.

54. Kanjar De & Masilamani V.” No-reference image quality assessment for images degraded by color quantization in HSV Space”, to appear in the proceedings of IEEE Students' Technology Symposium, IEEE, 2016.

55. Ayesha Shaik, & V. Masilamani. "Secure Video Watermarking Technique Using Cohen-Daubechies-Feauveau Wavelet and Gollman Cascade Filtered Feedback Carry Shift Register (F-FCSR)." In Proceedings of the 3rd International Symposium on Big Data and Cloud Computing Challenges (ISBCC–16'), 2016, pp. 111-118, Springer International Publishing.[Scopus Indexed]

56. Ayesha Shaik, & V. Masilamani.” A Novel Secure Content Dependent Watermarking Using a Combination of Hadamard and SVD Transforms” In Proceedings of National Conference on Communication and Computing Technologies (NCCCT'16), 2016, 145-150.

57. C.Oswald, V. AkshayVyas, K.ArunKumary, L.VijaySri & B.Sivaselvan, Hierarchical Clustering Approach to Text Compression,4th International Conference on Advanced Computing, Networking, and Informatics -ICACNI-2016, NIT Rourkela,SpringerVerlag22-24 September 2016.

58. C.Oswald, S.Srinidhi, K.SriVishnu, T.V.Vishal & B. Sivaselvan ,”Hash based Frequent Pattern Mining approach to Text Compression”,International Conference on Computer Science and Engineering, Malaysia, Springer Verlag, 11–12 November,2016.

59. Avinash K adimisetty, C.Oswald & B.Sivaselvan, Frequent Pattern Mining approach to Image Compression, 22nd Intl.Conf. on Advanced Computing and Communications, ADCOM Advanced Computing and Communications Society,IEEE,December2016

60. Avinash K adimisetty, C.Oswald, B.Sivaselvan &Kadimisetty Alekhya, Lossy Image Compression-A Frequent Sequence Mining perspective employing efficient Clustering, 13th IEEE India International Conference-INDICON'2015, IISc, 16-18Dec2016

61. Sandeep Avula, C.Oswald & B.Sivaselvan, Frequent Pattern Mining Guided Tabu Search, International Conference on Data Science Analytics and Applications – DaSAA 2016, Springer Verlag, Dec2016

62. Kuladeep Tummala, C.Oswald & B.Sivaselvan, A Frequent & Rare Item setmining approach to Transaction Clustering, International Conference on Data Science Analytics and Applications-DaSAA2016, Springer Verlag, Dec 2016

63. Mohamed Asan Basiri M & Noor Mahammad Sk, High Performance Integer DCT Architectures for HEVC ", in the proceedings of the 30Th International Conference on VLSI Design and 16Th International Conference on Embedded Systems (VLSID), 121-126, January 2017.

64. Chakshu Pahwa & Noor Mahammad Sk, FPGA Implementation of 2D DHT in Image Processing", in the proceedings of the 4Th International Conference on Design and Manufacturing (IConDM), 76{80, December 2016.

65. Mohamed Asan Basiri M & Noor Mahammad Sk, An Efficient VLSI Architecture for Discrete Hadamard Transform", in the proceedings of the 29th IEEE International Conference on VLSI Design and 15th International Conference on Embedded Systems (VLSID), 140-145, January 2016.

66. Sai Hemanth, Gantasala & Noor Mahammad, Sk, An Efficient Virtualization Server Infrastructure for e-Schools of India", in the Proceedings of 3rd International Conference on Information Systems Design and Intelligent Applications (INDIA 2016), 2, 89-99, January 2016.

67. Krishna Mohan Reddy, Renjith.P & N.Sadagopan: Enumeration of Spanning trees in Halin Graphs - Parallel Perspective, in the proceedings of 31st Annual Conference of Ramanujan Mathematical Society, National College, Trichy, June 2016.

68. S.Dhanalakshmi, N.Sadagopan& Nitin Vivek Bharti: r-Connectivity Augmentation in Trees, in the pro- ceedings of 31st Annual Conference of Ramanujan Mathematical Society, National College, Trichy, June 2016.

69. Madhu Illuri, P. Renjith & N. Sadagopan: Complexity of Steiner Tree in Split Graphs - Dichotomy Results; in the proceedings of International Conference on Algorithms and Discrete Mathematics (CALDAM), Cochin University, India, 2016.

70. Ashish Kumar1, Naveen Kumar2&Rananavare Atul Subarao, “Analysis of Single-Mode Single-Fiber MZI Based Acousto-Optic Sensor Using Two Different Techniques”, in proc. “International Conference on Fiber optics and Photonics (Photonics 2016), IIT Kanpur, Dec.04-08, 2016, W3A.47

71. Naveen Kumar1, Ashish Kumar2& VageshnaTarunNarendra Varma3, “Miniaturized Single-Mode Single-Fiber MZI Based Direct Current Senor”, in proc. “International Conference on Fiber optics and Photonics (Photonics 2016), IIT Kanpur, Dec.04-08, 2016, TH2F.2

72. M .A . Shalu, S Vijaykumar& Sandhya T P, A lower bound of the cd-chormatic number and its complexity, CALDAM 2017

73. Divya A, 'Numskull and the Rabbit' : Spatial Design Thinking and Narrative Art in the Panchatantra”, International Conference on Design and Manufacturing-IConDM 2016, Indian Institute of Information and Technology, Design and Manufacturing, Kancheepuram, India, 16-17 Dec 2016.

Sponsored Research

- **SMDP C2SD Project**

  Principal Investigator : Dr. Noor Mahammad S. K.
  Sponsor : DEITY, Govt. of India
  Duration : 5 years
  Value : 94 Lakhs

- **Design and development of energy efficient freeze dryer with multiport mini-channel shelf heat exchanger**

  Principal Investigator : Dr. B. Raja
  Sponsor : DST
  Duration : 3 years
  Value : 27 lakhs

- **Visveswaraya PhD Scheme**

  Principal Investigator : Dr Noor Mahammad S. K.
  Sponsor : DEITY, Govt. of India
  Duration : 8 Years
  Value : 51 Lakhs

- **Rural and Remote Ubiquitous Broadband Wireless Access**

  Principal Investigator : Dr. M. D. Selvaraj,
  Sponsor : UKIERI, British Council
  Duration : 2 years
  Value : 2.14Lakhs

- **Teaching Learning Centre for Design and Manufacturing Education**

  Principal Investigator : Dr. S. R. Pandian
  Sponsor : MHRD, Govt. of India
  Duration : 2 years
  Value : Rs 1.95 crores

- **Affordable Smart Mosquito Trap for in situ Automated Monitoring**

  Principal Investigator : Dr. S. R. Pandian and Dr. N. Arunachalam
  Sponsor : ICMR Intramural Grant
  Duration : 1 year,
  Value : Rs 5 lakhs

Teaching Learning Centre

TLC staff conducted a Hands-on Workshop on Raspberry Pi for IIITDM students on September 13, 2016. Three visiting student interns from Nagaoka University of Technology, Japan, also presented their work on autonomous robotics at the workshop.

TLC Coordinator Dr S R Pandian participated in Stanford University's Extreme Affordability Design Program and visited the University's Product Realization Lab and Mechatronics Lab on October 10, 2016. He also visited the University of California-Berkeley Blum Center for Developing Economies and held discussions on collaborations on October 12, 2016. Further, he visited the Citris Invention Lab in the University. Dr S R Pandian presented a research paper "Educational Outdoor Mobile Robot for Trash Pickup" at the 2016 IEEE Global Humanitarian Technology Conference in Seattle, WA, USA, on October 13-16, 2016. Mr Kiran Pattanashetty and Mr Kamal Balaji, TLC project engineers, co-authored the paper.

Dr Pandian also presented a poster on the activities of the TLC at a session of the IEEE Special Interest Group on Humanitarian Technology (SIGHT).

Mr K Giridharan, EDM2012, presented a paper "Design of a Compact and Economical Remotely Operated Vehicle for Aquatic Monitoring" at the IEEE TENCON International Conference on Smart Technologies for a Smart Nation in Singapore, during November 22-25, 2016. 2014 EDS student Mr Chetan Soni and Dr S R Pandian co-authored the paper. Student interns Ms. V. S. Harini and Ms. M. Dharani presented their paper "Robots for the Bottom of the Pyramid: Mobile Robot Racing over the Internet" at the IEEE TENCON International Conference on Smart Technologies for a Smart Nation in Singapore, during November 22-25, 2016. TLC Engineer Mr Kamal Balaji and Dr S R Pandian co-authored the paper.

Thirty students and three faculty of the PACR Polytechnic College, Rajapalalyam did a 5-day internship at the TLC during November - December, 2016, and built four desktop CNC mills for academic use with the help of the TLC staff. Dr S R Pandian gave a talk on Smart Product Design in the Design Innovation Centre at Indian Institute of Information Technology, Sri City, during December 5-6, 2016.

Professor Hisayuki Suematsu and Dr Taichi Sugai of the Extreme Energy-Density Research Institute, Nagaoka University of Technology, Japan, visited the TLC on December 7, 2016 and held discussions with the staff and students working in the centre.

Dr S R Pandian gave a presentation on Innovations in Robotics and Beyond to a workshop jointly organized by the IIITDM Design Innovation Centre and Entrepreneurship

Development Institute, Chennai, on December 15, 2016. The participants had a tour of the TLC facilities and technologies developed.

Innovations

IIITDM Kancheepuram's The Teaching Learning Centre (TLC) for Design and Manufacturing Education is one of the select TLCs around the country funded by the MHRD under the Pandit Madan Mohan Malaviya National Mission on Teachers and Teaching (PMMMNMTT). The centre started functioning in December 2015, and is devoted to the design, development, and dissemination of affordable and innovative hands-on laboratory education and e-learning modules for design and manufacturing, for adoption by engineering universities/colleges and polytechnics in India. The project is for five years, with a grant of Rs 1.5 crores in Year-1 and Rs 85 lakhs in Year-2.The TLC is located in the third floor of the new Laboratory Complex and occupies a floor space of about 6,000 square feet. The centre is staffed by two Senior Project Engineers, three Junior Project Engineers and two Project Assistants, under the direction of the Coordinator Dr. S. R. Pandian.

The Indian government has focused attention on making India a global manufacturing hub through its initiatives like Make in India, Startup India, Digital India and Skills India. Due to the rising costs and the ageing workforce in China, millions of high-paying manufacturing jobs are expected to be outsourced to countries like India in the future. However, the Indian education system in general, and the higher technical education system in particular, are based on the passive, chalk and talk paradigm of text-book and rote memorization teaching and learning practices. As a result, many Indian engineering graduates suffer from deficiency in hands-on skills and creative thinking and tinkering that are needed for India to become a manufacturing hub. The major reason for this is the high cost of design and manufacturing education equipment, often imported or commercial grade, that are so ill-suited for hands-on education, and the lack of exposure to hands-on practical education among teachers.

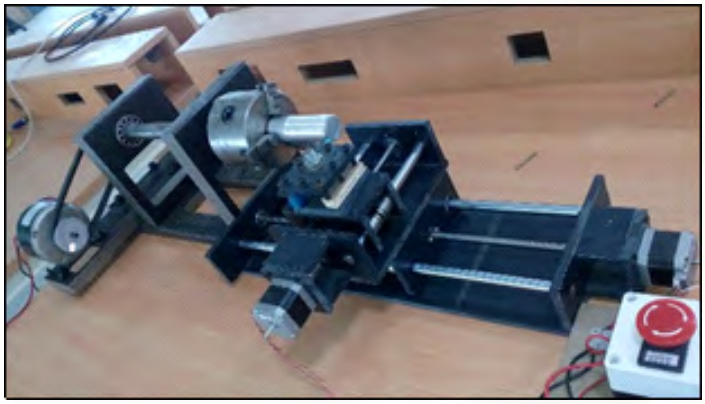
Luckily, with the emergence of low-cost, open source hardware and free open source software and the availability of web- and cloud-based e-learning media, it is now possible to design, develop and disseminate “Do It Yourself” or “Build Your Own” extremely affordable and innovative laboratory training kits for engineering teachers and students of India.

With its IT-centric design and manufacturing education mandate, IIITDM Kancheepuram is well-suited to helping the nation reform its design and manufacturing education system rapidly and efficiently through the resources and services of the TLC. As our engineering teachers and students lack exposure to the latest technologies and innovations, the TLC also focuses on design projects in emerging technologies – e.g.,

autonomous robotics and vehicles, drones, smart products, Internet of Things, and cyber-physical systems – so that outreach efforts with these template designs will inspire and educate our engineering teachers and students.

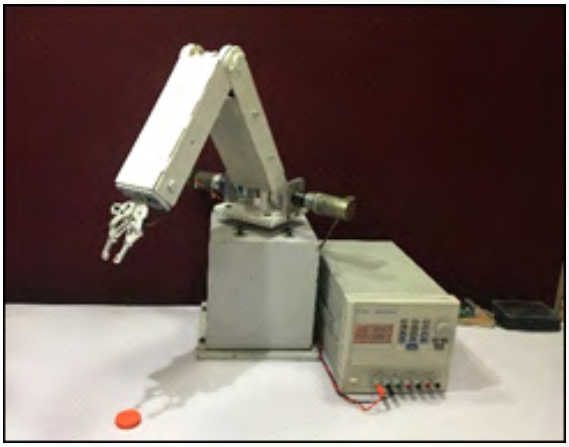
The TLC has developed extremely affordable CNC mill and CNC lathe prototypes, the main types of CNC, using commercial off-the-shelf (COTS) components, open source hardware and software as over 70% of modern manufacturing is based on computer numerical control (CNC) machines. Typically, the CNC mill costs around Rs 20,000 while the CNC lathe costs around Rs 30,000, which cost only a small fraction of the cost of commercial CNC machines (e.g., about Rs 800,000 for a mill and Rs 700,000 for a lathe). The prototypes do not have the power or capabilities (e.g., automatic tool changer) of commercial machines, but have the advantages of easy DIY maintenance and upgrades for academic use. Photographs of TLC CNC mill and lathe are shown below.

TLC 3-axis CNC Mill



TLC 2-axis CNC Lathe

The 3-axis CNC machine has also been retrofitted as CNC router, laser engraver, and PCB machine. As computer integrated manufacturing (CIM) is the main type of factory automation with robot manipulators, a low-cost 3-link manipulator with gripper and a CIM work cell with machine vision system.



TLC conducts short-term workshops for faculty, and internships for students, of engineering colleges and polytechnics in order to disseminate the training kits and e-learning materials. Complete instructions and lesson plans for DIY development of the training kits are posted on the TLC website (tlc.iiitdm.ac.in). Outreach efforts are also a major part of the TLC activities, as many of the robotic kits are exhibited in local schools, zoo, as well as during Independence Day and Republic Day activities as Open House events.

Guest Lectures

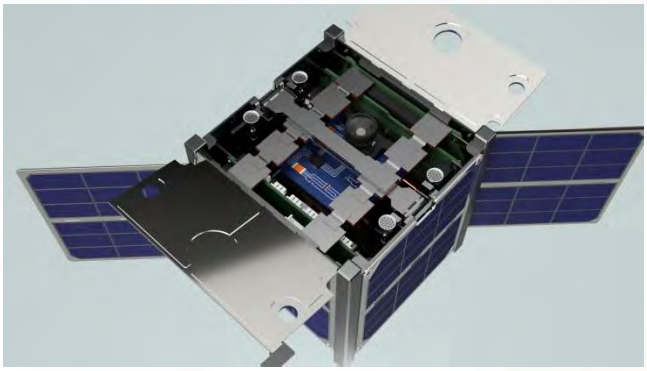
Speaker	Title of the Talk	Held on
Dr. A. S. Beebe, Department of Mathematics and Computer Science Salisbury University	A Mathematician's Experience in Software Engineering and Teaching - A Career Sketch [1970-2016]	04 Jul 2016
Shri. Vijay, Director - Mobile Terminal Products Ms ARICENT Technologies Limited	Internet of Things for Connected Vehicles	12 Aug 2016
Shri. Siva, Founder Ms CUEDIO Technologies	Smart Manufacturing with Open Source Culture: Opportunities & Challenges	20 Sep 2016
Shri. Shyam Baskaran, Director, IQC Group of Companies	Digital Imaging Perspectives to microscopy, optics and resolution	21 Sep 2016
Shri .T.E.Gautham, CEO Ms Hinote Systems	Musings of an entrepreneur	28 Sep 2016
Dr. P.H. Rao, Scientist, SAMEER, Chennai	Advanced topics in signal processing, RF and wireless communication	13.06.2016
Shri. Ravi Saraogi, COO Ms Uniphore	Opportunities in Voice Technologies and Indic Computing	19 Oct 2016
Jay Panneerselvam & Sid Panneerselvam Co-founder of FR8	Invited Talk	20 Oct 2016
Ms.Vidya Venugopalan, COO Ms Customer Insights Technology Pvt Ltd.	Market Research for Startups	27 Oct 2016
Dr R.Ramarathnam, Chairman Ms Basil Energetics Pvt Ltd	Smart Micro Grid Rooftop Solar System with DC Appliances	16 Feb 2017
Professor V.R.Muraleedharan, IIT Madras	Healthcare System in India: Opportunities & Challenges	25 Jan 2016
Dr. Sundar Krishnaswami, GE Aviation	Trends in Aircraft Engineering Analytics	24 Feb 2017
Dr A Venkadesh Babu, Central Bureau of Narcotics	Drugs & Addiction – Do You Know Enough?	02 Mar 2017
Dr. A.Velayudham, CVRDE, Avadi	Programming 5 axis machines for free form machining	20 Mar 2017
Dr. Sandeep Chaterjee (CEO, EVx)	on "Innovation and micro apps - Smart Cities, Smart Villages and Smart Citizens"	28.03.2017

IV Student Activities and Achievements

Achievements in Academics

IEEE Madras Section sent a youth delegation to attend IEEE SYWL Congress 2016 held at Bangalore during 25 - 27 August 2016. The event was held coincidentally with the 50th anniversary of IEEE Region 10.

Ms. Sangamalika Rajakumar, a 3rd Year student of IIITDM Kancheepuram, presented her idea in the IEEE Innovation challenge finals and was part of the team that won the FIRST place.



Design for Space in AUTOCAD by IIITDM Students

Stellar Student Achievements

1. PhD Scholar Mr. Abdul Majeed's paper on Analysis and Design of Low Power Nonlinear PFD architectures for a Fast Locking PLL with Paper ID - 248 was awarded "The Best Paper for Industry Ready Technology Award" at the 2016 IEEE Students Technology Symposium (TechSym 2016), held at IIT Kharagpur, from 29 September to 1 October 2016.

2. Ms Manogna Jambhapuram, a PG student won best research paper award in CSS-2017 held at IISc

3. Shri. Teja Balu, a third year Dual Degree student, won Second Prize in Design for Automotive Challenge globally.

4. Students of IIITDM designed a reconfigurable bag which can be used either as a shoulder bag, hand bag, or back-pack.

5. Students of IIITDM have come up with an effective design for a podium. The design facilitates adjustment of height of the podium (telescopic type adjustment) in line with the height of the user. Both the products were widely appreciated for their innovative thought and design.

6. M.Des and B.Tech students undergone internship / higher studies at Nagaoka University, Japan

7. Ms. Abinaya J.L received Rs. 10 lakhs/ annum offer from Startsmart Labs during campus placements.

8. Mr. Sarathi.K received Rs. 10 lakhs/ annum offer from Startsmart Labs during campus placements.

9. Ms. Bharati, Mr. Ram Kowshi, Mr. Anand Srivatsan and Mr. Rengapadmathan (I B Tech), Won first place in Ingenium conducted by NIT Trichy.

10. Mr. Eswar Sai Krishna, Mr. Arvind, Ms. Dheepika and Mr. Bharath, participated in IICDC/TIIC contest on Smart Bus Transport System and won a cash prize of 25k. The system developed by the students provides the exact position of the buses with dynamic estimated time of arrivals including number of seats available in it.

11. Mr. Sai Sravan (IV EDM), Mr. Sai Krishna (III EDM), Ms. Dheepika, and Mr. Bharat were one among 55 teams selected nationwide for the semi-finals of Texas Instruments Innovation Challenge Design Contest 2016. Prize money Rs 15,000. (April 2017)

Design for Automotive

Class of 2016 Graduating Batch

The placement year 2016-2017 began with soft skills training programme to the pre-final year students during February 2016. As soon as the academic year commenced in the month of August 2016, registrations for placements have been started. The details of branch wise students registered for placement are as follows:

Sl No	Branch	Total registered
1	COE	23
2	EDM	23
3	MDM	22
	Total UG	**68**
4	CDS	5
5	EDS	7
6	MDS	8
	Total PG	**20**
6	Ph.D	4
	Grand total UG, PG & Ph.D	**92**

19 core companies have accepted our invitation and visited our campus and gave a total of 80 offers altogether (as on 20 February 2017). The statistics (as on 20 February 2017) of the campus placements are presented below.

As per the curriculum of the courses started from 2014 onwards, registrations for Internship have been started in the month of November 2016. 101 students were registered for internship programme. All the companies to whom invitations were sent for campus drive were invited for recruitment of internship also.

M/s. Fr8, Saint Gobain, SVP Lasers and L & T accepted the induction of interns proposal and the process started in January 2017. So far 6 students have got internship offers and some more companies are expected to visit for internship placements during coming months.

The soft skills training programme for the pre-final year students has been commenced in February 2017 and will be over by the end of February.

Sl No	Name of the Company	Date of Visit	Under Graduation			Post Graduation			Ph.D	Total	Package
			MDM	EDM	COE	CDS	EDS	MDS			
	No. of students registered for placement		**20**	**23**	**20**	5	7	8	**4**	**92**	
1	Tech Mahindra	16.08.2016	3	10	8	-	-	-	-	21	3.3
2	Trimble	02.09.2016	-	-	1	-	-	-	-	1	9
3	MetARVse Technologies	01.10.2016	-	-	4	-	-	-	-	4	4
4	Vassar Labs	26.10.2016	-	-	1	-	-	-	-	1	6
5	IVTL	18.10.2016	-	5	2	-	-	-	-	7	6.5
6	Orzota	14.10.2016	-	-	2	-	-	-	-	2	4
7	Fr8	27.10.2016	-	-	1	-	-	-	-	1	4.8
8	L & T	28.10.2016	4	4	-	-	1	-	-	9	3.6
9	Saint Gobain	27.10.2016	1	-	-	-	-	-	-	1	6
10	TCS	17.10.2016	-	-	1	-	-	-	-	1	3.3
11	HCL	11.01.2017	-	10	-	1	2	-	-	13	3
12	TAFE	30.11.2016	1	1	-	-	-	-	-	2	4.25
13	Lucid Technologies	01.12.2016	-	-	1	-	-	-	-	1	4.8
14	Vignan University	09.12.2016	-	-	-	2	-	2	2	6	4.8
15	Forbes Marshall	Jan.17	-	-	-	-	-	3	-	3	4.8
16	Turbo Energy	18.01.2017	3	-	-	-	-	-	-	3	3.6
17	Zoho	27.01.2017	2	-	-	-	-	-	-	2	4.5
18	TII	03.02.2017	3	-	-	-	-	-	-	3	3.25
19	Start Smart Labs	17.02.2017	-	-	2	-	-	-	-	2	10
20	Mobius Knowledge services		-	-	1	-	-	-	-	1	4
21	SVP Lasers		1	-	-	-	-	2	-	3	3
22	TCS 2nd round		1	2	1	-	1	-	-	5	3.3
	Total		**19**	**32**	**25**	**3**	**4**	**7**	**2**	**92**	

Actual placement statistics - 2016-2017 as on 31.03.2017									
Sl No	**Branch**	**Total registered**	**Total placed**	**Percentage**	**Double Offers**	**Trible offers**	**To be placed**	**Offers to Not registered**	**Total offers**
1	COE	20	17	85	4	2		2	27
2	EDM	23	19	82.6	7	3			32
3	MDM	20	14	70	3	-		1	18
	Total UG	63	50	79.3	14	10		3	77
4	CDS	5	3	60					3
5	EDS	7	3	42.85				1	4
6	MDS	8	7	87.5					7
	Total PG	20	13	65					14
	Ph.D	4	2	50					2
Grand total UG , PG & Ph.D		87	65	74.71				4	93

Logos of the companies visited during 2016-2017 for campus drives:

Outreach Activities

Vidhai a student voluntary group formed to serve the local community, was inaugurated by the Director of IIITDM Kancheepuram, Professor Gnanamoorthy, on the institute's campus on 22 September 2016. "Vidhai", meaning a "seed" in Tamil, has been involved in various non-profit activities. Student-volunteers have taught interactive digital-sessions of subjects in the neighbouring government schools on topics such as basic sciences, and soft skills that are crucial for multidimensional development of a student. There has been contribution to the development of the infrastructure in the same schools with the help of the funds raised by the tender-hearted student community under the supervision of the socially-conscious Director and Deputy Registrar (Admin) of IIITDM Kancheepuam. With the existing strength of 76 registered-volunteers and many others indirectly contributing to it, Vidhai is envisaging an increase in the multifarious support from the students, the staff and faculty associated with the IIITDM to organise further activities for the welfare of the under-privileged under the esteemed guidance of administrative officials.

As part of Arduino Day 2017 worldwide events, the Teaching Learning Centre and Designers Club conducted a Hands-on Arduino workshop on April 01. Many students from Mambakkam Government School and Delhi Public School took part.

SSG ACTIVITY:

For the present year there were 53 SSG volunteers from IIITD&M Kancheepuram and 20 volunteers from IIITD&M Kurnool. The team consisted of 11 Coordinators, 3 Main Coordinators and 2 Core Coordinators. The faculty Co-coordinators are Dr.B. Raja and Dr. Venkata Timmaraju Mallina.

Presentation session: For the present batch, based on the different environmental issues, topics were to the volunteers to give presentations. Students were divided into groups of five. The audience was also encouraged to ask any questions or doubts they might have had during a particular group's presentation. Each group was given 10-15 minutes to discuss their topics. Volunteers came up with creative solutions to their problem in hand and discussed it with the audience. The session was interactive and videos were also used to convey certain ideas.

Campus Drive: A “My campus drive – Swaach Bharath” was conducted by the SSG to clean various locations in the institute on 12thNovember 2016. The activity was carried out between 06:30 and 08:00hours. The drive aimed to bring awareness about cleanliness in the institute among the students. Volunteers were divided into batches of 4 and assigned with a coordinator. Gloves and dustbins were provided to the volunteers to collect the plastic waste. Each group cleaned specific zones of the institute (such as Cricket ground, outside the laboratory blocks, beside the cafeteria, in- front of hostels). The volunteers did a commendable work supporting the group's effort in gathering plastic waste from around the places they went about in the campus.

Beach Cleaning: The SSG conducted a cleaning activity in the nearby Kovalam beach on 21st January 2017. The activity was carried out between 6.30am and 10.00 am. The volunteers and coordinators were taken on a bus. The volunteers were divided into groups of 5 and a coordinator was assigned for each group. The volunteers were provided with required utilities like gloves and covers to collect the plastic. Each group was assigned a particular zone to clean. All the collected waste was disposed into the municipality trucks.

General Awareness for Rabies, Electronic waste

prepared posters and drama to give awareness about the various environmental issues. Topics were selected by all the coordinators after a brain-storming meeting. Teams of 2 or 3 were divided and topic for each team was allotted by in-charges of the activity. Posters and Slogans were prepared for this awareness program. The drive developed a sense of concern and care for nature amongst the volunteers and also developed a sense of dignity in the volunteers in keeping their surroundings clean. It also made them aware of how small actions can have a great impact on the nature and humanity.

Digitization awareness rally: The students conducted a rally on 19thFebruary 2017. This topic for the rally was chosen keeping in mind the current scenario in the country. The volunteers were intimidated through mail and were asked to prepare slogans or posters. The information regarding demonetization was typed out in the local language and printouts were taken and were distributed to the shops located in Kandigai.

Turtle walk: In order to save Oliver Ridley's nest, on March 9, 2017 a turtle walk was conducted along with the Covelong Point Surfing School by the students of SSG. The activity was held between 8:45pm till 12.00 pm on the East coast beaches. The students searched for nests and eggs by walking more than 3 km between Kovalam Beach and Crocodile Bank. The students were accompanied by faculty members also.

Blood Donation: On 22nd March 2017 as part of the SSG activities a Blood Donation camp was organized jointly with Cancer Institute at our campus. The activity started at 10:00a.m. and was completed by 2:30 p.m. All the necessary precautions to donate blood were mentioned to everyone 3 days prior to the camp. Coordinators and volunteers were assigned for both morning and afternoon sessions. All the necessary arrangements were done the day before the camp. Each of the coordinators took care of writing the certificates, helping the donors fill the forms, taking care of the volunteers while they donated blood. The donors were permitted for the process after a medical checkup by the doctors. Refreshments were given for each donor soon after donating the blood and were monitored by the team for 10 to 15 minutes. A certificate was issued to the donors immediately. A total of 156 donors donated their blood.

Presentation session

Blood Donation

Beach Cleaning

Campus Cleaning

Turtle walk

Digitization Awareness

V INFRASTRUCTURE

Infrastructure Development, an Overview

The land allotted in Nov 2010 by the Govt of Tamilnadu, 51.75 acres, has paved way for the infrastructure development at the permanent campus. The construction activities in the permanent campus have seen steady progress commensurate to the budget granted from the time of the institute's inception. A comprehensive masterplan has been developed by experts after a series of brainstorming sessions with the stake holders of the Institute, faculty and students, in 2011.Considering the precious space available for the campus development, a comprehensive and energy efficient masterplan has been developed that can accommodate about 1200 students in Phase I and 5000 students, ultimately. A well thought growth plan was evolved to develop the state of art infrastructure on campus without disturbing the academic and student life. About 6000 sqm was constructed within five months from the land allotment and the institute started functioning from Aug 2011 in its own academic and hostel buildings. The student intake was gradually increased with the completion of necessary infrastructure in successive years and, in the academic year 2015-16, about 300 students were admitted. At present 75% of the development under Phase-I has been completed.

Year	Building Name	Area in Sq Meters
2011-12	PEMS	6300 : Total 6300
2012-13	Boys Hostel 1 Girls Hostel Admin Bldg	2600 2876 4775 : Total = 10251
2014-15 2015-16 2016-17	Lecture Hall Boys Hostel 1 Dining Hall Cafeteria Sports Complex Boys Hostel 2	10408 18011 3784 385 2828 12802 15282 :Total 63,500

IIITD&M Institute Timeline - Permanent Campus

Buildings Commissioned

Inauguration of Laboratory Complex

A Laboratory Complex, which is the most essential infrastructure for a Research cum Education Institute, has been added to our Institute. The lab complex was inaugurated by Prof. R. Gnanamoorthy, Director, on 22 July 2016. The complex has been planned after a lot of brain storming about the functional requirements of IIITDM, and study of similar facilities at peer Institutes. The buildings have magnificent views and State of the art facilities.

The building is built with GRIHA 4 star compliance. The building is designed to have optimum day light usage, the open spaces inside the built up area will have excellent cross ventilation for non-AC areas and has state of the art technology for energy conservation.



Inauguration of knowledge plaza

“The only thing that you absolutely have to know is the location of a library,” stated Albert Einstein. The importance of a library especially in a student's career is immeasurable. In light of the vital role played by the space of knowledge, IIITDM opened its “Knowledge Plaza” (a.k.a. the institute's library) on 16 August 2016. It was inaugurated by the Director, Prof R. Gnanamoorthy. The Knowledge Plaza currently has about 6000 printed volumes, and more than 1000 electronic subscriptions.



VI Calendar of Events - Institute Celebrations

Life is what you celebrate. All of it. Even its end.

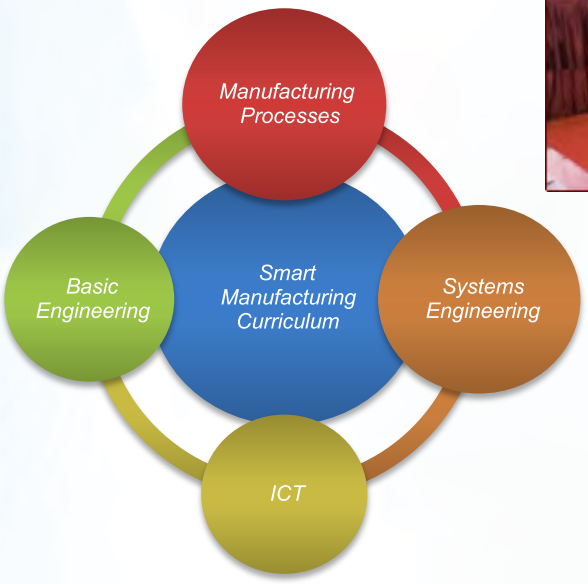
- Joanne Harris

1. Inauguration of MaDeIT Facility

The pre-incubation facility of MaDeIT Innovation Foundation (IIITDM's Technology Business Incubator) was inaugurated on 5 November 2016 by Prof. M.S. Ananth, Chairman, Board of Governors of IIITDM Kancheepuram, in the presence of other members. About 10 seats for pre-incubation and 8 seats for incubation are now ready for occupation. Phase-1 of the main facility is currently being furnished and will be ready for occupation by February 2017. IIITDM BoG also helped MaDeIT access the services of Ogilvy & Mather, a global brand consultant, to finalize the MaDeIT Logo. MaDeIT also selected the first cohort of three incubatees out of five applicants. MaDeIT has also started engaging the representatives of the Entrepreneurship Development Institute to collaboratively target potential startups and MSMEs in Tamilnadu.

2. LAUNCH OF B. Tech SMART MANUFACTURING PROGRAMME
First in the world

IIITDM has embarked on a new journey this academic year, and is the first in the country and the world to introduce a new course - B-Tech “Mechanical-Smart Manufacturing” Programme. For any successful programme to be carried out, first comes thought; then organization of that thought into ideas and plans; finally, the transformation of those plans into reality. This new course is the brainchild of our Director, Professor R Gnanamoorthy, and he has played a pivotal role in making this programme a huge success. The programme was launched by Dr.Sudarsan Rachuri, Technology Manager R&D, the U.S Department of Energy, on 27 July 2016. Dr. Rachuri, an expert in this field, spoke on the need for “Smart Manufacturing” in today's society. He said that Smart Manufacturing aims to take advantage of advanced information and manufacturing technologies to enable flexibility in physical processes to address a dynamic and global market, and it is thus the need of the hour for students of today to become competent in this field. Smart Manufacturing is an amalgamation of Information Technology, Networks, Data Science and Sensors for adaptive control and operation of the Manufacturing enterprises. The objectives of the program are to train a workforce that will cater to the needs of 21st century manufacturing plants which are increasingly becoming smart and connected. It is also pertinent to mention here that effects towards the launch of a novel M. Tech. Smart Manufacturing programme are in the final stages and the programme will be operational from the ensuing academic year.



3. International Interaction

MoU between Nagaoka University of Technology, Japan

Although it is a challenge for young Institutes to gain international recognition, our interactions with Nagaoka University of Technology, Japan, reached new heights with the award of prestigious MEXT Fellowship to this Japanese University. The Director of IIITDM Kancheepuram visited Nagaoka University of Technology to sign the MoU. Many Japanese faculty visited IIITDM to interact with faculty and students of the institute.

IIITDM Kancheepuram has signed two MoUs with (i) Nagaoka University of Technology, Japan and (ii) Nagaoka University of Technology, Japan, and Hitachi Automotive Systems (HIAS), Japan. IIITDM also accommodated four Japanese final year UG students for carrying out their intern projects under IIITDM's faculty supervision for five months as a part of the MoU.

The following IIITDM UG/PG students spent about 3 months at Japanese University and HIAS, Japan in this academic year.

The following students from IIITDM Kancheepuram attended the programme:

Name	Department	Degree and year
Mr. Gangisetty Venkatesh	Mechanical Systems	M. Des & 2nd Year
Mr. Giri Abhijeet Madhukar	Mechanical Systems	M. Des & 2nd Year
Mr. Idury Satya Krishna	Communication Systems	M. Des & 2nd Year
Ms. Divya B	Communication Systems	M. Des & 2nd Year
Ms. Gowshika R	Electronics Systems	M. Des & 2nd Year
Mr. Debargha Chakraborty	Electronics Systems	M. Des & 1st Year

Name:Gangisetty Venkatesh
Place :Heat resistant materials laboratory
Date : 2-1-2017

Indian Youth Delegation to Maldives, 22-29 April, 2016

A fifty member team visited Maldives between 22 – 30 Apr 2016. The trip was sponsored by Ministry of Youth Affairs and Sports, Government of India.

"JENESYS 2016" programme

The Ministry of Foreign Affairs of Japan undertakes a short-term exchange programme called "JENESYS 2016" programme. The JENESYS programme started in 2007, and Japan has invited more than 4,000 young Indians so far. This year, under the JENESYS 2016 programme, Japan invited more than 300 young Indians for 9 days to promote mutual understanding as well as global understanding of Japan's economy, society, culture, etc.

The following students from IIITDM Kancheepuram attended the programme:

Name	Department	Degree and year
L Vijay Sri (COE13B014)	Computer Engineering	B. Tech 3rd Year
R Sangamalika (COE14B032)	Computer Engineering	B. Tech 4th Year
V Raguraman (MDS15M007)	Mechanical Systems	M. Des 2nd Year

4. 1st Inter IIIT Sports Meet – IIITDM Kancheepuram's Initiative

The first edition of the Inter-IIIT Sports Meet (CFTI & PPP mode IIITs) was held in IIITDM Kancheepuram on 12-15 December 2016. The sports meet is an annual event that is to be hosted by the IIITs on a rotational basis. The first sports meet at IIITDM Kancheepuram was a four-day event structured on a League cum Knockout basis. 12 IIITs participated in various Men's and Women's categories. In total 315 male students and 42 female students participated in the Inter IIIT Sports Meet. The host Institute was placed first in the Men's and Women's Championship. The Overall Championships, for both the Men's and Women's categories, were won by IIITDM Kancheepuram. The Runner up place was secured by IIIT Jabalpur. All event regulations were modeled on Indian Sports Federation guidelines.

Participating IIIT – Event Registration Details / Fixtures

IIITs	Place	Men	Women
IIITDM	JABALPUR	36	6
IIITM	GWALIOR	15	2
IIITDM	KANCHEEPURAM	50	12
IIITDM	KURNOOL	20	-
IIIT	DHARWAD	10	-
IIIT	GUWAHATI	41	-
IIIT	KALYANI	40	10
IIIT	KOTA	28	8
IIIT	MANIPUR	13	1
IIIT	NAGPUR	19	3
IIIT	PUNE	13	-
IIIT	VADODARA	30	-
12 IIITs		**315**	**42**

5. Workshops

A. Smart Manufacturing Industry workshop

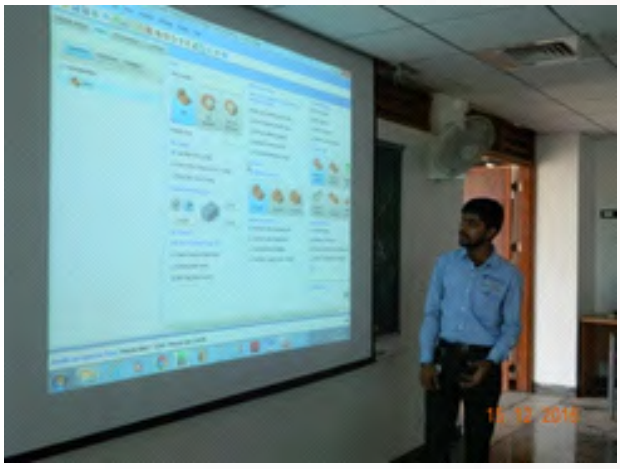
IIITDM Kancheepuram organised a one-day workshop on Smart Manufacturing on December 3, 2016. The objective of this workshop is to highlight the opportunities smart manufacturing brings to small and medium scale manufacturers in terms of improvements in performance. The workshop began with opening remarks by the Director, Prof. R. Gnanamoorthy, and a curtain-raiser by Dr K. Senthilkumaran on introduction to Smart Manufacturing/Industry 4.0. Following that, resource persons from reputed universities and industry delivered interactive talks on areas relevant to smart manufacturing such as big data analytics, machine to machine communications, additive manufacturing, and Industrial Internet of Thing (IIOT). The final session of this workshop brainstormed on how to get involved, and contribute to advancing the smart manufacturing. Dr V. Sudhir Varadarajan summarized the workshop activities and suggested further action plans and possible future collaborations with the participants of the workshop.

B. International Conference on Design and Manufacturing, IConDM 2016

The fourth edition of the International Conference on Design and Manufacturing (IConDM), the iconic conference of the Indian Institute of Information Technology, Design and Manufacturing (IIITDM), Kancheepuram, was conducted during December 16-17, 2016. IConDM is emerging as a premier forum for exchange of ideas and knowledge related to Design and Manufacturing that spans across the disciplines of Computer Science, Electronics and Mechanical Engineering. This edition of the conference was technically co-sponsored by IEEE Madras section. Several keynote addresses and invited talks from eminent academicians from Japan and India featured in the conference. Of the received submissions, each paper was reviewed by a set of three reviewers chosen from a pool of 100 qualified reviewers. As a result of these efforts, the technical program finally featured 82 papers from different geographical regions, viz China, Italy, Japan, Singapore, UK, and India. There were three parallel sessions covering four tracks: Design Thinking, Computer stream, Electronics stream, and Mechanical stream. There was also a lightning talk session. The conference was inaugurated by Prof. K Anantha Padmanabhan, former Director, IIT Kanpur, a pioneer in technical education in India, and the closing ceremony was presided by the Chairman of IConDM 2016 and the Director of IIITDM, Prof. R. Gnanamoorthy.

C. Design for Manufacturing and Assembly (DFMA) Workshop

On 15 December 2016 IIITDM Kancheepuram organized a workshop on campus regarding Design for Manufacturing and Assembly (DFMA). The workshop was set up in association with d-ESPAT Pvt. Ltd. A total of fifteen participants, from SRM University, DRDO, NAL Bengaluru, and our own institute attended it. Design for Manufacture and Assembly (DFMA) techniques enable the designer to create products that are economical to manufacture and assemble. They interlink quality, cost, function, and time to market, thus enabling participants to design the product more effectively. The DFMA process consumes much less time than the conventional design processes do. The one-day workshop focused on the basic theoretical concepts of DFMA and also included a training session on the Boothroyd Dewhurst DFMA software. Faculty members from premier academic institutions and business establishments delivered lectures and provided hands-on training. The program ended with an analysis of case studies in addition to the concepts discussed. The program was beneficial to UG and PG students of Engineering Design, Mechanical, CAD/CAM, Production, as well as several faculty members and research scholars. All the participants were provided with certificates and reading material.



6. World Space Week 2016

IIITDM Kancheepuram along with the Satish Dhawan Space Centre (SDSC) SHAR, Sriharikota, organized a two-day event on 9th and 10th October 2016 as part of the World Space Week 2016 to generate awareness of the benefits of space exploration. The event attracted a large contingent of students and teachers from several academic institutions in Chennai and Kancheepuram.

The event included an exhibition of ISRO models and achievements; lectures by leading scientists; space awareness walk by school children; and drawing, quiz and elocution competitions. Students actively participated in the events and not only took home prizes and souvenirs from SDSC, but also memorable experiences and greater awareness of the potential benefits of space technologies.

One of the key highlights of the event was the space design challenge for students from IIITDM and other engineering colleges. It covered three important aspects of space exploration, namely, reusable rockets, space debris reduction and lunar lander. SDSC scientists who evaluated the concept designs were impressed with the quality of thinking exhibited by the students.

The collaborative effort of student and faculty volunteers from IIITDM and SDSC scientists made the event memorable for all the participants and set a new benchmark for events in IIITDM.

7. Orientation Program - 2016

The orientation program for the first years of IIITDM Kancheepuram and IIITDM Kurnool was conducted as a four-day program from 26th-29th July 2016. The program consisted of an array of guest lectures, interactive sessions, and campus tours.

The program was inaugurated by Dr. G Venkatesh, CTO, Sasken Technology and Professor of Practice at IIT Madras. The inauguration was followed by a speech by the director of IIITDM Kancheepuram & Kurnool, Prof. R. Gnanamoorthy. Members of the institute faculty then took turns to address the students about the institute curriculum and campus life.

The second day began with a guest lecture by Dr. Swathi Gurumani about the opportunities for Electronics and Computer Engineering specialization. This was followed by an interactive session of guidance and counselling by psychologist Ms. Sangeetha Madhu of CHILD. She emphasized the need for students to take leadership, and also stressed the importance of appreciating what one has in his/her life. The session was followed by an introduction to the Designers Club by Dr. S R Pandian.

On the third day of the event, Professor L S Ganesh of IIT Madras delivered a lecture on “Working with Purpose and Innovation”. This was followed by the launch of the Smart Manufacturing Program by Dr. Sudarsan Rachuri, who described what the program entailed and its importance in today's world.

In the evening session, Mr. Murali Karthikeyan of TIME addressed the students on their career options and the necessity to plan for the future from day one. The day ended with a yoga session by Mr. Selvam (of TN Physical Edn. and Sports Univ) which made everyone feel calm and refreshed.

The final day of the orientation program began with a lecture titled “Preparing yourself for Make in India” by Dr. Satya Prasad from Ms. Ashok Leyland . This was followed by an introduction to engineering and design by Professor Krishnaiah, Emeritus Professor at IIT Madras. The fresher girls were taught self-defense by Karate master Mr. Mani, while the boys were engaged in a yoga session. The orientation program concluded with a campus tour.

8. International Yoga Day

According to the well-known Yoga expert Amit Ray, Yoga "is a science, science of well-being, science of youthfulness, science of integrating body, mind and soul." 21st June is recognized as the International Day of Yoga by the United Nations. This official recognition by the U.N. of the ancient Indian physical and mental practice will ensure that the art of yoga is celebrated and followed the world over. In view of the international yoga day, events were held in IIITDM for the benefit of the institute fraternity and the students of schools in the vicinity. Yoga demonstrations by facilitators, practice drills for students, and drawing events centered on the theme of yoga poses were organized.

9. Teachers' Day Celebrations

Teachers' Day was celebrated enthusiastically by teachers and students at IIITDM on 6 September 2016. The gathering was addressed by the Director, Prof. R Gnanamoorthy, who shared his views on the characteristics of the most influential teachers. Dr A Divya, a faculty of the humanities delivered the special address on the love of learning. The celebration reminded us of Dr S Radhakrishnan's valuable thought that "true education should deepen our insight, widen our horizon, [and] create a meaningful outlook". Sports competitions were held for the faculty and staff of the institute, and trees were planted on campus as part of the teachers' day celebrations.

10. Azaadi 70 Celebrations

The 70th Independence Day of our country was celebrated in our institute with great enthusiasm and patriotism from 12th to 23rd August 2016. The events, which included of various competitions, were based on the theme of Indian independence.

The Director hoisted the flag and delivered the Independence Day speech. A quadcopter-type unmanned aerial vehicle (drone) designed and developed by the Designers Club students received wide publicity when it unfurled the national flag and the news has been published in The Hindu and other news media. Students and staff organized various cultural events and a friendly cricket match was organized between students and staff.

On 15 Aug 2016, after the inspirational speeches and cultural programs, there was a display of the trash-can robot and drone designed and developed the Designers Club of IIITDM.

The various competitions during the 10-day-long celebrations included classical singing, extempore, debate, poster making competition, face painting, rangoli drawing, dance competition, currency making, photography and short film making. The students participated with great zest and flaunted their talents brilliantly.

On the final day of celebration, 23rd August 2016, prizes were distributed to the winners of various competitions, by our honourable Director, Professor Gnanamoorthy. The program concluded with his speech , which exhorted the youth to serve their motherland through their innovations in their fields.

11. Engineers Day

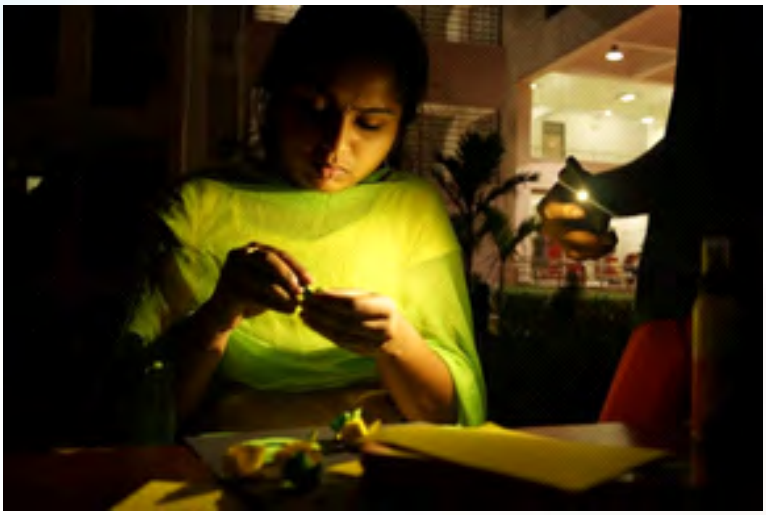
Engineers' Day was celebrated with great fanfare in IIITDM on 15 September 2016. The special addresses by Mr Sekar Ganesan, Former Senior President of M/s. Tech Mahindra; Mr K S Ramanujan, Founding Director of M/s. Encompass Electronics Pvt. Ltd., and Mrs. Padma Parthasarathy, Senior Vice President & Head Of Consulting Business, M/s. Tech Mahindra, were on the theme of Engineering and Entrepreneurship.

12. Hindi Pakhawara

Institute celebrated the Hindi Pakhawara during 14 to 29 Sep. 2016 with commencement of Hindi Pakhawara on Sept. 14, 2016. Competitions on Essay writing, Synonym, Sulekh (Hand writing), and debate were organized for Students, faculty and staff. Winners were felicitated during the special award ceremony held on Jan. 26, 2017.

13. Samgatha - 2017

Annual techno-cultural fest Samgatha 2017 organized between March 24th to March 26th, 2017.This year's theme was “Make in India”. More than 30 events were organized



14. Republic Day

Republic Day celebrations were held on 26.1.2017. The Director hoisted the flag and delivered the Republic Day speech. Students participated in various cultural events. Several project presentations such as underwater and mobile robots were conducted by Designers club students, and received wide media publicity.

15. National Science Day

A Quiz and Painting competition was conducted on 07th Mar 2017 in the institute as a part of the National Science Day. Over 60 students from the Government High School Kandigai and Delhi Public School of classes 6th, 7th and 8th participated in the event. The quiz consisted of various rounds of testing, including written and oral rounds, where the questions were based on science.

16. Wall paining by our students